

1899.

(THIRD SESSION.)

---

NEW SOUTH WALES.

---

VOTES

AND

PROCEEDINGS

OF THE

LEGISLATIVE ASSEMBLY

DURING THE THIRD SESSION

OF

1899,

WITH THE VARIOUS DOCUMENTS CONNECTED THEREWITH.

---

IN FIVE VOLUMES.

Vol. IV.

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NEW SOUTH WALES.

VOTES AND PROCEEDINGS.

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(IN FIVE VOLUMES.)

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1899.  
(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

NEW SOUTH WALES GOVERNMENT RAILWAYS AND  
TRAMWAYS.

(ANNUAL REPORT OF THE RAILWAY COMMISSIONERS FOR THE YEAR ENDED 30TH JUNE, 1899.)

Presented to Parliament, pursuant to Act 51 Vic. No. 35.

Printed under No. 3 Report from Printing Committee, 22 August, 1899.

Office of the Railway Commissioners of New South Wales  
Sydney, 15th August, 1899.

TO THE HONORABLE THE MINISTER OF RAILWAYS,—  
SIR,

In accordance with the provisions of the 45th clause of the Government Railways Act of 1888, 51 Vic. No. 35, we have the honor to present, for the information of Parliament, our Annual Report upon the working of the Railways and Tramways for the year ended June 30th, 1899.

GENERAL REMARKS.

The result of the year's working may be briefly summarised as under :—

	Railways.	Tramways.	Total.
Total Earnings ...	£3,145,273	£348,556	£3,493,829
Total Expenditure ...	1,690,442	288,022	1,978,464
Balance after paying } working expenses }	£1,454,831	£60,534	£1,515,365

RAILWAYS.

The total miles open for traffic on the 30th of June last, was 2,706½.

The following extension was opened for traffic during the year :—

	Mileage.	Date opened.
	m. c.	
Berrigan to Finley ...	13 73	16th September, 1898.

The line between Tamworth and Manilla, and the first section of the extension from Inverell to Moree, referred to in our last Report, will shortly be opened.

Further extensions of the Pioneer class are now under construction, viz. :—

			Miles.	Chains.
Byrock to Brewarrina	...	...	58	11
Moree to Inverell (2nd section)	...	...	60	59

and lines of a similar character have been approved by Parliament, between Koora-watha and Grenfell (a distance of 31 miles 51 chains), and The Rock to Green's Gunyah (a distance of 24 miles 20 chains).

The pioneer lines already constructed continue to prove satisfactory.

The capital cost of the lines open for traffic on the 30th June amounted to £37,992,276. The interest on this sum, at 3·640 per cent., the average interest paid on the debt of the Colony is £1,382,919. After providing for this charge and having paid all Working Expenses there is a credit balance of £71,912.

The earnings show an increase of £118,525, viz. :—Coaching contributed £29,714, and Goods, £88,811; Second-class passengers contributed £26,973; Parcels and Miscellaneous, £5,693; General Merchandise, £20,662; Live Stock, £47,787; Coal and Coke, £11,771; and other Minerals, £11,765. First-class passengers show a decrease of £2,952, and Wool, £3,174.

In connection with the increased earnings, 1,492,861 additional passenger journeys were made, and 393,338 additional tons of traffic conveyed.

The train miles run total 8,806,647, being an increase on last year of 466,309 miles.

The gross Earnings per train mile are 7s. 1 $\frac{3}{4}$ d., and the net, 3s. 3 $\frac{3}{4}$ d., as compared with 3s. 4 $\frac{1}{2}$ d. last year.

The percentage the Working Expenses bear to the gross revenue has increased from 53·34 to 53·75. This increase is more than accounted for by the large amount of unremunerative work done in the removal of starving stock to districts where pasture was available, and in many instances their subsequent return, and the carriage of fodder for stock in drought-stricken localities from which removal was not practicable. Freight reductions in these connections were made to the extent of £37,500. In addition, the higher price of coal represented an increased expenditure of £11,273.

In view of the severity of the season which generally prevailed throughout the Colony, the result of the year's working is most satisfactory, having proved "a record" both in gross and net earnings.

The successful operation of the lines during the current year depends largely upon the grain season, and at present the prospect in that direction is most encouraging.

In the wool traffic a considerable shortage appears inevitable.



## ANNUAL REPORT OF RAILWAY COMMISSIONERS.

3

Year.	Open to 30 June.			TOTAL EARNINGS.			NET EARNINGS AFTER PAYING WORKING EXPENSES.			CAPITAL EXPENDED.		
	Railways.	Tramways.	Total.	Railways.	Tramways.	Total.	Railways.	Tramways.	Total.	Railways.	Tramways.	Total.
	Miles.	Miles.	Miles.	£	£	£	£	£	£	£	£	£
1882	1,268	22	1,290	1,701,016	126,202	1,827,218	763,661	23,066	786,727	15,843,616	447,940	16,291,556
1883	1,320	25	1,345	1,934,694	190,699	2,125,393	751,220	11,822	763,042	16,905,014	585,062	17,490,076
1884	1,618	27½	1,645½	2,089,749	219,942	2,309,691	786,010	4,775	790,785	20,080,138	686,402	20,766,540
1885	1,732	27½	1,759½	2,173,172	223,340	2,401,512	717,555	15,345	732,900	21,831,276	751,730	22,583,006
1886	1,889	29	1,918	2,163,803	230,410	2,394,213	668,577	23,957	692,534	24,071,454	857,433	24,928,937
1887	2,036	38½	2,074½	2,212,718	225,348	2,438,066	752,375	12,893	765,268	26,532,122	923,608	27,455,730
1888	2,114	38½	2,152½	2,295,124	236,519	2,531,643	764,573	17,323	781,896	27,722,748	877,244	28,599,992
Railway Act came into operation 22nd October, 1888.												
1889	2,171	38½	2,209½	2,533,477	243,563	2,782,040	903,875	21,728	925,603	29,839,167	909,595	30,748,762
1890	2,182	39½	2,221½	2,633,086	268,962	2,902,048	967,251	44,889	1,012,140	30,555,123	933,614	31,488,737
1891	2,182	42½	2,224½	2,974,421	292,850	3,267,271	1,143,050	53,171	1,196,221	31,768,617	1,004,212	32,772,829
1892	2,185	48	2,233	3,107,296	305,090	3,412,386	1,193,044	56,499	1,249,543	33,312,608	1,099,659	34,412,267
1893	2,351	49	2,400	2,927,056	295,367	3,222,423	1,188,540	61,559	1,250,099	34,657,571	1,118,471	35,776,042
1894	2,501½	58½	2,559½	2,813,541	278,194	3,091,735	1,221,699	48,911	1,270,610	35,855,271	1,248,986	37,104,257
1895	2,531½	61	2,592½	2,878,204	282,316	3,160,520	1,310,615	51,323	1,361,938	36,611,366	1,428,518	38,039,884
1896	2,531½	61	2,592½	2,820,417	289,181	3,109,598	1,268,529	52,898	1,321,427	36,852,194	1,434,896	38,287,090
1897	2,639½	62½	2,702	3,014,742	306,695	3,321,437	1,413,524	57,814	1,471,338	37,369,205	1,452,670	38,821,875
1898	2,691½	65	2,756½	3,026,748	313,871	3,340,619	1,412,143	54,730	1,466,873	37,719,402	1,478,251	39,197,653
1899	2,706½	66½	2,772½	3,145,273	348,536	3,493,829	1,454,831	60,534	1,515,365	37,992,276	1,516,343	39,508,619

## EXTENSION OF THE RAILWAY INTO THE CITY.

This most urgent matter is practically in the same position that it was a year ago, and has been for many years.

The subject was referred to in our last report in the following terms :—

“The proposed extension of the railway into the city is a matter which demands some mention in this report, not with the object of advocating any particular route—our views on that subject having been placed most fully before the Public Works Committee—but because of the absolute necessity for a decision in the matter. The time has arrived when it must be emphatically stated that the passenger business cannot longer be conducted at Redfern with reasonable convenience to the public, or without unnecessary risk.

“The accommodation is inadequate, and consequently there is, notwithstanding the exercise of the utmost care and the use of all modern appliances for safe working, an element of danger which would not attach to a terminal station arranged to meet traffic requirements.

“For the daily business the accommodation is below what is required, and for holiday or exceptional traffic it is very deficient.

“We trust that the question of the extension of the railway into the city will be finally dealt with on an early date.

“The experience of the past twelve months has more fully impressed the Commissioners with the absolute necessity for a prompt settlement of this long-pending question.

“Now that the Public Works Committee has reported in favour of the Hyde Park Scheme, which has been from the first recommended by the Railway Commissioners, we hope that there will be no delay in giving effect to the Report of the Public Works Committee.”

We must adhere to our opinion that the Hyde Park scheme will best meet the requirements of the City extension; and whatever may be the outcome of the inquiries that are now being made on the subject, we fervently hope that this will be the last Report in which it is necessary to state that the question is still unsettled.

#### INTERCOLONIAL RAILWAY CONFERENCES.

These conferences have, after many attempts, been successfully inaugurated. The first was held in Sydney in September of 1898, and the second in Brisbane in May last. Much good work has been done in bringing about uniformity of practice, and the competitive rates which prevailed between New South Wales and Queensland were satisfactorily adjusted. The more important question of this character as affecting New South Wales, Victoria and South Australia still remains to be dealt with; but it is hoped some advance in the direction of settlement will be made at the next conference, which is to be held in Adelaide.

#### UNIFORM GAUGE.

Nothing further in the direction of a final settlement of this matter can be announced; but it is satisfactory to note that Victoria and South Australia reported at the last intercolonial conference that all new structures and appliances were being designed, where practicable, with due regard to the future adoption of the 4 ft. 8½ in. gauge, being that of New South Wales.

The only question now remaining to be determined is as to how the cost of the change is to be apportioned, which is one for the respective Governments to deal with.

#### SAFETY APPLIANCES.

This important subject has had consistent attention, and rather more than the usual progress has been made. Recently it was decided to introduce Sykes' system of lock and block on the busy suburban sections, and it is hoped that the first installation will within the next few months be in operation on the fast road between Petersham and Ashfield.

The fitting of the goods stock with the Westinghouse quick-acting brake has been practically completed.

It is satisfactory to mention that during the year we have had an immunity from accidents of any serious character.

#### RATES.

Some alterations have been made in the fares, which should tend to facilitate and cheapen travel; and an arrangement for refunds on account of unused halves of ordinary return tickets introduced.

The reduced stock rates have been before referred to in connection with the recent drought; but it may be added that they were more largely availed of than hitherto, and the concessions must have proved of great assistance in facilitating the removal of stock from drought-stricken districts.

Through, instead of local, rates have been introduced on the Camden, Narrabri to Moree and Jerilderie to Finley lines.

The general truck rates have been rearranged and reductions made in other directions to the advantage of the user of the railways.

RETURN showing Mileage per Ton and Earnings per Ton per Mile of Goods Traffic carried during the years ended 31st December, 1879, 1883, 1891, 1894, and 1898.

	COAL AND SHALE.					FIREWOOD.				
	1879.	1883.	1891.	1894.	1898.	1879.	1883.	1891.	1894.	1898.
Tons carried .....	1,089,099	1,596,408	2,673,378	2,440,389	2,902,466	112,171	160,662	176,790	188,416	203,466
Miles carried .....	14,212,532	25,363,800	46,882,655	35,154,389	47,263,697	3,009,030	4,349,344	4,734,019	5,155,475	5,739,054
Average miles per ton .....	13·68	15·88	17·53	14·41	16·28	26·82	27·07	26·77	27·36	28·21
Gross Earnings .....	£ 48,394	85,820	148,299	105,228	124,540	12,977	18,601	21,709	18,185	19,450
Earnings per ton per mile...	d. 0'82	d. 0'81	d. 0'76	d. 0'72	d. 0'63	d. 1'04	d. 1'03	d. 1'10	d. 0'85	d. 0'81
	GRAIN AND FLOUR.					HAY, STRAW, AND CHAFF.				
	1879.	1883.	1891.	1894.	1898.	1879.	1883.	1891.	1894.	1898.
Tons carried .....	36,249	65,736	198,491	241,669	340,040	22,467	35,119	64,967	83,819	109,628
Miles carried .....	3,611,407	7,756,369	22,130,334	36,250,854	57,313,853	743,679	2,712,396	10,024,149	13,691,695	21,643,926
Average miles per ton .....	99·63	117·99	111·49	150·00	168·55	33·10	77·23	154·29	163·35	197·43
Gross Earnings .....	£ 15,526	26,493	61,521	92,284	132,965	4,579	11,739	19,797	24,302	33,732
Earnings per ton per mile...	d. 1'03	d. 0'82	d. 0'66	d. 0'61	d. 0'56	d. 1'48	d. 1'04	d. 0'46	d. 0'43	d. 0'37
	WOOL.					LIVE STOCK.				
	1879.	1883.	1891.	1894.	1898.	1879.	1883.	1891.	1894.	1898.
Tons carried .....	31,773	63,887	111,797	124,102	98,451	27,805	68,059	123,211	153,082	204,409
Miles carried .....	5,283,838	15,184,040	30,282,222	34,882,444	25,881,115	3,726,176	13,224,154	34,650,831	37,481,715	50,393,492
Average miles per ton .....	166·30	237·67	270·86	281·08	262·88	134·01	194·30	270·26	244·84	246·53
Gross Earnings .....	£ 53,932	140,791	314,151	354,450	247,622	44,336	151,557	267,661	302,419	356,882
Earnings per ton per mile...	d. 2'45	d. 2'23	d. 2'49	d. 2'44	d. 2'30	d. 2'86	d. 2'75	d. 1'85	d. 1'94	d. 1'70
	General Merchandise, and Traffic not included in other groups.									
	1879.	1883.	1891.	1894.	1898.					
Tons carried .....	361,797	682,067	1,008,599	679,618	1,028,190					
Miles carried .....	29,706,330	67,991,304	92,087,454	74,473,281	106,761,222					
Average miles per ton .....	82·11	99·68	91·30	109·58	103·83					
Gross Earnings .....	£ 366,808	693,740	806,332	668,364	807,388					
Earnings per ton per mile .....	d. 2'96	d. 2'45	d. 2'10	d. 2'16	d. 1'81					

NOTE.—The traffic carried on departmental account has been deducted from the figures throughout, so as to give a fair comparison.

## Return of Ton Mileage for Year ended 31st December, 1898.

Description of Traffic.	Total Tons carried.	Total Miles carried.	Average Miles per Ton.	Earnings, exclusive of Terminal Charges.	Earnings per ton per Mile.	Percentage of each class to Total Tonnage.
	tons	miles	miles	£	d.	per cent.
Coal ... ..	2,902,466	47,263,697	16·28	121,540	'63	59·40
Firewood ... ..	203,466	5,739,654	28·21	19,450	'81	4·16
Grain, Flour, &c. ... ..	340,040	57,313,853	168·55	132,965	'56	6·96
Hay, Straw, and Chaff... ..	109,628	21,643,936	197·43	33,732	'37	2·24
A Class and Miscellaneous*	531,584	42,266,243	79·51	157,930	'90	10·88
B Class† ... ..	144,171	15,140,837	105·02	96,386	'53	2·95
Wool ... ..	98,451	25,881,115	262·88	247,622	'30	2·02
Live Stock ... ..	204,409	50,393,492	246·53	356,882	'70	4·18
All other Goods ... ..	352,435	49,354,142	140·04	553,072	'69	7·21
<b>Total ... ..</b>	<b>4,886,650</b>	<b>314,996,969</b>	<b>64·46</b>	<b>1,722,579</b>	<b>1·31</b>	<b>100·00</b>

\* A Class and Miscellaneous traffic consists of timber, lime, manures, fruit, vegetables, hides, tobacco leaf, bricks, gravel, drain-pipes, and traffic of a similar nature.

† B Class traffic consists of lead and silver ore, caustic soda and potash, cement, copper ingots, fat and tallow, mining machinery, tiles, ore tailings, leather, agricultural implements, in 5-ton lots, and other traffic of a similar nature.

THE following statement shows the earnings and expenses in connection with a number of lines for the year ended the 31st December, 1898.

Line.	Length.	Capital Cost.	Interest on Capital.	Working Expenses.		Total Earnings.		Loss after providing for Working Expenses and Interest.	
				Year ending December, 1898.	Year ending December, 1897.	Year ending December, 1898.	Year ending December, 1897.	Year ending December, 1898.	Year ending December, 1897.
Narrandera to Jerilderie, ) Berrigan and Finley )	100 32 <sup>3</sup> / <sub>4</sub>	£ 514,230	£ 16,772	£ 11,585	£ 10,101	£ 15,821	£ 14,863	£ 12,536	£ 11,747
Junee to Hay ... ..	167 35 <sup>3</sup> / <sub>4</sub>	1,062,832	42,513	35,231	32,324	63,268	57,463	14,476	16,852
Wallerawang to Mudgee ...	85 6	1,043,285	40,101	20,292	19,094	34,830	32,608	25,563	26,671
Cootamundra to Gundagai..	33 45 <sup>1</sup> / <sub>2</sub>	285,748	9,833	5,606	5,305	11,278	9,823	4,161	5,083
Goulburn to Cooma ... ..	130 40	1,463,074	51,208	25,215	27,495	34,092	36,631	42,331	42,047
Murrumburrah to Blayney..	110 63	1,144,880	40,071	32,394	31,709	33,914	31,168	38,551	40,555
Orange to Molong, Parkes, ) and Forbes, Bogan ) Gate and Condobolin )	158 29 <sup>1</sup> / <sub>2</sub>	855,554	28,864	24,831	21,154	50,489	44,602	3,206	3,634
Blacktown to Richmond ...	16 12	197,509	8,279	8,370	8,278	12,412	11,483	4,237	5,074
Tamworth to Armidale ...	76 76	1,214,612	47,514	23,724	23,203	42,871	42,281	28,367	28,433
Armidale to Jennings ...	132 42 <sup>3</sup> / <sub>4</sub>	1,540,291	58,812	32,787	34,419	34,668	36,853	56,931	56,366
Hornsby to Milson's Point	13 27 <sup>1</sup> / <sub>2</sub>	618,211	22,525	16,096	14,534	25,765	22,440	12,856	14,602
Sydney to Kiama ... ..	71 52 <sup>1</sup> / <sub>2</sub>	2,136,673	73,930	106,127	105,203	152,798	142,987	27,259	37,631
Kiama to Nowra ... ..	22 43 <sup>1</sup> / <sub>2</sub>	380,816	13,334	5,042	5,127	6,253	5,956	12,123	12,504
Lismore to Murwillumbah...	63 57	920,919	32,284	7,369	6,831	11,515	10,707	28,138	28,398
Sydenham to Belmore ... ..	5 3 <sup>3</sup> / <sub>4</sub>	207,518	6,983	4,888	4,829	3,937	3,947	7,934	7,923
Culcairn to Corowa ... ..	47 39	232,963	8,196	3,781	3,361	4,969	4,226	7,008	7,323
Cootamundra to Temora ...	38 69	192,847	7,187	4,979	4,986	9,300	8,651	2,866	3,519
Nyngan to Cobar ... ..	81 27 <sup>1</sup> / <sub>4</sub>	324,625	11,652	10,276	9,927	21,477	20,177	451	1,392
Nevertire to Warren ... ..	12 33 <sup>1</sup> / <sub>4</sub>	43,567	1,525	2,277	Not open	2,937	Not open	865	Not open
	1,368 15 <sup>3</sup> / <sub>4</sub>	14,430,154	521,583	380,870	367,880	572,594	536,866	329,859	349,754

With few exceptions the lines generally show an improvement, and the aggregate loss been reduced by £19,895.

## ACCOMMODATION FOR THE TRAFFIC, AND CONDITION OF LINES AND ROLLING-STOCK.

The passenger and goods stock have been maintained in good order and condition.

Pullman sleeping cars have been placed on the Sydney-Brisbane Mail, and cars of a similar type are about to be added to the Southern and Western Mail trains.

Second-class corridor lavatory carriages have been placed on to the Sydney-Melbourne Express, which is now a corridor train throughout. In addition to the improvement thus made in this train, the second-class lavatory compartment carriages which were attached to it have been transferred to other long-distance trains, and are much appreciated.

In the near future it is proposed to add to the 1st and 2nd class corridor carriage accommodation, and also to the standard type of suburban cars.

The goods stock has been increased by 330 vehicles, and will be shortly further augmented by about 70 now under construction.

The replacement of worn-out goods vehicles has been kept well in hand.

Provision has been made for 8 new powerful engines to replace 12 smaller ones, and a number of engines are under order to meet future requirements.

Four passenger tender locomotives have been converted into tank engines for suburban working, and 6 passenger and 2 goods tank engines have been rebuilt.

In addition, 12 new boilers have been constructed in the Eveleigh Shops for renewal purposes.

Generally the expenditure on renewals and repairs of engines, carriages and wagons has exceeded that of last year by £3,576, and is in excess of the preceding year by £40,405.

To facilitate the renewal and repairs of engines, a new erecting-shop has been built at Eveleigh, and it is being equipped with modern machinery, electric overhead Cranes and other appliances.

The permanent way and station buildings have been maintained in good condition, and the expenditure in complete relaying, also rerailling, resleepering, and lifting and ballasting was greater than that of the preceding year.

The large work of renewing the Wagga Wagga viaduct in steel has been continued, and will probably be completed during the current financial year.

## GRADES AND CURVES.

Extensive improvements on the Northern, North-western, and Southern Lines have been made, and a large work between Harden and Cootamundra is in hand.

The expenditure is remunerative and productive of better train working, and where these results can be secured it will be continued.

Surveys have been completed and plans prepared for the duplication of the North Shore Line from St. Leonards to Lindfield, and the work will be expeditiously carried out.

## RESULTS OF THE WORKING.

## RAILWAYS.

Year ended 30 June, 1899, compared with 1898 and 1888.

PARTICULARS.	1899.	1898.	1888.
Total spent in construction and equipment ... ..	£37,992,276	£37,719,402	£27,722,748
Total Debentures finally paid off ... ..	£1,904,875	£1,902,975	£1,017,875
Total cost per mile open for traffic (including Workshops, Rolling Stock, &c., &c.)	£14,037	£14,015	£13,114
Total miles open for traffic ... ..	2,706½	2,691¼	2,114
Average miles opened for the year ... ..	2,708¾	2,659	2,044
Gross revenue ... ..	£3,145,273	£3,026,748	£2,295,124
Working expenses ... ..	£1,690,442	£1,614,605	£1,530,551
<b>NET PROFIT ON WORKING</b> ... .. (After paying Working Expenses).	<b>£1,454,831</b>	<b>£1,412,143</b>	<b>£764,573</b>
<b>PERCENTAGE OF WORKING EXPENSES TO REVENUE</b> ... ..	<b>53'75</b>	<b>53'34</b>	<b>66'69</b>
Earnings per average mile open ... ..	£1,163	£1,138	£1,123
Working expenses per average mile open ... ..	£625	£607	£749
<b>NET RETURN PER AVERAGE MILE OPEN</b> ...	<b>£538</b>	<b>£531</b>	<b>£374</b>
Gross earnings per train mile ... ..	s. d. 7 1¾	s. d. 7 3	s. d. 6 10¼
Working expenses per train mile ... ..	3 10	3 10½	4 7
<b>NET PROFIT PER TRAIN MILE</b> ... .. (After paying Working Expenses).	<b>3 3½</b>	<b>3 4½</b>	<b>2 3½</b>
<b>PERCENTAGE OF PROFIT TO CAPITAL INVESTED</b> ... ..	£ s. d. <b>3 16 7</b>	£ s. d. <b>3 15 0</b>	£ s. d. <b>2 17 0</b>
Number of passenger journeys ... ..	24,726,067	23,233,206	15,174,115
Goods tonnage ... ..	5,025,315	4,463,728	3,331,071
Live-stock tonnage ... ..	223,005	166,836	68,101
Train mileage... ..	8,806,647	8,340,338	6,689,313

## TRAMWAYS.

On the 30th of June, 1898, 66 $\frac{1}{4}$  miles were open for traffic.

The electric line, Ocean-street, Woollahra, to Rose Bay, a distance of 1 mile 24 chains, was opened on the 4th of October, 1898.

The total tramway earnings for the year show an increase of £34,685, the working expenses £28,881, giving an improved net result of £5,804.

The cost of the lines open for traffic is £1,516,343, and the return upon the capital invested, £4 0s. 1d.

### CONDITION OF EXISTING LINES.

The lines have been maintained in good order. Relaying has been carried out where necessary, and a large amount of work done in anticipation of the introduction of electrical traction.

### ACCOMMODATION FOR TRAFFIC.

The rolling-stock has been well maintained, but no additions have been made to the steam tramcars. Latterly, in the evenings, consequent largely on the increased traffic in certain directions, the inconvenience of overloading has arisen; but this was unavoidable, as to have increased the number of the old type of cars would have involved building additional rolling-stock, to be superseded almost immediately by electrical cars. The difficulty has, however, been minimised as far as practicable by running a number of the cars built for the electrical lines attached to the steam trams.

One of the advantages claimed for the George-street electric tram, shortly to be opened, was that it would largely divert traffic from the existing overcrowded main City line; and there is no doubt that this will be so, and the temporary difficulties now experienced will largely disappear.

Considerable improvements have been made at Redfern Railway terminus to meet the requirements of electrical tram working to and from the station, and it is anticipated that the change will be much appreciated.

A short time will be allowed to elapse after the opening of the George-street tram before it is taken into the Railway premises. This is deemed prudent in order to gain some slight experience of the volume of business in George-street.

The completion of the power-house at Ultimo, and the necessary cable connection with North Shore, will permit of the existing mixed system of electric and cable now running in the populous northern suburb being made wholly electric, and the full complement of cars required to accommodate the traffic then put upon the road. This cannot be done at present for want of sufficient haulage power.

The Ocean-street cable line has to the present proved financially and otherwise satisfactory; but in view of the limited capacity of cable as compared with electric traction to rapidly move an increasing volume of traffic, we must consider whether the Ocean-street tramway should not be made electric when the general conversion takes place.

This alteration will be imperatively necessary before any substantial reduction in the fares, as has been asked for, can be granted. To justify such concessions it is essential that there should be a good prospect of a proportionate increase in traffic. Assuming that this would be realised, the present cable system would be quite

inadequate to cope with it during the busy hours of the day, and therefore it must be superseded by one capable of giving a more frequent and quicker service, and this can best be done by introducing electricity.

The tramways generally are in a good financial position, but the greatest care is necessary to keep them so, and compliance with applications for reductions in fares must be deferred until the results which will follow on the general introduction of electrical traction can be better gauged.

### RESULTS OF THE WORKING.

#### TRAMWAYS—ALL LINES.

Year ended 30 June, 1899, compared with 1898 and 1888.

PARTICULARS.	1899.	1898.	1888.
Total spent on construction and equipment ... ..	1,516,843	£1,478,251	£877,244
Total cost per mile open ... ..	22,888	£22,742	£22,786
Total miles open for traffic ... ..	66½	65	38½
Gross revenue ... ..	348,556	£313,871	£236,519
Working expenses ... ..	288,022	£259,141	£219,196
<b>NET PROFIT</b> (After paying Working Expenses) ...	<b>60,534</b>	<b>£54,730</b>	<b>£17,323</b>
<b>PERCENTAGE OF WORKING EXPENSES TO REVENUE</b> ... ..	<b>82'63</b>	<b>82'56</b>	<b>92'67</b>
Earnings per average mile open ... ..	£5,281	£4,982	£6,224
Working expenses per average mile open ... ..	£4,364	£4,113	£5,768
Gross earnings per tram mile ... ..	1/11½	1/11½	3/4½
Working expenses per tram mile ... ..	1/7½	1/7½	3/1½
<b>NET PROFIT PER TRAM MILE</b> ... ..	<b>4</b>	<b>4</b>	<b>3</b>
<b>PERCENTAGE OF PROFIT TO CAPITAL INVESTED</b> ... ..	<b>£ s. d.</b> <b>4 0 1</b>	<b>£ s. d.</b> <b>3 14 9</b>	<b>£ s. d.</b> <b>1 19 7</b>
Number of passenger fares collected ... ..	82,255,504	74,076,152	53,957,395
Tram mileage... ..	3,504,485	3,252,608	1,388,786

Further information regarding the working of the various sections will be found as an Appendix, page 38.



## TEN YEARS' RETROSPECT.

The close of the first decade following the passing of the Government Railways Act of 1888 seems to us a fitting opportunity for reviewing the progress made during that time. The period referred to ended a few months after the close of the year covered by our last Annual Report, and is reviewed in the form of an Appendix hereto.

In dealing with the subject, which is a large one full of information, nothing is aimed at but a record of facts, yet to bring them out it has been necessary to make comparisons. These, however, are only made in order that the progress of the Railways and Tramways may be thoroughly understood. The review will also, we believe, be taken as an emphatic endorsement of the value of the Government Railways Act.

We beg to most fully acknowledge the great service rendered to the country by the late Mr. E. M. G. Eddy, the first Chief Railway Commissioner under the Act, who so ably laid the groundwork of the success of the present system of management, and by whose bright intellect and herculean labours it was firmly established.

We desire also to bear testimony to the efficiency and diligence of the executive officers, and the co-operation of the staff generally.

In this connection we are pleased to be able to state that at the close of the last financial year we were in a position to award increased rates of pay to the extent of about £35,000 per annum, chiefly to the lower paid staff. During the two previous years, the advances respectively amounted to about £27,000 and £24,000 per annum, and we hope, should the working results prove satisfactory during the current half-year, to enlarge the scope of advancements in pay at the termination of the period.

We have the honor to be,

Sir,

Your most obedient Servants,

CHARLES OLIVER,  
Chief Commissioner.

W. M. FEHON,  
Commissioner.

DAVID KIRKCALDIE,  
Commissioner.

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## APPENDIX I.

Chief Mechanical Engineer's Office,  
Eveleigh, 21st July, 1899.

Sir,

I have the honor to report, for the information of the Commissioners, that the rolling stock, the machinery, pumping plant, and water supplies of the Railways have been maintained in efficient working condition.

*Locomotives.*

Twelve new boilers have been constructed in the Eveleigh shops during the year on stores account.

Four passenger tender engines, Nos. 81, 87, 91, and 172, were rebuilt, converted into tank engines for suburban line; and 6 passenger tank engines and 2 goods tender engines were rebuilt. All were fitted with new boilers and charged to working expenses.

Three hundred and fifty-three engines have been repaired during the year, 224 of them at Eveleigh, 56 at Newcastle, and the remaining 73 at smaller depôts; 239 of them received heavy repairs, and the remaining 114 had general repairs of a lighter character.

Three hundred and twenty-five boilers were overhauled during the year, 234 of them at Eveleigh, 53 at Newcastle, and the remaining 38 at smaller depôts; 106 of them, as they fell due, were internally examined, heavily repaired, refilled with tubes and returned to locomotives. Forty-eight stationary boilers were overhauled; 10 of them received heavy repairs. Eight new stationary boilers and 5 old locomotive boilers replaced worn-out plant for stationary purposes.

*Carriages and Wagons.*

Fifty-two vehicles were rebuilt as replacements during the year, of which 7 wagons of the open bogie type (class G) were strengthened and converted into bogie bolster wagons (class F). 1,315 passenger vehicles were repaired—1,010 of them at Eveleigh and the remaining 305 at Newcastle. 322 of these vehicles received heavy repairs, and the remaining 993 had general repairs of a lighter character. 5,803 wagons and vans passed through the Eveleigh and Newcastle shops during the year, 2,088 of which were heavily repaired. 2,868 axle boxes of defective designs were removed, replaced by standard boxes, and charged to working expenses.

*New Stock charged to Capital Account.*

Three second-class corridor carriages, built in the Eveleigh shops, were added to the coaching stock, and 330 merchandise vehicles (130 built in the Eveleigh shops and 200 by contractors) were added to the goods stock during the year. The cost of these vehicles charged to capital account is £49,324.

*New Stock charged to Working Expenses.*

Eight powerful goods engines have been charged to working expenses during the year, replacing 12 smaller engines.

Nine four-wheeled horse-boxes and 1 bogie horse-box have been built in the Eveleigh shops as replacements of 13 old four-wheeled horse boxes.

As replacements, 156 merchandise vehicles were built in the Eveleigh shops, and provision made for 50 sheep-vans, ordered from contractors, of which 12 have been delivered.

£56,734 was charged against the working expenses of the year on account of the above engines and vehicles.

The following statement shows the relative mileage executed and the working costs of the Locomotive Branch for 1898 and 1899 :—

	1899.	1898.	Increase.	Decrease.
Train miles ... ..	8,806,647	8,340,338	466,309	.....
Engine miles ... ..	12,557,316	11,908,461	648,855	.....
Percentage unproductive to train miles ... ..	42.59	42.78	.....	0.19
Revenue ... ..	£3,145,273	£3,026,748	£118,525	.....
Expenditure ... ..	£777,087	£736,616	£40,471	.....
Do per cent. to revenue... ..	24.71	24.34	0.37	.....
Cost in pence per train mile ... ..	21.177	21.197	.....	0.020
Do engine mile... ..	14.852	14.846	0.006	.....

The attached statements show the relative position of the locomotive, carriage, and wagon stock on the 30th June, 1898 and 1899.

W. THOW,  
Chief Mechanical Engineer.

To the Secretary to the Railway Commissioners.

#### APPENDIX II.

#### RAILWAYS.—RETURN OF WORKING ROLLING STOCK, 30TH JUNE, 1899.

	LOCOMOTIVES.		COACHING.							MERCHANDISE.						DEPART- MENTAL STOCK.	TOTAL GOODS.
	Engines.	Tenders.	Special and Sleeping Cars.	First Class.	Composites.	Second Class.	Brake-vans.	Horse-boxes, carriage trucks, &c.	Total.	Goods open.	Goods covered.	Meat Trucks.	Live Stock Trucks.	Brake-vans.	Total.	Loco. Coal, Ballast, &c., Wagons.	
Stock, 30th June, 1898...	494	415	49	172	84	261	181	303	1,050	7,357	627	110	1,130	205	9,429	1,041	10,470
Stock, 30th June, 1899...	491	408	48	168	86	237	182	293	1,044	7,697	627	110	1,130	205	9,769	1,037	10,806

A.—6 powerful goods engines, with a tractive power of 172,662 lb., replace 9 small type engines with an aggregate tractive power of 163,296 lb. Two goods tender and 6 passenger tank engines have been rebuilt, and 4 passenger tender engines have been converted into suburban tank and rebuilt.

B.—3 new second-class corridor cars have been added to stock; 1 bogie horse-box has replaced 4 4-wheel horse-boxes; 9 new 4-wheel horse-boxes have replaced 9 4-wheel horse-boxes; 19 carriages of various classes have been rebuilt, and 8 converted into other classes.

C.—330 open 4-wheel wagons have been added to stock; 201 goods vehicles have been rebuilt or replaced during the year—33 were rebuilt, and 168 replaced an equal number of other vehicles.

## APPENDIX III.

REPORT on the Condition of Permanent-way and Works for the year ended  
30th June, 1899.

Office of Engineer-in-Chief for Existing Lines,  
25 July, 1899.

Sir,

I have the honor to report, for the information of the Commissioners, that the permanent-way, works, and buildings have been thoroughly maintained during the past year.

*Relaying, Reballasting, &c.*

During the period, 81 miles 23 chains have been completely relaid, rerailed, or resleepered; 241 miles 22 chains have been lifted and ballasted; 82 miles 61 chains of fencing have been renewed; and 24 miles 66 chains of new fencing have been erected in connection with deviation works.

35,654 new sleepers, and 36,417 good sleepers recovered on relaying, have been used for partial resleepering and repairs, adding a total of 33 miles to the length of road put into perfect condition during the year.

Special attention has been given to station and other buildings, which, wherever needed, have been thoroughly repaired and painted. Many additional works, rendered necessary by expanding traffic, have been completed. In these are included a large number of works fairly chargeable to Capital, but which have been carried out and debited to Working Expenses.

All bridges have been systematically inspected, and, where necessary, repairs have been carried out. Work in connection with the renewal of the Wagga Wagga viaduct in steel has been steadily carried forward.

Among large buildings erected during the year may be mentioned the new locomotive erecting shop at Eveleigh, 400 feet by 120 feet, built of brick and floored with concrete.

*Improvement of Grades and Curves.*

Operations under this heading have been carried out almost entirely on the Northern and North-Western Lines, where the grades have been improved in the vicinity of Thornleigh and Point Clare, and between Wyong and Morisset, Waratah and East Maitland, Glennie's Creek and Liddell, Braefield and Quirindi, Quipolly and Werris Creek, Werris Creek and Gunnedah, and Boggabri and Baan Baa, while others are rapidly approaching completion in the vicinity of Carlingford, Berowra, and Woy Woy, and between Muswellbrook and Scone.

On the Southern Line similar works have been completed near Marrar, and others are in progress between Harden and Cootamundra.

All the above works have been smartly and economically carried out by gangs acting under the direction of Departmental officers.

Surveys have been completed and plans prepared for the duplication of the North Shore Line between St. Leonards and Lindfield, and the work will be started on an early date.

*Extension opened.*

The only extension added to the mileage during the year was that between Berrigan and Finley, 13 miles 73 chains, pioneer type, which was opened for traffic on the 16th September, 1898.

Sidings laid in and extended ... .. 13 miles 16 chains.  
 Sidings relaid ... .. 22 chains.

	New.	Second-hand.	Total, year ended 30 June, 1899.	Total, year ended 30 June, 1898.
Sleepers in new Sidings ... ..	1,991	18,868	20,859	11,455
Sleepers used in Main Lines—				
Relaying and resleepering ... ..	152,865	1,002	153,867	91,366
Repairs and respacing ... ..	35,654	36,417	72,071	58,664
Deviation to improve grades and curves ... ..	19,272	1,241	20,513	40,202
Total ... ..	207,791	38,660	267,310	201,687

	Blue-metal and other hardstone.	Sandstone and gravel.	Total, year ended 30 June, 1899.	Total, year ended 30 June, 1898.
	Cubic yards.	Cubic yards.	Cubic yards.	Cubic yards.
Ballast used in Main Lines—				
For relaying and reballasting ... ..	70,925	15,203	86,128	73,920
For deviations to improve grades and curves ... ..	25,163	8,423	33,586	39,143
Total ... ..	96,088	23,626	119,714	113,063

Length of new fencing erected ... .. 107 miles 47 chains.  
 Length of fencing wired ... .. 11 „ 10 „  
 Culverts and flood openings constructed and extended 515 s. ft. additional waterway.

I have, &c.,

THOMAS R. FIRTH,  
 Engineer in-Chief for Existing Lines.

The Secretary to the Railway Commissioners.

APPENDIX IV.

STATEMENT OF ACCOUNT OF THE EXPENDITURE AND REVENUE FOR YEAR ENDED 30TH JUNE, 1899, WITH CORRESPONDING PERIOD IN 1898.

DR.		RAILWAYS.		CR.	
EXPENDITURE.	YEAR ENDED JUNE 30, 1899.	CORRESPONDING PERIOD IN 1898.	REVENUE.	YEAR ENDED JUNE 30, 1899.	CORRESPONDING PERIOD IN 1898.
	£	£		£	£
To MAINTENANCE OF WAY, WORKS, AND STATIONS	370,197	353,969	By PASSENGERS—		
LOCOMOTIVE WORKING	15,399	378,504	1899.      1898.		
ENGINE REPAIRS AND RENEWALS	219,746	218,951	No.      No.		
CARRIAGE AND WAGGON REPAIRS AND RENEWALS	141,942	139,161	FIRST CLASS TICKETS	2,099,141	2,092,194
TRAFFIC EXPENSES	471,532	455,545	SECOND CLASS TICKETS	11,973,544	11,277,186
COMPENSATION—PASSENGERS	2,379	1,250	FIRST CLASS SEASON TICKETS	8,852	8,848
Do   GOODS	3,072	2,046	SECOND CLASS SEASON TICKETS	33,953	32,779
GRATUITIES TO WIDOWS AND CHILDREN OF			Do WORKMAN'S WEEKLY TICKETS	406,087	357,764
EMPLOYEES AND PAYMENTS ON ACCOUNT OF	2,652	4,504	HORSES, CARRIAGES, AND DOGS	14,560	13,293
PENSION ALLOWANCES			PARCELS AND CLOAK ROOM	95,412	92,256
FIRE INSURANCE FUND	1,250	1,250	MAILS	63,737	63,380
GENERAL EXPENSES	62,273	59,425	MISCELLANEOUS	27,511	26,598
	1,690,442	1,614,605	TOTAL COACHING	1,155,971	1,126,257
			GENERAL MERCHANDISE	1,076,347	1,055,300
<b>BALANCE, NET RETURN</b>			WOOL	279,997	283,171
AFTER PAYING WORKING EXPENSES	£ 1,454,831	£ 1,412,143	LIVE STOCK	368,319	320,532
			MINERALS—COAL AND COKE	204,613	192,842
			MINERALS—OTHER THAN COAL	52,741	40,976
			MISCELLANEOUS	7,285	7,670
			TOTAL GOODS	1,989,302	1,900,491
<b>GRAND TOTAL</b>	£ 3,145,273	£ 3,026,748	<b>GRAND TOTAL</b>	£ 3,145,273	£ 3,026,748

The General Miscellaneous in 1898 has been distributed under Passenger and Goods earnings to compare with 1899 figures.

THOMAS HALL,  
Chief Accountant.

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APPENDIX V.  
 SCHEDULES under WORKING EXPENSES for the Year ended the 30th June, 1899, with corresponding period in 1898.  
 RAILWAYS.

BRANCHES.	Year ended June 30, 1899.	Corresponding period in 1898.	BRANCHES.	Year ended June 30, 1899.	Corresponding period in 1898.
<b>Maintenance of Way and Works.</b>			<b>Traffic Expenses.</b>		
Salaries, &c., of engineers, surveyors, draftsmen, clerks, inspectors, foremen, and timekeepers .....	£	£	Chief Traffic Manager, Superintendents, and office staff .....	£	£
Maintenance and renewals of permanent way, viz. :— { Wages .....	30,168	29,129	Station-masters, night officers, relieving and supervising staff .....	19,674	20,446
Materials .....	224,094	218,873	Station goods, and coaching clerks .....	80,588	81,164
Repairs and improvements, &c., of stations, buildings, { Wages .....	55,003	48,078	Pointsmen, signalmen, and gatekeepers .....	22,368	22,332
bridges, signals, and other works .....	36,518	35,675	Guards .....	41,456	41,812
Sundries .....	21,285	19,547	Porters, labourers, &c. ....	58,761	56,291
	3,129	2,667	Stores for stations .....	146,967	140,707
Lines open and maintained— { Quadruple .....	1899. 1898.		Stores for stations .....	29,718	27,984
Double .....	8½ 8½		Advertising, stationery, printing, &c. ....	13,417	13,165
Single .....	158½ 154½		Travelling and incidental .....	3,012	3,099
	2,539½ 2,528½		Sundries .....	49,051	43,222
	2,706½ 2,691½		Greasing and oiling { Wages .....	3,662	3,090
	370,197	353,969	carriages and wagons { Materials .....	2,858	2,233
<b>Locomotive Working.</b>			<b>Compensation.</b>		
Chief Mechanical Engineer, Superintendents, officers, and clerks .....	15,113	14,385	For personal injury—Passengers .....	2,379	1,250
Foremen and timekeepers .....	10,657	10,397	For damage to and loss of goods .....	3,072	2,046
Drivers and firemen .....	188,141	180,099		£ 5,451	3,296
Cleaners, coalmen, and labourers .....	55,949	54,378	Gratuities to widows and children of employees who have met with accident, also gratuities to staff on retirement and payments to Civil Service Fund on account of Pension allowances .....	2,652	4,504
Cleaners, coalmen, and labourers .....	55,949	54,378	Fire Insurance Fund .....	1,250	1,250
Stores for cleaners .....	3,053	3,100	<b>General Expenses.</b>		
Sundries .....	16,498	12,529	Commissioners, Secretary and office staff .....	8,368	8,146
Coal, coke, and wood .....	85,163	68,977	Account branch .....	10,370	10,136
Water .....	30,206	24,861	Audit branch .....	8,954	8,721
Oil, tallow, and waste .....	10,614	9,778	Stores branch .....	6,290	6,081
	£ 415,399	378,504	Telegraph branch .....	16,954	15,990
<b>Engine Repairs and Renewals.</b>			Sundries .....	11,337	10,351
Repairs and renewals of engines { Wages .....	140,941	141,241		£ 62,273	59,425
Materials .....	78,805	77,710	<b>GRAND TOTAL.....</b>		
	£ 219,746	218,951	£	<b>1,690,442</b>	<b>1,614,605</b>
<b>Carriage and Waggon Repairs and Renewals.</b>					
Coaching stock repairs and renewals { Wages .....	39,433	35,055			
Materials .....	15,103	22,911			
Goods stock repairs and renewals { Wages .....	56,444	50,029			
Materials .....	30,862	31,166			
	£ 141,942	139,161			



## APPENDIX VI.

## COMPARATIVE Analysis of Revenue and Expenditure for the years ended 30 June, 1899 and 1898.

Particulars.	Year ended 30 June, 1899.				Year ended 30 June, 1898.			
	Miles.				Miles.			
	Average miles open for traffic ... 2,703½				Average miles open for traffic ... 2,659			
Train mileage—				Train mileage—				
	Passenger ... ..	4,169,005			Passenger ... ..	4,079,970		
	Goods ... ..	4,637,642			Goods ... ..	4,260,368		
	Total mileage ... ..	8,806,647			Total mileage ... ..	8,340,338		
	Numbers or Tonnage.	Revenue.	Per mile open.	Per train miles.	Numbers or Tonnage.	Revenue.	Per mile open.	Per train miles.
<b>REVENUE.</b>								
	Numbers.	£	£	d.	Numbers.	£	£	d.
First-class Passengers .....	2,099,141	248,750	92·0	14·32	2,092,194	254,534	95·7	14·97
Second-class do .....	11,973,544	583,580	215·8	33·60	11,277,186	560,864	210·9	32·99
Season Tickets, 1st class .....	8,852	57,182	21·1	3·29	8,848	54,359	20·5	3·20
Do 2nd class .....	33,953	33,523	12·4	1·93	32,779	33,190	12·5	1·95
Workmen's Weekly Tickets, 2nd class .....	406,087	31,707	11·7	1·83	357,764	27,783	10·5	1·63
Horse, carriages, and dogs .....		14,560	5·4	0·84		13,293	5·0	0·78
Cloak-room and parcels .....		95,412	35·3	5·49		92,256	34·7	5·43
Mails .....		63,737	23·6	3·67		63,380	23·8	3·73
Miscellaneous .....		27,511	10·2	1·58		26,598	10·0	1·57
Total, coaching .....		1,155,971	427·5	66·55		1,126,257	423·6	66·25
	Tons.	£	£	d.	Tons.	£	£	d.
General Merchandise .....	1,471,863	1,076,347	398·1	55·70	1,358,720	1,055,300	396·9	59·45
Wool .....	98,745	279,997	103·6	14·49	98,608	283,171	106·5	15·95
Live stock .....	223,005	368,319	136·2	19·06	166,836	320,532	120·5	18·06
Minerals—Coal and Coke .....	3,184,014	204,613	75·7	10·59	2,818,383	192,842	72·5	10·86
Minerals, other than coal .....	270,693	52,741	19·5	2·73	188,017	40,976	15·4	2·31
Miscellaneous .....		7,285	2·7	0·38		7,670	2·9	0·43
Total, goods .....	5,248,320	1,989,302	735·8	102·95	4,630,564	1,900,491	714·7	107·06
<b>Total Revenue .....</b>		<b>3,145,273</b>	<b>1,163·3</b>	<b>85·72</b>		<b>3,026,748</b>	<b>1,138·3</b>	<b>87·10</b>
<b>EXPENDITURE.</b>								
	Expenditure.	Per mile open.	Per train mile.	Per cent. to Revenue.	Expenditure.	Per mile open.	Per train mile.	Per cent. to Revenue.
<b>WORKING EXPENSES.</b>								
	£	£	£	d.	£	£	£	d.
Maintenance of way, works, and stations .....	370,197	136·9	10·09	11·77	353,969	133·1	10·18	11·69
Locomotive working .....	415,399	153·6	11·32	13·21	378,504	142·3	10·89	12·51
Engine repairs and renewals .....	219,746	81·3	6·00	6·99	218,951	82·4	6·30	7·23
Carriage and waggon repairs and renewals ...	141,942	52·5	3·87	4·51	139,161	52·3	4·00	4·60
Traffic expenses .....	471,532	174·4	12·85	14·99	455,545	171·3	13·11	15·05
Compensation—Passenger .....	2,379	0·9	0·06	0·08	1,250	0·5	0·04	0·04
Do Goods .....	3,072	1·1	0·08	0·10	2,046	0·8	0·06	0·07
Gratuities to widows and children of employes, and payment on account of Pension Allowance .....	2,652	1·0	0·07	0·08	4,504	1·7	0·13	0·15
Fire Insurance Fund .....	1,250	0·5	0·03	0·04	1,250	0·5	0·04	0·04
General expenses .....	62,273	23·0	1·70	1·98	59,425	22·3	1·71	1·96
Total expenditure .....	1,690,442	625·2	46·07	53·75	1,614,605	607·2	46·46	53·34
<b>Net profit .....</b>	<b>1,454,831</b>	<b>538·1</b>	<b>39·65</b>	<b>.....</b>	<b>1,412,143</b>	<b>531·1</b>	<b>40·64</b>	<b>.....</b>
	Expenditure percentage to gross revenue,				EXPENDITURE PERCENTAGE TO GROSS REVENUE,			
	53·75				53·34			

Coal and Coke for 1898 and previous years did not include the Coal hauled by private engines; the weight so hauled in that year was 224,418 tons. To compare with the present year the total coal tonnage should, therefore, be 3,042,801 tons. The traction charges of £2,607 on the 224,418 tons having been included in Miscellaneous Earnings instead of Coal also increases the total coal earnings to that extent.

## Percentage of Expenditure in each Division.

Divisions of Expenditure.	Year ended 30 June, 1899.	Year ended 30 June, 1898.
	%	%
Maintenance of Way, Works, and Station .....	21·90	21·92
Locomotive working .....	24·57	23·44
Engine repairs and renewals .....	13·00	13·56
Carriage and Waggon repairs and renewals .....	8·40	8·62
Traffic Expenses .....	27·90	28·21
Compensation (Passengers) .....	0·14	0·08
Do (Goods) .....	0·18	0·13
Gratuities to Widows and Children of Employes, and payment on account of Pension Allowance .....	0·16	0·28
Fire Insurance Fund .....	0·07	0·08
General Expenses .....	3·68	3·68
	100·00	100·00



## APPENDIX VIII.

RETURN of the Total Amount paid for Wages on the different Branches of the Railways during the years ended 30th June, 1899 and 1898.

Branches.	1899.	1898.
<b>RAILWAYS:—</b>		
Maintenance Branch .....	£ 374,711	£ 364,656
Locomotive „ .....	527,187	502,279
Traffic „ .....	259,446	246,255
<b>TOTAL</b> .....	£ 1,161,344	£ 1,113,190

NOTE.—Includes all wages paid by the Department, whether on Maintenance or New Works.

## APPENDIX IX.

STATEMENT of the Staff employed on the Railways and Tramways of New South Wales in June, 1899, as compared with June, 1898.

Branch.	June, 1899.			June, 1898.		
	No. of Salaried Staff.	No. of Wages Staff.	Total Staff.	No. of Salaried Staff.	No. of Wages Staff.	Total Staff.
<b>RAILWAYS.</b>						
Commissioners' and Secretary's Office .....	15	4	19	15	4	19
Chief Accountant .....	40	1	41	39	1	40
Traffic Audit .....	62	1	63	59	1	60
Stores .....	22	45	67	25	46	71
Permanent-way .....	110	3,319	3,429	105	2,823	2,928
Locomotive .....	140 <sup>a</sup>	3,800	3,940	140	3,690	3,830
Traffic .....	752 <sup>b</sup>	2,588	3,340	750	2,533	3,283
Electrical .....	53 <sup>c</sup>	68	121	53	57	110
Interlocking .....	14	224	238	14	199	213
General .....	16	5	21	13	7	20
	1,224	10,055	11,279	1,213	9,361	10,574
<b>TRAMWAYS.</b>						
Permanent-way .....	8	325	333	6	237	243
Locomotive .....	23	744	767	23	725	748
Traffic .....	23	406	429	22	390	412
Do Plattsburg .....	2	26	28	2	26	28
Stores .....	3	1	4	3	1	4
General .....		25	25		13	13
	50	1,527	1,586	56	1,392	1,448
<b>TOTAL, RAILWAYS AND TRAMWAYS</b> ..	1,283	11,582	12,865	1,269	10,753	12,022

<sup>a</sup> Includes 47 officers in charge of locomotive running-sheds, and timekeepers.

<sup>b</sup> Includes 457 officers and night-officers in charge of stations and sidings, and 165 clerks employed at stations.

<sup>c</sup> Includes 34 telegraph operators.

The Wages Staff does not include 159 gatekeepers with free house only, in June, 1899, as compared with 164 in June, 1898.

## APPENDIX X.

RETURN of the Mileage of Suburban Passengers on All Lines of Railway during the years ended 30th June, 1899, 1898, and 1888.

DESCRIPTION.		1899.	1898.	1888.
NUMBER OF ORDINARY PASSENGERS .....	No. ....	11,776,834	11,392,304	7,413,868
NUMBER OF WORKMEN'S JOURNEYS .....	„ ....	4,873,044	4,293,168	1,738,284
NUMBER OF SEASON TICKET HOLDERS' JOURNEYS ..	„ ....	5,167,422	4,973,572	3,227,760
<b>TOTAL NUMBER OF PASSENGERS' JOURNEYS</b> .....	„ ....	21,817,300	20,659,044	12,379,912
NUMBER OF MILES TRAVELLED .....	MILES	127,606,212	118,653,210	70,172,793
AVERAGE MILEAGE PER PASSENGER .....	„ ..	5'85	5'74	5'67
AMOUNT RECEIVED FROM PASSENGERS .....		£274,202	£261,333	£186,393
AVERAGE RECEIPT PER MILE PER PASSENGER .....	D	0'52	0'53	0'64

Note.—Suburban Lines include only distances within 22 miles of Sydney and Newcastle, Liverpool and Morpeth included.

## APPENDIX XI.

STATEMENT showing cost of Additions to Stations, Buildings, Siding Accommodation, &c., Machinery and Rolling Stock, the cost of which was charged to Capital Account, during the year ended 30th June, 1899.

Additions to Stations, Buildings, &c. ....	Amount. £ 71,789
Rolling Stock and additional appliances, including continuous brakes.....	55,617
	£127,406

APPENDIX XII.

STATEMENT showing the length in miles of the different sections of the Railways of New South Wales to 30th June, 1899.

Date of opening.	From where opened.	To where opened.	Distance.	Date of opening.	From where opened.	To where opened.	Distance.
26 Sept., 1855.	Sydney .. . . .	Parramatta ... . .	m 14 22½	10 Mar., 1882	Campbelltown ..	Camden .. . . .	m. c. 7 65
26 ,, 1855	Redfern . . . . .	Darling Harbour . . . .	1 42½	15 May, 1882	Wallerawang ..	Capertee .. . . .	22 35
26 ,, 1856	Granville . . . . .	Liverpool .. . . .	8 64½	4 July, 1882	Carrathool .. . .	Hay .. . . .	34 57½
5 April, 1857.	Near Newcastle ..	East Maitland .. . . .	17 8	11 ,, 1882	Gunnedah .. . . .	Boggabri .. . . .	24 36½
9 Mar., 1858	Near Newcastle ..	Newcastle .. . . .	1 0	2 Aug., 1882	Moonbi .. . . .	Uralla .. . . .	51 46½
17 May, 1858	Liverpool .. . . .	Campbelltown .. . . .	11 67½	1 Oct., 1882	Boggabri .. . . .	Narrabri .. . . .	31 50½
27 July, 1858	East Maitland .. .	West Maitland .. . . .	2 10½	20 ,, 1882	Dubbo .. . . .	Nevertre .. . . .	63 4
2 ,, 1860.	West Maitland .. .	Lochinvar .. . . .	6 10½	3 Feb., 1883	Uralla .. . . .	Armidale .. . . .	14 64½
4 ,, 1860	Parramatta .. . . .	Blacktown .. . . .	7 15	9 June, 1883	Nevertre .. . . .	Nyngan .. . . .	36 1
12 Dec., 1861	Blacktown .. . . .	Rooty Hill .. . . .	3 65	14 ,, 1883	Albury .. . . .	River Murray.....	1 41
24 Mar., 1862	Lochinvar .. . . .	Branxton .. . . .	8 12½	3 Jan., 1884	Joppa Junction...	Tarago .. . . .	23 30
1 May, 1862	Rooty Hill .. . . .	South Creek .. . . .	5 7	9 June, 1884	Capertee .. . . .	Rylstone .. . . .	20 79
7 July, 1862	South Creek .. . .	Penrith .. . . .	4 11	19 Aug, 1884	Armidale .. . . .	Glen Innes .. . . .	63 51½
1 Sept., 1862	Campbelltown .. .	Menangle .. . . .	6 67½	2 Sept., 1884	Nyngan .. . . .	Byrock .. . . .	78 10
7 May, 1863	Branxton .. . . .	Singleton .. . . .	14 40½	10 ,, 1884	Rylstone .. . . .	Mudgee .. . . .	31 52
1 July, 1863	Menangle .. . . .	Picton .. . . .	12 10½	16 ,, 1884	Narrandera .. . .	Jerilderie .. . . .	64 54½
2 May, 1864..	East Maitland .. .	Morpeth .. . . .	3 37½	15 Oct., 1884	Sydney .. . . .	Hurstville .. . . .	8 63½
1 Dec., 1864	Blacktown .. . . .	Richmond .. . . .	16 12	4 Mar., 1885	Tarego .. . . .	Bungendore .. . . .	19 20½
1 Mar., 1867	Picton .. . . .	Mittagong .. . . .	24 0½	26 ,, 1885	Murrumburrah ..	Young .. . . .	17 26
11 July, 1867..	Penrith .. . . .	Weatherboard .. . . .	27 10	26 ,, 1885	Murrumburrah—De	monarville folk ..	0 26
2 Dec., 1867.	Mittagong .. . . .	Sutton Forest .. . . .	8 64	3 Sept., 1885	Byrock .. . . .	Bourke .. . . .	48 30
1 May, 1868.	Weatherboard .. .	Mount Victoria .. . . .	15 18	21 Dec, 1885	Orange .. . . .	Molong .. . . .	22 60
6 Aug., 1868	Sutton Forest .. .	Marulan .. . . .	28 63½	26 ,, 1885	Hurstville .. . . .	Sutherland .. . . .	6 8
19 May, 1869..	Singleton .. . . .	Muswellbrook .. . . .	30 73	9 Mar., 1886	Sutherland .. . . .	Waterfall .. . . .	8 74½
27 ,, 1869.	Marulan .. . . .	Goulburn .. . . .	19 68½	9 ,, 1886	Loftus Junction ..	National Park .. .	1 14½
18 Oct., 1869	Mount Victoria ..	Bowenfels .. . . .	19 48	1 June, 1886	Cootamundra .. . .	Gundagai .. . . .	33 45½
1 Mar., 1870	Bowenfels .. . . .	Wallerawang .. . . .	7 48	1 Sept., 1886	Glen Innes .. . . .	Tenterfield .. . . .	57 41½
1 July, 1870.	Wallerawang .. . .	Rydal .. . . .	6 5	17 ,, 1886	Strathfield .. . . .	Hornsby .. . . .	14 9½
20 Oct., 1870..	Muswellbrook .. .	Aberdeen .. . . .	7 38½	1 Nov., 1886	Young .. . . .	Cowra .. . . .	46 25
17 April, 1871	Aberdeen .. . . .	Scone .. . . .	8 49	7 April, 1887	Hornsby .. . . .	Hawkesbury .. . . .	14 28½
1 Aug., 1871.	Scone .. . . .	Wingen .. . . .	10 34½	21 June, 1887	Clifton .. . . .	Wollongong .. . . .	12 27½
1 Jan., 1872	Liverpool .. . . .	Sidings, Colling-wood, &c.	0 34	15 Aug., 1887	Gosford .. . . .	Waratah .. . . .	49 65
5 April, 1872	Wingen .. . . .	Murrurundi .. . . .	12 78½	15 ,, 1887	Woodville and Islin	gton loop .. . . .	0 23
22 ,, 1872	Rydal .. . . .	Locke's Platform .. . . .	18 70	8 Sept., 1887	Bungendore .. . . .	Queanbeyan .. . . .	17 27½
1 July, 1872	Locke's Platform ..	Macquarie Plains .. . . .	5 49	10 ,, 1887	Kogarah .. . . .	Sans Souci .. . . .	4 71
4 Mar., 1873	Macquarie Plains ..	Raglan .. . . .	5 13	9 Nov., 1887	Wollongong .. . . .	North Kiama .. . . .	21 42½
4 Feb., 1875	Raglan .. . . .	Kelso .. . . .	2 52	7 Dec., 1887	Queanbeyan .. . . .	Michelago .. . . .	30 20½
9 Nov., 1875.	Goulburn .. . . .	Gunning .. . . .	30 29	16 Jan., 1888	Mullet Creek .. . . .	Gosford .. . . .	9 63½
4 April, 1876.	Kelso .. . . .	Bathurst .. . . .	1 34	16 ,, 1888	Tenterfield .. . . .	Wallangarra .. . . .	11 29½
3 July, 1876..	Gunning .. . . .	Bowmung .. . . .	29 31	13 Feb., 1888	Cowra .. . . .	Blayney .. . . .	46 66
1 Nov., 1876	Bowmung .. . . .	Binalong .. . . .	14 43	3 Oct., 1888	Waterfall .. . . .	Clifton .. . . .	11 68½
1 ,, 1876..	Bathurst .. . . .	Blayney .. . . .	27 79	1 May, 1889	Brooklyn .. . . .	Mullet Creek .. . . .	4 67½
12 Mar., 1877.	Binalong .. . . .	Murrumburrah .. . . .	21 9	31 ,, 1889	Michelago .. . . .	Cooma .. . . .	40 21½
19 April, 1877..	Blayney .. . . .	Orange .. . . .	19 75	1 Jan., 1890	Hornsby .. . . .	St. Leonards .. . . .	10 29½
13 Aug., 1877.	Murrurundi .. . . .	Quirindi .. . . .	24 79	1 July, 1890	Wollongong .. . . .	Harbour .. . . .	0 74
1 Nov., 1877	Murrumburrah .. .	Cootamundra.. . . .	23 87	1 ,, 1891	Homebush loop ..	.. . . .	0 22½
2 April, 1878	Newcastle .. . . .	Bullock Island Branch ..	1 45½	20 April, 1892	Railway Station ..	Yass .. . . .	2 73
2 ,, 1878	Cootamundra.....	Bethungra .. . . .	15 21½	1 July, 1892	Nyngan .. . . .	Cohar .. . . .	81 27½
6 July, 1878	Bethungra .. . . .	June .. . . .	18 28½	3 Oct., 1892	Culcairn .. . . .	Coitowa .. . . .	47 39
3 Sept., 1878	June .. . . .	North Wagga Wagga .. . .	17 37	1 May, 1893	St. Leonards .. . . .	Milson's Point .. . . .	2 78
14 Oct., 1878	Quirindi .. . . .	Tamworth .. . . .	37 24½	2 June, 1893	Kiama .. . . .	Nowra .. . . .	22 43½
25 Mar., 1879	Werris Creek .. .	Breeza .. . . .	14 36½	1 Sept., 1893	Cootamundra .. . .	Temora .. . . .	38 69
1 Sept., 1879.	North Wagga... . .	South Wagga Wagga .. . .	4 49½	18 Dec., 1893	Molong .. . . .	Forbes .. . . .	72 69
11 ,, 1879	Breeza .. . . .	Gunnedah .. . . .	26 4½	15 May, 1894	Lismore .. . . .	Mullumbimby .. . . .	38 57
1 June, 1880	Orange .. . . .	Wellington .. . . .	55 56	24 Dec., 1894	Mullumbimby .. . .	Murwillumbah .. . . .	*25 0
1 Sept., 1880	South Wagga .. . .	Gerogery .. . . .	59 13½	1 Feb., 1895	Sydenham .. . . .	Belmoe .. . . .	5 3½
1 Feb., 1881	Wellington .. . . .	Dubbo .. . . .	30 35	14 Oct., 1896	Jerilderie .. . . .	Berrigan .. . . .	21 65
3 ,, 1881.	Gerogery .. . . .	Albury .. . . .	18 39½	15 Dec., 1896	Parkes .. . . .	Bogan Gate .. . . .	23 38
28 ,, 1881.	June .. . . .	Narrandera.....	60 5	1 April, 1897	Narrabri .. . . .	Moree .. . . .	63 10
28 ,, 1881	June, north fork ..	.. . . .	0 32	26 May, 1897.	Rookwood Cemetery	extension .. . . .	1 22
1 Sept., 1881..	Narrandera .. . . .	Darlington .. . . .	38 13½	1 Jan., 1898	Nevertre .. . . .	Warren .. . . .	12 33½
9 Jan., 1882.	Tamworth .. . . .	Moonbi .. . . .	12 1½	1 Mar., 1898	Bogan Gate .. . . .	Condobolin .. . . .	39 22½
1 Mar., 1882	Darlington .. . . .	Carrathool .. . . .	34 7½	16 Sept., 1898	Berrigan .. . . .	Inlay .. . . .	13 73

Single lines .. . . .	miles ch. 2,539 28½
Double ,, .. . . .	158 56½
Quadruple lines .. . . .	8 42½

Total ... 2,706 47½

\*Includes the extension to Condong Mills.

## APPENDIX XIII.

RETURN of the number of Bales of WOOL forwarded from the following Stations during the years ended 30th June, 1899 and 1898.

Stations.	Number of Bales.		Stations.	Number of Bales.		Stations.	Number of Bales.	
	1899.	1898.		1899.	1898.		1899.	1898.
Darling Harbour .....	16,209	14,159	Whitton .....	3,758	3,713	Mudgee .....	21,194	19,164
Alexandria .....	6	.....	Darlington .....	4,541	5,100	Carcoar .....	1,000	1,064
Granville .....	3	.....	Bringagee .....	1,872	2,063	Mandurama .....	1,144	1,156
Fairfield .....	247	476	Carrathool .....	5,562	5,383	Lyndhurst .....	1,418	1,398
Liverpool .....	9,059	9,010	Hay .....	8,529	12,909	Woodstock .....	1,135	1,686
Ingleburn .....	4	4	Morundah .....	2,369	2,653	Cowra .....	8,075	9,227
Minto .....	148	32	Jerilderie .....	3,736	5,445	Borenore .....	1,302	1,105
Douglas Park .....	23	16	Berrigan .....	340	393	Molong .....	5,312	4,580
Picton .....	.....	8	Walla Walla .....	520	565	Manildra .....	1,208	1,143
Thirlmere .....	1	.....	Brocklesby .....	1,145	1,578	Parke .....	5,529	5,198
Mittagong .....	224	124	Corowa .....	153	566	Eogan's Gate .....	2,238	3,791
Bowral .....	8	10	Dapto .....	.....	1	Condobolin .....	10,706	89
Moss Vale .....	444	446	Gerrigong .....	1	2	Forbes .....	11,870	11,850
Exeter .....	4	.....	Parramatta .....	3	1	Warren .....	26,110	1,691
Wingello .....	26	11	Mount Druitt .....	68	.....	Hermidale .....	3,249	4,087
Marulan .....	1,121	1,173	St. Mary's .....	1	2	Cobar .....	6,811	8,004
Towrang .....	1,439	1,171	Kingswood .....	2	.....	Hornsby .....	.....	55
Goulburn .....	6,665	6,019	Penrith .....	.....	1	Awaba .....	4	3
Breadalbane .....	645	564	Emu Plains .....	10,207	9,740	Newcastle .....	65	46
Gunning .....	3,239	3,100	Blackheath .....	13	11	Thornton .....	1	2
Jerrawa .....	371	239	Mount Victoria .....	377	185	Morpeth .....	105	103
Yass Junction .....	1,452	1,237	Bowenfels .....	64	139	West Maitland .....	1,169	928
Yass Town .....	1,817	2,076	Wallerawang .....	829	745	Whittingham .....	78	43
Bowning .....	2,745	1,990	Rydal .....	152	118	Singleton .....	128	119
Binalong .....	3,277	3,498	Tarana .....	960	693	Glennie's Creek .....	24	4
Galong .....	2,123	2,197	Locksley .....	97	92	Ravensthorpe .....	402	36
Harden .....	1,099	1,637	Brewongle .....	398	357	Muswellbrook .....	6,683	5,315
Murrumburrah .....	217	201	Raglan .....	196	135	Aberdeen .....	860	732
Demondrille .....	306	252	Kelso .....	1,715	1,365	Scone .....	4,950	3,848
Wallendbeen .....	1,500	1,902	Bathurst .....	2,873	2,815	Wingen .....	96	95
Cootamundra .....	3,416	4,389	Perth .....	1,176	1,261	Blandford .....	1,802	1,622
Bethungra .....	1,111	943	George's Plains .....	61	41	Murrurundi .....	304	231
Illabo .....	1,031	1,365	Wimbleton .....	183	195	Ardglen .....	987	785
Junee .....	2,807	3,559	Newbridge .....	1,494	1,130	Willow Tree .....	4,565	3,736
Harefield .....	427	502	Blayney .....	565	458	Quirindi .....	8,452	7,316
Bomen .....	6	.....	Milthorpe .....	179	113	Werris Creek .....	645	567
Wagga .....	5,110	5,232	Spring Hill .....	266	259	Currabubula .....	2,472	2,365
Uranquinty .....	641	807	Orange .....	1,258	1,318	West Tamworth .....	13,614	12,890
The Rock .....	1,826	2,681	Mullion Creek .....	776	669	Tamworth .....	961	711
Yerong Creek .....	1,524	2,289	Kerr's Creek .....	171	59	Moonbi .....	1,605	1,519
Henty .....	718	637	Warne .....	1,176	1,031	Woolbrook .....	484	521
Culcairn .....	2,435	3,835	Stuart Town .....	367	365	Walcha Road .....	5,862	4,600
Gerogery .....	64	613	Mumbil .....	1,199	1,026	Uralla .....	8,656	7,735
Table Top .....	871	953	Dripstone .....	438	428	Armidale .....	5,001	4,278
Albury .....	859	758	Wellington .....	3,451	2,871	Black Mountain .....	254	203
Camden .....	43	38	Mary Vale .....	362	102	Guyra .....	2,781	2,319
Tarago .....	967	814	Geurie .....	313	430	Ben Lomond .....	942	994
Bungendore .....	2,359	2,349	Murrumbidgee .....	2,080	975	Glencoe .....	253	274
Queanbeyan .....	4,282	4,219	Dubbo .....	26,085	18,039	Glen Innes .....	10,184	9,847
Michelago .....	2,210	2,408	Narromine .....	6,454	6,816	Deepwater .....	1,721	1,575
Cooma .....	10,606	9,758	Trangie .....	9,985	10,045	Tenterfield .....	176	196
Young .....	6,316	8,805	Nevertire .....	8,407	35,327	Jennings .....	77	80
Koorawatha .....	1,863	1,955	Nyngan .....	4,210	6,349	Brceza .....	1,845	1,856
Coolac .....	1,562	3,440	Girilambone .....	6,462	7,110	Curlewis .....	1,064	936
Gundagai .....	4,632	5,685	Coolabah .....	2,633	2,015	Gunnedah .....	8,003	7,698
Temora .....	4,352	5,195	Byrock .....	8,735	9,740	Boggabri .....	2,930	3,382
Old Junee .....	711	528	Bourke .....	43,886	49,669	Baan Baa .....	834	175
Coolamon .....	1,012	1,429	Riverstone .....	3	1	Narrabri West .....	38,276	39,565
Ganmain .....	149	129	Piper's Flat .....	49	36	Narrabri .....	8,608	7,048
Grong Grong .....	1,283	1,512	Capertee .....	770	817	Moree .....	32,223	31,649
Narrandera .....	12,572	14,040	Rylstone .....	1,429	1,405			
Yanko .....	1,450	1,568	Lue .....	620	767			
						Total .....	607,863	609,910



## APPENDIX XV.

STATEMENT of **COAL, COKE, and SHALE** forwarded from the various Collieries during the years ended 30th June, 1899 and 1898.

Collieries.	1899.		1898.		Increase.		Decrease.	
	Tons.	Freight.	Tons.	Freight.	Tons.	Freight.	Tons.	Freight.
<b>Coal and Coke.</b>								
		£		£		£		£
A.A. Company .....	15,911	579	2,610	546	13,301	33	.....	.....
Anvil Creek .....	.....	.....	269	20	.....	.....	269	20
Black Jack .....	772	294	588	204	184	90	.....	.....
Blackwall .....	2,892	824	2,064	644	828	180	.....	.....
Burwood .....	20	6	.....	.....	20	6	.....	.....
Burwood No. 3 .....	167,711	6,740	180,139	7,122	.....	.....	12,428	382
Cardiff .....	502	22	5,003	232	.....	.....	4,501	210
Co-operative .....	201,341	14,020	190,475	10,304	10,866	3,716	.....	.....
Curlewis .....	868	229	577	168	291	61	.....	.....
Dudley .....	5,633	285	60,913	3,214	.....	.....	55,280	2,929
Dulwich .....	3,960	818	3,270	715	690	103	.....	.....
East Maitland .....	48	6	491	35	.....	.....	443	29
Elamore Vale .....	32,989	1,353	15,598	684	17,391	639	.....	.....
Elliotts .....	85	40	33	9	52	31	.....	.....
Greta .....	53,649	4,475	42,579	3,564	11,070	911	.....	.....
Greta East .....	63,224	3,775	84,205	5,173	.....	.....	20,931	1,398
Greta South .....	5,068	335	2,499	183	2,569	152	.....	.....
Hartley Hill .....	.....	.....	134	5	.....	.....	134	5
Hetton .....	192,331	7,251	193,558	6,619	.....	632	1,227	.....
Lambton .....	99,071	3,575	91,087	3,279	7,984	296	.....	.....
Lambton South New .....	27,179	1,061	19,350	769	7,829	292	.....	.....
Minmi .....	297,120	13,028	278,065	12,221	19,055	807	.....	.....
Muswellbrook .....	38	6	45	3	.....	3	.....	7
Newcastle .....	363,254	11,828	361,058	11,917	2,196	.....	.....	89
Northern Extended .....	23,028	1,145	48,003	2,386	.....	.....	24,975	1,241
Northumberland .....	5,902	601	10,303	903	.....	.....	4,401	302
Oak Vale .....	792	83	353	46	439	37	.....	.....
Pacific Co-operative .....	102,735	5,253	102,108	5,049	627	204	.....	.....
Purified .....	17,928	1,270	16,136	1,097	1,792	173	.....	.....
Rix's Creek .....	14,062	16,344	12,839	14,462	1,243	1,882	.....	.....
Seaham .....	146,332	7,707	138,070	7,309	8,262	398	.....	.....
Sneddon's .....	32,651	1,349	20,477	1,208	3,174	141	.....	.....
Shortland .....	304	12	.....	.....	304	12	.....	.....
West Maitland .....	120	46	36	4	84	42	.....	.....
Wallsend .....	308,854	12,607	212,553	8,658	96,301	3,949	.....	.....
Wallsend South .....	4,349	309	4,819	257	.....	52	470	.....
Wallsend West .....	131,491	5,967	117,329	5,252	13,862	715	.....	.....
Waratah .....	85,138	3,766	45,865	1,881	39,273	1,885	.....	.....
Wickham and Bullock Island .....	190,948	4,654	181,793	4,334	9,155	320	.....	.....
	2,598,000	131,663	2,454,294	120,476	268,822	17,792	125,116	6,605
Bellambi .....	10,526	2,279	10,948	2,275	.....	4	422	.....
Bulli .....	18,267	1,673	18,631	2,307	.....	.....	364	634
Carson's .....	3,190	416	4,248	937	.....	.....	1,058	521
Collins .....	2,347	417	4,320	683	.....	.....	1,479	266
Corrimal .....	148,497	2,517	131,473	2,365	17,024	152	.....	.....
Erith .....	.....	.....	442	74	.....	.....	442	74
Irondale .....	1,750	387	2,641	612	.....	.....	891	225
Lithgow Coal Association .....	99,036	25,231	90,738	23,522	8,298	1,709	.....	.....
Metropolitan .....	117,955	16,054	117,823	15,713	132	341	.....	.....
Mount Kembla .....	11,809	2,268	9,988	3,169	1,821	.....	.....	901
Mount Keira .....	76,925	501	74,277	463	1,648	38	.....	.....
Mount Pleasant .....	7,710	660	7,199	772	511	.....	.....	112
South Clifton .....	44,942	7,673	73,262	11,294	.....	.....	28,320	3,621
Wallerawang .....	297	99	.....	.....	297	99	.....	.....
Woonona .....	2,477	485	.....	.....	2,477	485	.....	.....
	545,228	60,660	545,996	64,186	32,208	2,828	32,976	6,354
Total, Coal and Coke from Collieries .....	3,143,228	192,323	3,000,290	184,662	301,030	20,620	158,092	12,959
<b>Shale.</b>								
Torbane .....	16,913	8,597	11,644	5,940	5,299	2,657	.....	.....
Hartley Vale .....	179	57	485	157	.....	.....	306	100
Joadja .....	3,533	1,094	4,635	1,534	.....	.....	1,152	440
North's Siding .....	.....	.....	197	56	.....	.....	197	56
Total, Shale .....	20,655	9,748	17,011	7,687	5,299	2,657	1,655	596
Coal Re-consigned .....	20,131	2,542	25,500	3,100	.....	.....	5,369	558
Grand Total carried .....	3,184,014	204,613	3,042,801	195,449	306,329	23,277	165,116	14,113

## APPENDIX XVI.

**COAL EXPORTED FROM NEWCASTLE.**

RETURN of quantity of Coal Exported from Newcastle to Foreign and Intercolonial Ports for the year ended 30th June, 1899, compared with the year 1897-8.

Countries.	1898-99.	1897-98.	Increase.	Decrease.
	Tons.	Tons.	Tons	Tons.
Victoria .....	617,085	610,203	6,882	.....
New Zealand .....	170,722	164,719	6,003	.....
South Australia .....	387,404	331,622	55,782	.....
Tasmania .....	66,318	59,857	6,461	.....
Western Australia .....	135,098	170,885	.....	35,787
Fiji .....	14,826	7,995	6,831	.....
Queensland .....	33,449	26,705	6,744	.....
<b>Total, Intercolonial .....</b>	<b>1,424,932</b>	<b>1,371,986</b>	<b>52,916</b>	<b>.....</b>
<b>Foreign—</b>				
Peru .....	38,200	35,724	2,566	.....
New Caledonia .....	15,872	9,500	6,372	.....
India .....	31,681	51,321	.....	19,640
United States .....	163,570	237,108	.....	73,538
Hong Kong .....	18,855	52,031	.....	23,176
Mauritius .....	11,971	6,193	5,778	.....
Philippine Islands .....	112,871	94,210	18,661	.....
Chili .....	367,930	284,384	83,555	.....
Sandwich Islands .....	82,180	38,851	43,329	.....
Java .....	82,351	52,208	30,143	.....
Mexico .....	19,884	9,506	10,378	.....
South Sea Islands .....	3,250	1,554	1,696	.....
Singapore .....	61,056	75,881	.....	14,825
Other Countries .....	75,454	55,102	20,352	.....
<b>Total, Foreign .....</b>	<b>1,095,224</b>	<b>1,003,573</b>	<b>91,651</b>	<b>.....</b>
<b>Grand Total (Intercolonial and Foreign)...</b>	<b>2,520,126</b>	<b>2,375,559</b>	<b>144,567</b>	<b>.....</b>

NUMBER of Tons and Value of Coal exported to Foreign and Intercolonial Ports for year ended 30th June, 1899.

1898-99.		1897-98.		Increase.	
Tons.	Value.	Tons.	Value.	Tons.	Value.
	£		£		£
2,520,126	874,516	2,375,559	819,752	144,567	54,764

## PORT OF NEWCASTLE.

Foreign and Intercolonial Shipping out of Newcastle,—June to June.

1898-99.		1897-98.		Decrease.	Increase.
No. of Vessels.	Tonnage.	No. of Vessels.	Tonnage.	No. of Vessels.	Tonnage.
1,366	1,782,942	1,370	1,721,430	4	61,512





APPENDIX XVII—continued.

Table with columns: Stations, No. of hands employed including Station-masters, Total Salaries and Wages Expenditure, No. of Tickets issued, Revenue from Tickets and Coaching Traffic, GOODS (Out, In), COAL (Out, In), Other Minerals (Out, In), WOOL (Out, In), HAY, STRAW AND CHAFF (Out, In), Revenue from Goods and Live Stock, Total Earnings, exclusive of Special Earnings (1899, 1898), Increase (1899), Decrease (1899), Stations.



APPENDIX XVII—continued.

Table with columns: Stations, No of hands employed, Total Salaries and Wages Expenditure, No of Tickets issued, Revenue from Tickets and Coaching Traffic, GOODS (Out, In Tons), COAL (Out, In Tons), Other Minerals (Out, In Tons), WOOL (Out, In Bales), HAY, STRAW, AND CHAFF (Out, In Trucks), Revenue from Goods and Live Stock (1899, 1898, 1899), Total Earnings, exclusive of Special Earnings (1899, 1898, 1899), Increase (1899, 1898), Decrease (1899, 1898), Stations.





## APPENDIX XVIII.

## REPORT of the Tramway Locomotive Superintendent.

Randwick, 13 July, 1899.

To the Secretary to the Railway Commissioners,—

Sir,

I have the honor to submit, for the information of the Railway Commissioners, the following report on the working of the Locomotive Department of the Tramways for the year ended 30th June, 1899:—

## SYDNEY CITY AND SUBURBAN LINES.

The rolling-stock, machinery, and plant have been maintained in efficient working order, and although the expenditure shows an increase over that of the previous year, this is due to necessary provision having been made for the renewal of rolling-stock. Apart from this, the cost of working the steam lines shows a decrease of 0.44d. per tram mile run. The tram mileage shows an increase of 153,935 (131,400 steam lines and 22,535 cable).

In September last, an important improvement was effected in connection with the working of the King-street to Ocean-street cable tramway, new cable-drums being provided at a cost of over £800, and the speed increased from 8 miles to 9 miles per hour.

Following are particulars of the work performed in maintaining the rolling-stock in good order:—

Motors: 67 received general overhaul; 70, heavy repairs; 756, more or less extensive repairs, occupying from one to eight days each; and 441, light repairs.

Cars: 138 thoroughly overhauled and repainted (103 for steam lines, 28 cable, and 7 electric trail-cars; 39 repaired and partially repainted; and 1,379 received minor repairs, occupying about one day each. In addition, 55 trucks and 35 cars for other lines were repaired.

## NORTH SHORE CABLE TRAMWAY.

The rolling-stock, cable, &c., have been maintained in good working order. Eight cars received general overhaul.

## NEWCASTLE, KOGARAH TO SANS SOUCI, AND MORPETH TO EAST MAITLAND LINES.

The whole of the rolling-stock, machinery, and plant of these tramways has been maintained in efficient order, while the requirements of the traffic have been fully met.

GEO. DOWNE,  
Locomotive Superintendent.

## APPENDIX XIX.

## Report of Engineer for Tramways.

Office of Engineer for Tramways, 21 July, 1899.

To the Secretary to the Railway Commissioners,—

Sir,

I have the honor to submit, for the information of the Railway Commissioners, the Annual Report on the condition of the Permanent-way, Buildings, and Works under my charge on the City and Suburban Tramways, for the year ending 30th June, 1899.

The whole of the lines have been maintained in good working order, although the constant rain during the latter portion of the year necessitated a large amount of macadam being used for ordinary maintenance—12,325 tons, as against 11,800 last year. The only addition to the mileage during the year was the extension from Ocean-street to Rose Bay, a distance of 1 mile 24 chains, and which is operated electrically; also the duplication of the Waverley Cemetery line for a distance of 48 chains. The partial duplication of the Crown-street line is also in progress.

The following relaying was carried out:—Marrickville--Eumore terminus to Edinburgh loop, 31 chains, single road; Botany—Cleveland-street junction to Boundary-street, 44 chains, double track; Elizabeth-street, from Market-street to Bathurst-street, 22 chains, double track; George-street West, 17 chains, single track; Crown-street, from Collins-street loop towards Cleveland-street, 17 chains, single track. Total length, 2 miles 37 chains, single track. The relaying in Elizabeth-street included an extension of the use of 80 lb. T rail, with specially-prepared non-expansion joints, and repaving, while in Crown-street 83 lb. girder rails were substituted for the light 42 lb. rails formerly in use, and the track repaved.

Four waiting-sheds were erected during the year, and twelve painted and renovated. The power-houses and bridges have also received attention.

The Ocean-street cable line has been well maintained, although the swelling of the paving-blocks has caused trouble through closing the slot rails in King and William Streets.

The North Shore cable line is being bonded, and the longitudinal sleepers, where necessary, renewed, with a view to conversion to electric traction on the completion of the George-street line.

I have, &amp;c.,

G. R. COWDERY,

Engineer for Tramways.



APPENDIX AA.

**STATEMENT OF ACCOUNT OF THE EXPENDITURE AND REVENUE FOR YEAR ENDED 30 JUNE, 1899, WITH COMPARISONS FOR 1898.**

**DR. TRAMWAYS. CR.**

EXPENDITURE.	YEAR ENDING JUNE 30, 1899.	CORRESPONDING PERIOD IN 1898.	REVENUE.	YEAR ENDING JUNE 30, 1899.	CORRESPONDING PERIOD IN 1898.
<b>CITY AND SUBURBAN.</b>	£	£	<b>CITY AND SUBURBAN.</b>		
To MAINTENANCE OF WAY, WORKS, AND STATIONS	40,309	32,630	BY PASSENGERS—		
LOCOMOTIVE POWER	110,118	107,495	PASSENGER FARES.		
REPAIRS AND RENEWALS OF CARS, &c.	18,400	13,613	1899.		
TRAFFIC EXPENSES	42,855	41,884	1898.		
COMPENSATION	4,035	2,125	1899.	262,045	239,858
GENERAL CHARGES	4,476	4,157	1898.		
	220,193	201,904	FARES, &c. ....		
<b>NORTH SHORE CABLE.</b>					
To MAINTENANCE OF WAY, WORKS, AND STATIONS	2,549	983	<b>NORTH SHORE CABLE.</b>		
RUNNING EXPENSES, &c.	3,949	4,853	BY PASSENGERS—		
REPAIRS AND RENEWALS OF CARS, GRIPPERS, &c.	1,025	1,031	FARES, &c. ....	12,478	12,345
TRAFFIC EXPENSES	2,602	2,686			
GENERAL CHARGES	186	192			
	10,311	9,745			
<b>NORTH SHORE ELECTRIC.</b>			<b>NORTH SHORE ELECTRIC.</b>		
To MAINTENANCE OF WAY, WORKS, AND STATIONS	1,458	880	BY PASSENGERS—		
RUNNING EXPENSES, &c.	4,019	3,144	FARES, &c. ....	10,519	6,709
REPAIRS AND RENEWALS OF CARS, &c.	455	390			
TRAFFIC EXPENSES	1,648	1,020			
	7,580	5,434			
<b>NEWCASTLE AND PLATTSBURG.</b> (INCLUDING TIGHE'S HILL AND MEREWETHER.)			<b>NEWCASTLE AND PLATTSBURG.</b> (INCLUDING TIGHE'S HILL AND MEREWETHER.)		
To MAINTENANCE OF WAY, WORKS, AND STATIONS	1,663	3,532	BY PASSENGERS—		
LOCOMOTIVE POWER	9,496	9,592	FARES, &c. ....	24,455	22,757
REPAIRS AND RENEWALS OF CARS, &c.	3,478	824			
TRAFFIC EXPENSES	4,630	4,660			
GENERAL CHARGES	158	158			
	19,425	18,766			
<b>ASHFIELD TO ENFIELD.</b>			<b>ASHFIELD TO ENFIELD.</b>		
To MAINTENANCE OF WAY, WORKS, AND STATIONS	324	310	BY PASSENGERS—		
LOCOMOTIVE POWER	1,079	937	FARES, &c. ....	1,166	1,105
REPAIRS AND RENEWALS OF CARS, &c.	71	24			
TRAFFIC EXPENSES	367	362			
GENERAL CHARGES	29	27			
	1,870	1,660			
<b>OCEAN-STREET TO KING-STREET.</b>			<b>OCEAN-STREET TO KING-STREET.</b>		
To MAINTENANCE OF WAY, WORKS, AND STATIONS	1,450	2,182	BY PASSENGERS—		
RUNNING EXPENSES, &c.	10,811	9,423	FARES, &c. ....	35,611	31,097
REPAIRS AND RENEWALS OF CARS AND GRIPPERS	6,654	2,461			
TRAFFIC EXPENSES	7,899	7,566			
	26,814	21,632			
<b>ROSE BAY ELECTRIC.</b>			<b>ROSE BAY ELECTRIC.</b>		
To MAINTENANCE OF WAY, WORKS, AND STATIONS	149	NOT OPEN.	BY PASSENGERS—		
RUNNING EXPENSES, &c.	1,037		FARES, &c. ....	2,282	NOT OPEN.
REPAIRS AND RENEWALS OF CARS, &c.	180				
TRAFFIC EXPENSES	463				
	1,829				
<b>TOTAL WORKING EXPENSES</b> .....£	288,022	259,141	<b>TOTAL FARES</b> .....	82,255,504	74,076,152
<b>BALANCE, NET PROFIT</b> }.....£	60,534	54,730			
AFTER PAYING WORKING EXPENSES. }			<b>GRAND TOTAL</b> .....£	348,556	313,871
<b>GRAND TOTAL</b> .....£	348,556	313,871			

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APPENDIX XXI.

SCHEDULES under Working Expenses for the Year ended 30th June, 1899, with comparisons for 1898.

CITY AND SUBURBAN TRAMWAYS.

Branches.	Year ended June 30, 1899.	Corresponding period in 1898.	Branches.	Year ended June 30, 1899.	Corresponding period in 1898.
<b>Maintenance of Way and Works.</b>			<b>Traffic Expenses.</b>		
Salaries, office expenses, and general superintendence .....	£ 1,653	£ 1,585	Traffic Manager's office and staff .....	£ 2,037	£ 1,940
Maintenance and renewals of permanent way, viz. : .....	24,474	21,972	Clerks .....	1,988	1,965
{ Wages .....	13,783	8,700	Staffmen, pointsmen, and flagmen .....	3,635	3,599
{ Materials .....	399	373	Conductors .....	22,371	21,976
Repairs and renewals of buildings, &c. ....	40,309	32,630	Car-cleaners, shunters, and lamp-trimmers .....	3,729	3,839
			Stores .....	1,360	1,730
			Advertising, printing, and stationery .....	2,240	1,771
			Travelling and incidental .....	304	290
			Sundries .....	4,802	4,403
			Greasing and oiling { Wages .....	245	235
			{ Materials .....	144	136
				£ 42,855	£ 41,884
<b>Locomotive Power.</b>			<b>Compensation.</b>		
Superintendence and clerks .....	2,261	2,233	For personal injury .....	3,807	2,022
Foremen and Clerks .....	1,887	1,847	For damage to vehicles, &c. ....	228	103
Drivers and firemen .....	47,249	45,098		£ 4,035	£ 2,125
Cleaners, coalmen, and labourers .....	8,575	8,583			
Coal, coke, and wood .....	21,118	19,178	Gratuities to widows and children of employees who have met with accident, also gratuities to staff on retirement and payments to the Civil Service Fund on account of pension allowance.....	210	166
Water .....	1,814	1,745			
Oil, tallow, waste, &c. ....	2,533	2,370			
Sundries .....	1,447	1,581			
Repairs and renewals of motors .....	19,497	19,860			
{ Wages .....	3,737	5,000			
{ Materials .....					
	£ 110,118	£ 107,495	<b>General Expenses.</b>		
			Commissioners, Secretary, and office staff .....	1,332	1,332
			Accountant's Branch .....	1,250	1,250
			Audit Branch .....	511	500
			Stores Branch .....	490	473
			Sundries .....	683	436
				£ 4,266	£ 3,991
<b>Cars.</b>			<b>GRAND TOTAL.....</b>		
Car repairs and renewals .....	6,960	6,920		£ 220,193	£ 201,904
{ Wages .....	11,440	6,693			
{ Materials .....					
	£ 18,400	£ 13,613			

APPENDIX XXII.

SCHEDULES under Working Expenses for the Year ended the 30th June, 1899, with comparisons for 1898.

APPENDIX XXIII.

North Shore Cable Tram.			Plattsburg, Tighe's Hill, and Merewether Lines (Steam).		
Branches.	Year ended June 30, 189 .	Corresponding period in 1898.	Branches.	Year ended June 30, 1899.	Corresponding period in 1898.
<b>Permanent Way Branch.</b>			<b>Permanent Way Branch.</b>		
Superintendence and Office Expenses .....	£ 55	£ 41	Superintendence and Office Expenses .....	£ 39	£ 71
Repairs and Renewals of Line, Sidings, Buildings, &c. ....	2,494	942	Maintenance of Lines, Sidings, Bridges, Buildings, &c. ....	1,624	3,461
	£ 2,549	983		£ 1,663	3,532
<b>Locomotive Branch.</b>			<b>Locomotive Branch.</b>		
<b>RUNNING, &amp;c.</b>			<b>RUNNING, &amp;c.</b>		
Superintendence and Office Expenses .....	238	230	Locomotive Superintendent, Foremen, and Clerks .....	265	270
Repairs to Machinery, Tools, &c. ....	56	105	Locomotive Drivers, Firemen, Cleaners, and others .....	5,309	5,336
Wages of Drivers, Firemen, Cleaners, Gripmen, and others .....	2,294	2,701	Coal, Coke, Water, Oil, Tallow, Waste, &c. ....	2,040	2,003
Cost of Fuel, Running Stores, &c. ....	655	712	Repairs and Renewals of Engines .....	1,882	1,983
Repairs to Stationary Engines, Cables, &c. ....	706	1,105		£ 9,496	9,592
	£ 3,949	4,853			
Repairs to Cars, Grippers, &c. ....	1,025	1,031	Repairs and Renewals of Cars, &c. ....	3,478	824
<b>Traffic Branch.</b>			<b>Traffic Branch.</b>		
Management and Office Expenses .....	665	622	Traffic Manager and Office Staff .....	617	866
Wages of Conductors, and others .....	1,453	1,591	Conductors, Staffmen, Pointsmen, Car-cleaners, &c. ....	3,404	3,661
Sundry charges, including Stores, &c. ....	479	473	Sundry charges, including Stores, &c. ....	579	633
	£ 2,602	2,686		£ 4,630	4,660
<b>General Charges.</b>			<b>General Charges.</b>		
Proportion of General Establishment, &c. ....	186	192	Proportion of General Establishment, &c. ....	153	158
<b>GRAND TOTAL</b> .....	£ 10,311	9,745	<b>GRAND TOTAL</b> .....	£ 19,425	18,766

## APPENDIX XXIV.

The working of the Tram-lines in sections for the year ended 30th June, 1899, as compared with corresponding period in 1898 and 1888, is as under:—

	1899.	1898.	1888.
<b>CITY AND SUBURBAN LINES.</b>			
<i>Length, 40 miles 25 chains.</i>			
Total Cost of Construction and Equipment ... ..	£977,107	£973,419	£742,555
Gross Revenue ... ..	£262,045	£239,858	£221,060
Working Expenses ... ..	£220,193	£201,904	£204,227
Profit on Working ... ..	£41,852	£37,954	£16,833
Percentage, Working Cost and interest on Capital to Revenue	84·03	84·18	92·38
Passenger Fares collected ... ..	61,568,035	56,319,743	51,563,197
<b>PERCENTAGE OF PROFIT TO CAPITAL INVESTED</b> ...	<b>£4 5 8</b>	<b>£3 18 0</b>	<b>£2 5 4</b>
<b>ASHFIELD TO ENFIELD.</b>			
<i>Length, 1 mile 78 chains.</i>			
Total Cost of Construction and Equipment ... ..	£16,371	£16,371	
Gross Revenue ... ..	£1,166	£1,105	
Working Expenses ... ..	£1,870	£1,660	
Interest on Capital ... ..	£573	£573	Not open.
Percentage, Working Cost and Interest on Capital to Revenue	209·52	202·08	
<b>LOSS ON WORKING</b> ... ..	<b>£1,277</b>	<b>£1,128</b>	
<b>NORTH SHORE CABLE.</b>			
<i>Length, 1 mile 31 chains.</i>			
Total Cost of Construction and Equipment ... ..	£84,663	£78,235	£71,519
Gross Revenue ... ..	£12,478	£12,345	£7,248
Working Expenses ... ..	£10,311	£9,745	£6,833
Profit on Working ... ..	£2,167	£2,600	£415
Percentage, Working Cost to Revenue ... ..	82·63	78·94	94·26
<b>PERCENTAGE OF PROFIT TO CAPITAL INVESTED</b> ...	<b>£2 11 2</b>	<b>£2 9 7</b>	<b>£0 11 7</b>
<b>NORTH SHORE—ELECTRIC LINES.</b>			
<i>Length, 6 miles 75 chains.</i>			
Total Cost of Construction and Equipment ... ..	£100,307	£92,848	
Gross Revenue ... ..	£10,519	£6,709	
Working Expenses ... ..	£7,580	£5,434	Not open.
Profit on Working ... ..	£2,939	£1,275	
Percentage, Working Cost to Revenue ... ..	72·06	81·00	
<b>PERCENTAGE OF PROFIT TO CAPITAL INVESTED</b> ...	<b>£2 18 17</b>	<b>£</b>	
<b>OCEAN-STREET CABLE.</b>			
<i>Length, 2 miles 32 chains.</i>			
Total Cost of Construction and Equipment ... ..	£179,160	£179,174	
Gross Revenue ... ..	£35,611	£31,097	
Working Expenses ... ..	£26,814	£21,632	Not open.
Profit on Working ... ..	£8,797	£9,465	
Percentage, Working Cost to Revenue ... ..	75·30	69·56	
<b>PERCENTAGE OF PROFIT TO CAPITAL INVESTED</b> ...	<b>£4 18 2</b>	<b>£5 5 8</b>	
<b>ROSE BAY ELECTRIC LINE.</b>			
<i>Length, 1 mile 24 chains.</i>			
Total Cost of Construction and Equipment ... ..	£20,531		
Gross Revenue ... ..	£2,282		
Working Expenses ... ..	£1,829	Not open.	Not open.
Profit on Working ... ..	£453		
Percentage, Working Cost to Revenue ... ..	80·15		
<b>PERCENTAGE OF PROFIT TO CAPITAL INVESTED</b> ...	<b>£2 18 10</b>		
<b>NEWCASTLE TO PLATTSBURG.</b>			
<i>Merewether and Tighe's Hill Sections.</i>			
<i>Length, 12 miles 1 chain.</i>			
Total Cost of Construction and Equipment ... ..	£138,204	£138,204	£63,170
Gross Revenue ... ..	£24,455	£22,757	£8,211
Working Expenses ... ..	£19,425	£18,766	£8,136
Profit on Working ... ..	£5,030	£3,991	£75
Percentage, Working Cost to Revenue ... ..	79·43	82·46	99·08
<b>PERCENTAGE OF PROFIT TO CAPITAL INVESTED</b> ...	<b>£3 12 9</b>	<b>£2 17 9</b>	<b>£0 2 4</b>

## APPENDIX XXV.

RETURN showing the Number of City and Suburban Passenger Fares collected, Tram Mileage, Earnings, Working Expenses, Percentage of Working Cost to Earnings, Capital Spent on lines open, and Interest on Capital Invested for each year from 1879 to 1899 inclusive.

## CITY AND SUBURBAN.

Year.	Length of Line.	Number of Passenger Fares collected.	Tram mileage.	Total Earnings.	Working Expenses.	Earnings per Tram Mile.	Working Cost per Tram Mile.	Percentage of Working Cost to Gross Earnings.	Net Earnings.	Capital spent on lines open.	Interest on Capital invested
1879*	Miles. 1½	443,341	13,270	£ 4,416	£ 2,278	79·87	41·19	51·59	£ 2,138	£ 22,269	33·00
1880	4	2,086,897	84,074	18,980	13,444	54·18	38·38	70·83	5,536	60,218	12·34
1881	9½	7,090,125	296,906	62,549	52,107	50·56	42·12	83·31	10,442	169,450	6·16
1882	22	15,269,100	670,649	126,202	103,136	45·16	36·91	81·72	23,066	412,561	6·80
1883	25	25,684,285	1,076,096	190,699	178,877	42·53	39·89	93·80	11,822	544,105	2·22
1884	27½	30,202,303	1,242,491	219,942	215,167	42·48	41·56	97·83	4,775	643,111	0·76
1885	27½	†39,594,753	1,220,500	223,340	207,995	43·91	40·90	93·13	15,345	708,109	2·17
1886	27½	52,977,578	1,222,943	226,367	201,737	44·42	39·59	89·12	24,630	742,113	3·37
1887	29½	50,103,256	1,220,026	214,125	201,468	42·12	39·63	94·08	12,657	731,582	1·76
1888	29½	51,563,197	1,246,543	221,060	204,227	42·56	39·32	92·38	16,833	742,555	2·22
1889	29½	52,810,026	1,338,386	225,833	206,092	40·49	36·95	91·25	19,741	771,255	2·56
1890	30½	57,463,650	1,474,646	249,508	207,517	40·60	36·46	83·17	41,991	790,555	5·31
1891	33½	62,676,636	1,553,048	270,365	221,505	41·78	34·23	81·92	48,860	857,455	5·74
1892	37	65,299,063	1,613,443	279,321	229,145	41·55	34·09	82·04	50,176	932,907	5·54
1893	38	63,588,885	1,681,232	271,041	214,824	38·69	30·67	79·26	56,217	947,775	5·94
1894	40½	58,773,094	1,737,846	250,809	206,554	34·64	28·53	82·35	44,255	954,035	4·64
1895	40½	54,173,917	1,740,235	230,583	186,081	31·80	25·66	80·70	44,502	962,037	4·62
1896	40½	53,317,979	1,845,626	227,525	187,811	29·59	24·42	82·54	39,714	961,778	4·13
1897	40½	55,859,740	2,121,017	238,023	195,142	26·93	22·08	81·98	42,881	968,925	4·42
1898	40½	56,319,743	2,198,351	239,858	201,904	26·18	22·04	84·18	37,954	973,419	3·90
1899	40½	61,563,035	2,329,751	262,045	220,193	26·99	22·68	84·03	41,852	977,107	4·28

\* The line was opened for three and a half months only in 1879, and for part of this period was worked with horse-power.

† Up to the year 1885, 3d. cash fares and 2d. tickets were counted as single fares; from 1886, inclusive, all tickets issued were at 1d. values, and cash fares paid are in this Return calculated at same rate.

## APPENDIX XXVI.

RETURN of the total Amount paid for Wages on the different Branches of the Tramways, year ended 30th June, 1899 and 1898.

Branches.	1899.	1898.
TRAMWAYS :—		
Maintenance Branch .....	£ 34,526	£ 23,306
Locomotive " .....	102,187	100,977
Traffic " .....	49,719	47,530
TOTAL, TRAMWAYS .....	£ 186,432	£ 176,813

NOTE.—Includes all wages paid by the Department, whether on maintenance or new work.

## APPENDIX XXVII.

## TRAMWAY Rolling Stock.

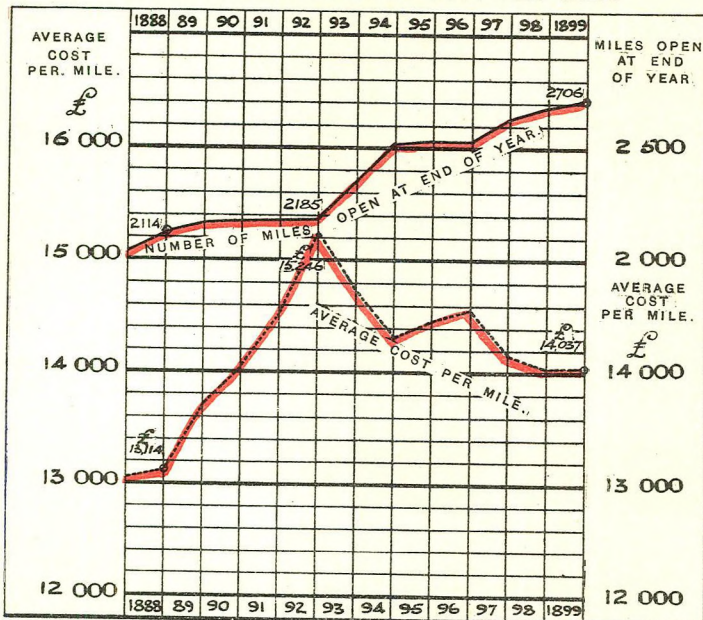
	Motors.	Steam cars.	Cable.		Electric.		Trucks.	Total.
			Grip.	Trail.	Motor.	Trail.		
Stock, 30th June, 1898.....	114	226	41	49	10	.....	23	463
Stock, 30th June, 1899.....	114	214	41	50	20	18	23	480

25 electric cars replace 12 steam cars.

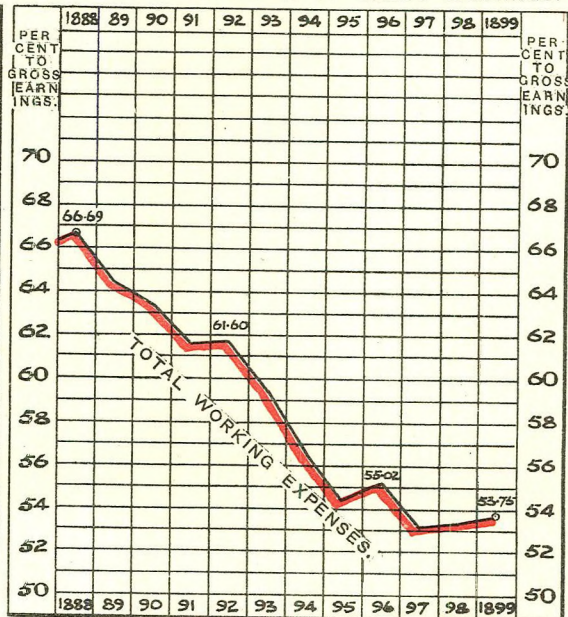


# RAILWAYS

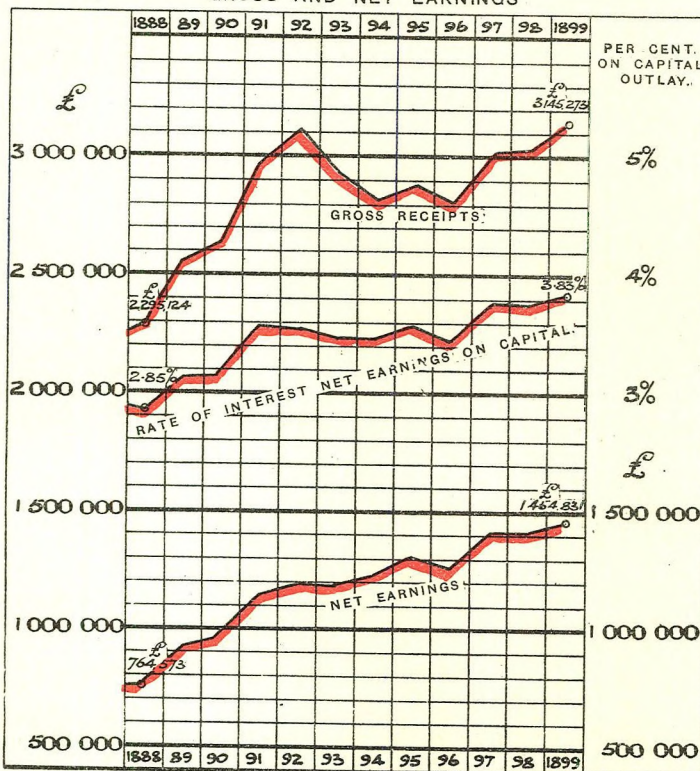
MILES OPEN AND AVERAGE COST PER MILE.



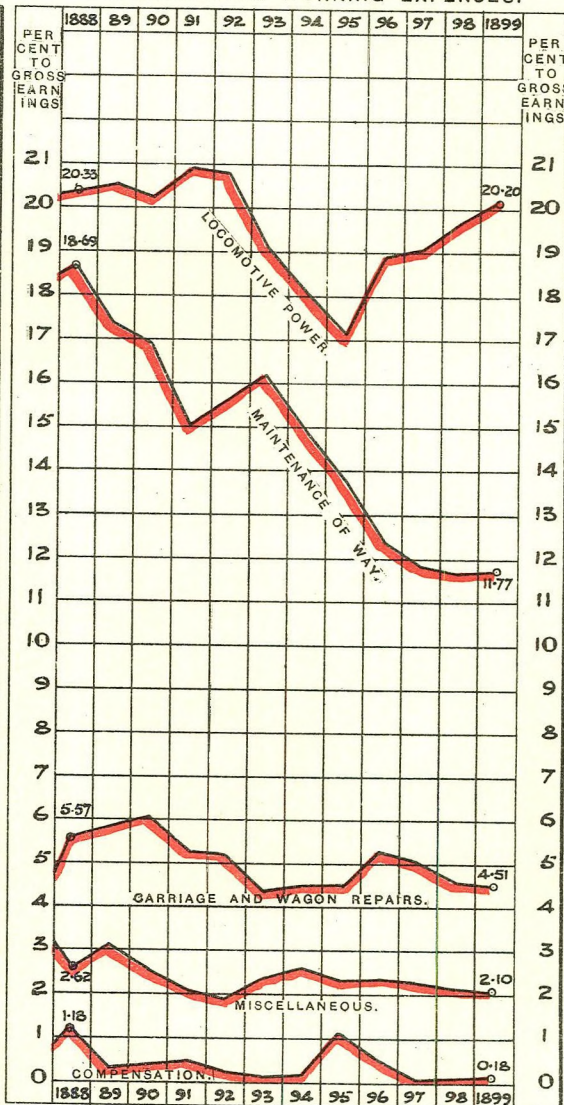
WORKING EXPENSES % OF GROSS EARNINGS.



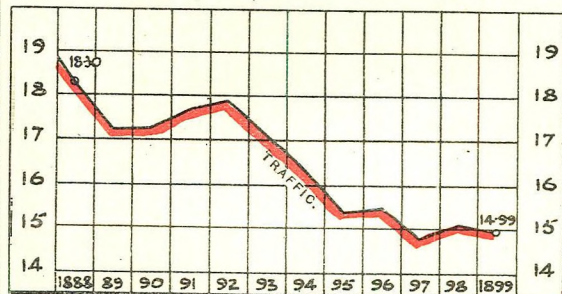
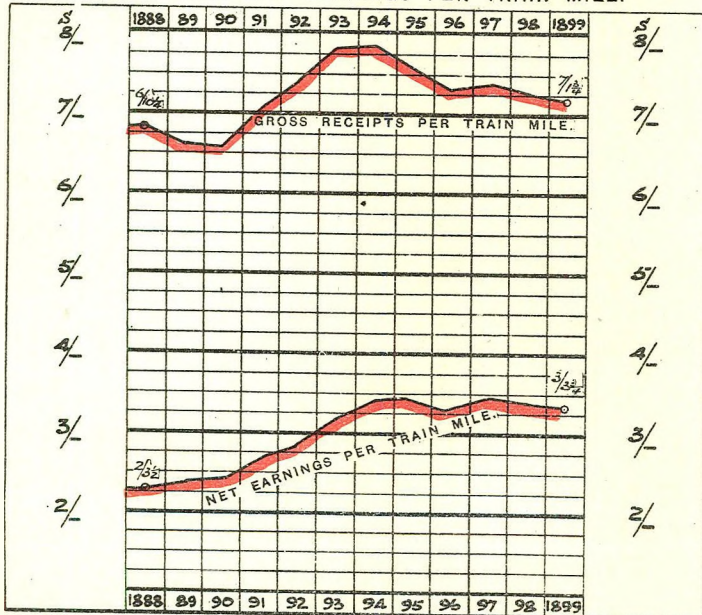
GROSS AND NET EARNINGS



DEPARTMENTAL WORKING EXPENSES.



GROSS AND NET EARNINGS PER TRAIN MILE.





MAP  
 SHEWING THE PRINCIPAL  
**RAILWAY SYSTEMS**  
 OF  
**AUSTRALIA**  
 1899  
 SCALE  
 STATUTE MILES 0 10 20 30 40 50  
 Railway Lines shown in black

Engraved and Printed at the Department of Lands, Sydney, N.S.W. 1899  
 No. of Sale D. 33 11.





COLONY OF QUEENSLAND




SOUTH AUSTRALIA

COLONY OF MURRAY OR HUME

VICTORIA

MAP of  
**NEW SOUTH WALES RAILWAYS**  
 shewing  
**COACH AND OTHER ROUTES FROM THE VARIOUS STATIONS**

Scale. 60 Miles to an Inch

Explanation  
 Railway lines marked thus   
 Coach routes do. do   
 Railways under construction do. 

1899.

THE GOVERNMENT RAILWAYS ACT, 1888.

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RAILWAYS AND TRAMWAYS OF NEW SOUTH WALES.

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TEN YEARS' RETROSPECT.

PERIOD—22nd OCTOBER, 1888, to 20th OCTOBER, 1898.

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Appendix to the Report of the Railway Commissioners.

August, 1899.

*Each branch of Service is dealt with separately. For convenience, the financial results are based upon a comparison of the years ended 30th June, 1888 and 1898, and are given in tabulated form. Special reference is made to the Organisation, the Ambulance Movement, the Railway Institute, and the Intercolonial Railway Conference.*

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THE management of the Government Railways and Tramways was, on the 22nd October, 1888, vested in the Railway Commissioners, as provided by the Government Railways Act of 1888, and the progress made during the decade ended with October last is reviewed in the following pages.

The organisation of the Staff is first dealt with, then the changes and improvements made throughout the different Branches of the Service.

It will be found in the Permanent Way Department that the economies effected permitted of considerable additional work being done, while the total working expenses for the financial year of 1898 was £75,032 less than it was in the year 1888, although the mileage increased by 577 $\frac{1}{4}$  miles.

The improvement of grades and curves, the introduction of more powerful engines, the fitting of the Westinghouse Automatic Quick-acting Brake to the rolling-stock, and the quadruplication of the suburban lines, effected considerable economy and accelerated the train service.

Increased safety appliances, additional and accelerated train services, improved carriages, and cheaper rates resulted in very satisfactory development of the passenger and goods traffic.

The Ambulance Movement, the establishment of an Institute for the instruction and social improvement of the Staff, and, latterly, with the co-operation of the other Colonies, the inauguration of Intercolonial conferences for the interchange of ideas on railway matters, are of great value in the working of a large system.

It will be found that economies have been effected in various directions, yet every attention has been given to the upkeep of the lines and rolling-stock, both of which have been much improved, and the value of the property as a whole increased. At the same time the returns to the Treasury have been augmented to the extent of £2,451,895.

### ORGANISATION.

The first matter which received the attention of the Commissioners was the organisation of the Staff and the method of conducting the business.

Many changes were made, and a complete system for the future was introduced. As affecting the general routine of business, it may be briefly described as follows :—

Once a month the whole of the principal officers under the Traffic, Locomotive and Existing Lines Branches have independent meetings, presided over by the Head of each.

The Traffic Officers' meetings, presided over by the Chief Traffic Manager, are attended by the principal Traffic Officers and the Outdoor Locomotive Superintendents. At these meetings the train running, mileage run, the accidents and failures for the previous month, and all matters of importance concerning the working of the traffic are thoroughly reviewed. The Locomotive meetings, which are presided over by the Chief Mechanical Engineer, are attended by the principal metropolitan and district Locomotive Officers, and matters affecting the Locomotive Branch, such as the condition and examination of the rolling stock, the stores consumed, the train mileage, &c., are dealt with. At the meetings of the Permanent-Way Officers, presided over by the Engineer-in-Chief, questions affecting the existing lines are considered, such as the condition of the roads, the necessity for renewal of particular parts, the condition of station buildings, the works of improvement in hand, &c.

The minutes of these meetings are subsequently considered by the Commissioners, and meetings with the chief officers, each presided over by one of the Commissioners, is held. The whole of the minutes then come before Commissioners sitting as a Board for final decision or direction as to the matters that may arise at the various meetings and conferences.

There are other Committees, over which one of the Commissioners presides, dealing with finance and accounts, stores, law, tickets, fares, medical and tramways, the minutes of such meetings being dealt with at the Board meeting already referred to.

It is to be understood that these meetings do not deal with the every-day business of the Department, which is dealt with as it arises; but they enable a regular and comprehensive review of the month's working, and incidents in connection therewith, to be made.

The principal officers are required to make themselves acquainted with the requirements of the lines, and for this purpose periodically go over the whole of the railways to see that proper attention is being paid to all matters, and if additional facilities are required for working the traffic more conveniently or expeditiously, to report the same.

At intervals the Commissioners also make a personal inspection of the lines; and have made it a rule since taking office that every portion of the railways shall be visited at least once a year, more frequent visitations of course being paid where important works are in progress or large expenditures involved.

#### THE PERMANENT-WAY DEPARTMENT.

When the Commissioners took office in 1888 the condition of the permanent-way was a cause for much anxiety. After careful investigation it was considered absolutely necessary, in the interest of safety and economy, to renew a considerable portion of the Main lines—consisting of iron rails, weighing 70 and 75 lb. per yard in 18, 21 and 24 feet lengths, which had been in the road for many years—with steel rails weighing 80 lb. per yard and 30 and 40 feet in length, and ballasting with bluestone or other hard rock material; also to reballast the lines, strengthen the bridges and improve the character of the lines generally; and this policy has been continued.

On the 30th of June, 1888, 2,114 miles of line were open for traffic; during the past ten years the mileage was increased by  $577\frac{1}{4}$  miles; making the total, on the 30th of June, 1898,  $2,691\frac{1}{4}$  miles.

During the period under review 30 per cent. of the lines open in 1888, viz., 643 miles, were relayed, at a cost of £614,614, as compared with 161 miles, costing £181,485, during the previous ten years; and practically the whole of the Southern and Western Lines have now a high-class permanent-way of steel rails. About 60 per cent. of the iron rails on the Northern Line were replaced with steel rails, and it is expected that in the near future the whole of the iron rails on this line will be similarly dealt with.

With the view of strengthening the lines, and to reduce the cost of maintenance, sleepers spaced from 2 ft.  $8\frac{1}{2}$  in. to a maximum of 3 ft. 1 in. were respaced 2 ft. 6 in. from centre to centre.

In connection with the renewing and improving of the permanent-way 1,283,954 of the highest class of ironbark sleepers were used, of which 914,251 9 ft. by 10 in. by 5 in. replaced sleepers of 8 ft. by 9 in. by  $4\frac{1}{2}$  in.

The original sandstone and gravel ballast used having, to a large extent, perished, it was found necessary to extensively reballast the permanent-way; for this purpose 1,440,955 tons, principally blue-metal, were used, and the ballast under the sleepers has been increased in depth 60 per cent.

In connection with the reballasting, the use of Rogers' Patent Hopper Wagons and Ballast Ploughs, the patent rights of which were purchased, very considerably cheapened the work. These appliances effect a great saving in the handling of ballast; 200 tons can be unloaded and spread by one man in twenty

minutes, while under the old system the same work would occupy at least twenty men about one and a quarter to one and a half hours. The system is of great importance in working, as anything done to minimise the time the ballast trains are in the sections saves the time of large gangs of men and facilitates the working.

The acquisition of quarries at various places cheapened the cost of ballast by about 70 per cent., and this great economy extends to future maintenance.

Many facilities have been introduced; each ganger has been provided with a tricycle to enable him to move speedily over his section, inspect his length daily, and spend more time with his men. Special geared trollies have also been provided to enable the fettlers to move more rapidly from point to point with appliances for effecting repairs. Improved weeding tools and ratchet-lifting jacks have also been brought into use.

By the aid of these improved facilities, equally efficient service in the maintenance has been effected with a largely reduced staff. The total number of men employed in 1898, was 2,823 as compared with 3,140 in 1888, notwithstanding that the mileage increased by  $577\frac{1}{4}$  miles. The number of way and works inspectors of all descriptions was also reduced, from 58 to 35. The consequent economies permitted additional expenditure in other directions and a larger portion of the permanent-way and other works were renewed than previously, while, at the same time, the total permanent-way working expenses fell from £429,001 in 1888 to £353,969 in 1898.

Many timber bridges were renewed and replaced by steel, iron and brick structures. The timber bridge over the Ironbark Creek, near Hexham, 110 feet span, and another, of 67 feet span, over Styx Creek, near Hamilton, were renewed in steel on concrete foundation.

The old timber bridge at Wagga Wagga consisting of six viaducts, with a total of 317 spans, each span measuring 29 ft. 6 in. in length, and averaging 15 feet in height, is at present being reconstructed. The abutments and foundations for the piers are built in cement concrete, with steel trestles bolted to the foundation, carrying steel plate girders with open top, the sleepers being bolted to the top plates. About one-half of the viaduct has been renewed, and the work is being proceeded with, without causing any delay to the traffic. When complete about 5,000 cubic yards of concrete and 1,650 tons of steel will have been used.

The standardising and classification of station and other buildings, also permanent-way materials, has been attended with very satisfactory results.

#### IMPROVEMENT OF GRADES AND CURVES.

These subjects are most important in connection with the economical working of the New South Wales Railways, and have engaged attention from the first; the lines being most exceptional in their character, having been constructed with an enormous proportion of steep gradients (631 miles of grades, varying from 1 in 30 to 1 in 75), the worst being on the trunk lines, and so situated that the whole volume of traffic had to pass over them. It was therefore decided to reduce some of the steep gradients which interfered with the loading of trains over long sections.

The first improvement was made when the Main Southern Line between Granville and Picton was duplicated, the ruling grade having been then reduced from 1 in 66 to 1 in 100, by which the loading of trains was increased 50 per cent. for a distance of 40 miles.

On the Main Western Line at Wentworth Falls an isolated grade of 1 in 33 which ruled the loading of all trains from Mount Victoria to Penrith, a distance of 43 miles, was cut out, and the loading of up goods trains increased 100 per cent.

The cutting out of Lapstone Hill Zig Zag, a work of some magnitude, admitted of the increased loading of trains and accelerated the running generally over the mountains.

On the Northern Line, between Ravensworth and Singleton, a series of grades varying from 1 in 33 were reduced to 1 in 60, resulting in the loading of trains being increased by 100 per cent. for a distance of 70 miles.

The grades of 1 in 55 between Dubbo and Nyngan were reduced to a maximum of 1 in 70, which permitted of through trains of 45 vehicles being hauled by one engine unassisted from Bourke to Dubbo, a distance of 225 miles.

Other important improvements in grades have been made at various places, particulars of which are as follows:—

Section.	Length of Line affected by alteration.	Original ruling Gradient.	Against Up or Down Traffic.	Improved Grade.	Percentage Increase of Engine Loads.
	mls. chs.				
Nundah to Wingen ... ..	51 30	1 in 46 ...	Down...	1 in 60...	30 per cent.
Cullerin to Mittagong ... ..	77 5	1 ,, 40 ...	Up ...	1 ,, 66...	65 ,,
Mittagong to Hill Top ... ..	8 3	1 ,, 33 ...	,, ...	1 ,, 66...	100 ,,
Hill Top to Mittagong ... ..	8 3	1 ,, 30 ...	Down...	1 ,, 66...	120 ,,
Mittagong to Exeter ... ..	14 48	1 ,, 40 ...	,, ...	1 ,, 66...	65 ,,
Dubbo to Wellington ... ..	30 35	1 ,, 40 ...	Up ...	1 ,, 70...	75 ,,
Wellington to Dubbo ... ..	30 35	1 ,, 40 ...	Down...	1 ,, 55 .	37½ ,,
Wallerawang to Bathurst ... ..	39 52	1 ,, 33 ...	,, ...	1 ,, 55...	66⅔ ,,
Raglan to Sodwalls ... ..	26 17	1 ,, 40 ...	Up ...	1 ,, 70...	75 ,,
Mount Victoria to Bowenfels ... ..	19 53	1 ,, 33 ...	Down...	1 ,, 60...	85 ,,
Clarence Siding to Mount Victoria ... ..	11 19	1 ,, 50 ...	Up ...	1 ,, 70...	40 ,,
Mullion Creek to Blayney ... ..	30 75	1 ,, 40 ...	,, ...	1 ,, 70...	75 ,,
Blayney to Mullion Creek ... ..	30 75	1 ,, 40 ...	Down...	1 ,, 55...	37½ ,,
Frampton to Cootamundra ... ..	8 39	1 ,, 40 ...	Up ...	1 ,, 75...	87½ ,,
Junee to Bethungra ... ..	18 29	1 ,, 54 ...	,, ..	1 ,, 75..	39 ,,
Narrandera to Junee ... ..	60 19	1 ,, 40 ...	,, ...	1 ,, 80...	100 ,,
Narrabri to Werris Creek ... ..	96 14	1 ,, 50 ...	,, ...	1 ,, 75...	50 ,,

Diagrams showing the improvements in some of the more important alterations in grades are attached.

All the 8-chain curves on the Blue Mountains were reduced to a curvature of not less than 12 chains radius; in some instances the curves were cut out, and in several cases the grades improved.

The following list of the curves dealt with shows how extensive these improvements have been :—

LIST of Curves improved from 1888 to 1898.

Original Radius.	Present Radius.										Straight.	Total Number.	Length.	
	12	14	15	16	20	22	24	30	39	40				
														m. c.
8 chains...	20	3	3	3	1	1	...	...	...	...	2	33	4 15	
9 „ ... ..	...	...	1	...	...	...	...	...	...	...	...	1	0 9½	
10 „ ... ..	24	4	...	1	...	...	...	...	...	...	2	31	3 60½	
12 „ ... ..	...	3	3	1	1	1	...	1	...	1	1	12	1 57½	
14 „ ... ..	...	...	...	1	...	...	...	...	...	...	...	1	0 8	
15 „ ... ..	...	...	...	1	...	...	...	...	...	...	...	1	0 5	
16 „ ... ..	...	...	...	...	1	...	...	...	1	...	1	3	0 25½	
18 „ ... ..	...	...	...	...	...	...	...	1	...	...	...	1	0 10	
20 „ ... ..	...	...	...	...	...	...	2	3	...	...	1	6	0 48½	
24 „ ... ..	...	...	...	...	...	...	...	...	...	...	2	2	0 9	
25 „ ... ..	...	...	...	...	...	...	...	2	...	...	...	2	0 37	
											9	93	11 45½	

The exact saving resulting from the improvement of grades and curves and the introduction of more powerful engines cannot be ascertained, but it is very considerable, and will become larger as the volume of traffic increases.

#### QUADRUPPLICATION AND DUPLICATION OF SUBURBAN LINES.

The quadruplication of the Suburban Lines between Redfern and Homebush, which was undertaken in June, 1890, and completed in October, 1892, involved the widening of Redfern tunnel to carry six lines of way, and the reconstruction of the stations and buildings. Valuable land resumptions had to be made, but a great saving was effected by building heavy retaining walls to confine the embankments and cuttings to the narrowest limits within the railway property. All timber bridges were replaced by either brick arches or structures of brick and steel. Level crossings were replaced by overbridges or subways, Island platforms introduced at each station, and suitable station buildings provided for the accommodation of passengers.

The permanent way and works were completed in a substantial manner, and without accident or interruption to the regular traffic.

The work of duplicating the lines between Granville and Picton, Hurstville and Waterfall, Strathfield and Hornsby, and Teralba and Adamstown was completed in a similar substantial manner, and is of great advantage in working the traffic.

“ PIONEER ” RAILWAYS.

In the Annual Report for the year ended the 30th of June, 1891, it was suggested that in extending the railways into level country, where the traffic would at first be exceedingly light, lines, designated “ Pioneer ” Railways, should be constructed. It was considered that suitable lines of the standard gauge, on which trains might be worked at a speed of 15 miles per hour, could be laid down at a cost of £1,750 per mile (exclusive of bridges and station accommodation), and, when the traffic developed sufficiently to justify it, these lines should be gradually improved, so as, eventually, to make them equal in all respects to the other parts of the railway. Subsequently, in connection with a proposal to construct narrow-gauge railways, it was strongly urged that in preference to introducing a break of gauge, which “ could only be looked upon as a national calamity,” the “ Pioneer ” lines, as already suggested, should be constructed.

The proposal at first met with a considerable amount of opposition, chiefly on the alleged ground that the lines could not be constructed for the estimated cost per mile which was less than half that of any of the lines constructed up to that time; but the Construction Department has been able to lay down lines of this class, the cost per mile for the permanent-way not exceeding the estimate, and the total first cost being from £1,800 to £2,000 per mile.

The following lines of the “ Pioneer ” class have been completed within the last three years, and are now being worked :—

Line.	Length.	Total cost.	Cost per mile.
	m. ch.	£	£
Jerilderie to Berrigan ...	21 65	39,563 ...	1,814
Parkes to Condobolin ...	62 60½	117,224 ...	1,868
Narrabri to Moree ...	63 10	138,886 ...	2,200
Berrigan to Finley ...	13 73	32,702 ...	2,350
	-----	-----	-----
	161 48½	£328,375	Average per mile £2,032

The original cost of the Narrabri-Moree line was about £2,000 per mile; but, owing to the increase of business, improvements became necessary, and it is now classed as an ordinary branch line.

The “ Pioneer ” lines have been laid down in widely-separated districts of the Colony.

The lowest cost per mile for any line previously constructed had been that of the light railway from Nyngan to Cobar, a distance of 81 miles 27¼ chains, the total cost of which was £302,211, being equal to £3,715 per mile.

The cost of the lines generally has been greatly cheapened by the reduction of the rates for materials. It was the custom to charge against the cost of new lines ordinary rates, and thus swell the revenue at the expense of capital, but the rates for the bulk of the material have since been reduced to one-fourth.



## LOCOMOTIVE DEPARTMENT.

## ENGINES.

In 1888 the Locomotive, Carriage and Waggon Stock generally was in a very unsatisfactory condition. Of the 428 engines in stock, 5 had been on the line over thirty years, and 29 for periods ranging from twenty-two to twenty-six years, and the mean age of more than one third of the entire stock was fifteen and a half years; many of the locomotives had done good work, but had become unsuitable and practically worn out, while others were in urgent need of repairs. It was therefore absolutely necessary to order new engines to take the place of the worn-out inferior types, and obtain others to meet the increase in traffic and the requirements of new lines.

New engines to the number of 186 were supplied, and 74 rebuilt. Of the former 90 replaced, 122 of the least useful of the old type, and the remaining 96 were additions, and, being more powerful, were equal to 140 of the old stock.

On the 30th of June, 1898, the number of engines had been increased to 492, and the aggregate tractive power from 6,509,725 lb. to 8,865,833 lb. The average tractive power of the engines in 1888 was 15,210 lb., while those supplied since that date give an average of 21,327 lb.

The introduction of more powerful engines resulted in the haulage of much longer trains, and, following on this, the postponement of the duplication of the busy sections of single lines, that would otherwise have become necessary at great expense. Further, these engines have contributed materially to the saving previously referred to under the head of improvement to grades and curves.

The increased haulage power in connection with the introduction of more powerful engines will be readily understood from the following:—

## THREE Classes of the new powerful Engines.

Grade.	10-wheeled Engine. Illustration "A." "P" Class.				Consolidated Goods Engine. Illustration "B." "J" Class.		Australian Consolidated Goods Engine. Illustration "C." "T" Class.	
	Working Passenger Trains.		Working Goods Trains.		Working Goods Trains.		Working Goods Trains.	
	Tons hauled.	Speed per hour.	Tons hauled.	Speed per hour.	Tons hauled.	Speed per hour.	Tons hauled.	Speed per hour.
		Miles.		Miles.		Miles.		Miles.
1 in 40 ... ..	225	20	275	10	350	10	350	10
1 in 75 ... ..	260	30	505	12	580	12	615	12
1 in 100 ... ..	255	35	600	15	620	15	700	15
1 in 150 ... ..	330	35	700	18	650	18	750	18

## THREE Classes of the Old Engines.

Grade.	4-wheels coupled. "C" Class.		6-wheels coupled. Goods tender. "A" Class.		6-wheels coupled. "B" Class.	
	Working Passenger Trains.		Working Goods Trains.		Working Goods Trains.	
	Tons hauled.	Speed per hour.	Tons hauled.	Speed per hour.	Tons hauled.	Speed per hour.
		Miles.		Miles.		Miles.
1 in 40 ... ..	90	20	200	10	230	10
1 in 75 ... ..	120	30	345	12	395	12
1 in 100 ... ..	110	35	375	15	430	15
1 in 150 ... ..	165	35	450	18	460	18

A comparison of the working in 1888 and 1898 shows how largely the powerful engines, improvement of grades and curves and other modern appliances, have contributed to the better financial results.

	1888.	1898.
Gross earnings per mile of line open ... ..	£ 1,123	£ 1,138
Working expenses per mile of line open ... ..	749	607
Net earnings per mile of line open ... ..	374	531

## CARRIAGES.

The carriage stock was considerably strengthened and improved by 324 carriages of superior modern types on bogies, the total capacity having been increased from 28,823 seats in 1888 to 35,470 in 1898, and by the rebuilding of 68 carriages, and the conversion of a number of the least up-to-date first-class carriages into second-class carriages. In addition, 24 lavatory composite bogie brake-vans, 9 lavatory composite bogie mail-vans, and other coaching vehicles, were placed in traffic.

## WAGONS.

The Goods Stock, which numbered 8,833 vehicles, was augmented by 2,043 new wagons of improved design and increased carrying capacity. 1,570 worn-out vehicles of inferior types were replaced by 1,164 new wagons of greater capacity, and 654 have been rebuilt.

The total carrying capacity of the stock on the 30th of June, 1898, was 78,836 tons, as compared with 59,011 tons in June, 1888.

With regard to the new stock, a considerable number of bogie trucks have been introduced, viz., 136 tube-framed open wagons and vans, 82 composite framed open wagons, 37 refrigerator cars, 96 sheep and cattle vans, and 50 composite brake vans.

Great advantage has been gained in the carriage of large consignments of goods and economising the space at stations by the introduction of a limited number of the large bogie-class of wagons; but it would not be advantageous to have too

many of this class, as, for general purposes, the ordinary four-wheeled goods wagons, of a carrying capacity of from 8 to 10 tons, a large number of which have been built, are the most useful.

A sum of £3,613,782 was expended on the repairs and renewals of locomotives, carriages and wagons as compared with £1,522,589 during the previous ten years.

A new foundry has been constructed in connection with the Eveleigh Workshops, the building previously used for the purpose having been converted into an addition to the Boiler Shop; and with the view of dealing expeditiously with the repairs in connection with the more powerful engines a larger erecting-shop has been built, which will be fully equipped with modern machinery, electric overhead cranes and other appliances.

Engine-sheds have been provided at Hamilton (Newcastle), Clyde, Hurstville, Homebush, Campbelltown, Harden, Werris Creek, Orange, Queanbeyan, Temora, Waterfall, Richmond, Mount Victoria, Coolabah, Gundagai, Hornsby Junction, Gunnedah, Milson's Point and Murrurundi.

With regard to the improvements made in connection with carriages and wagons, it may be stated that the stock was considerably strengthened by replacing 2,000 weak axles with strong ones, fitting 5,500 vehicles with standard draw-gear, and substituting 11,600 standard axle-boxes for others which were of defective design.

The expenditure in oil, tallow and waste was considerably reduced by the adoption of a standard axle-box, the erection of plant for washing waste and sponge-cloths, and the substitution of mineral for castor oil. The importance of these economies will be seen from the following comparison of the cost of working in 1898 as compared with 1888 before these improvements were made :—

	1888.	1898.
Expenditure in oil, tallow and waste ...	£31,730	£15,111

Illustrations of the engines, carriages, and wagons are attached.

#### TRAFFIC DEPARTMENT.

The traffic returns show very satisfactory increases.

The Coaching and Goods Earnings for the year ended the 30th of June, 1898, compared with the year ended the 30th of June, 1888, are as follows :—

	COACHING.	GOODS.	TOTAL.
	£	£	£
Year ended 30th of June, 1898... ..	1,126,257	1,900,491	3,026,748
"          "      1888 ... ..	918,975	1,376,149	2,295,124
Increase ... ..	207,282	524,342	731,624

In the Coaching Department the most striking feature is the falling off in first-class passenger earnings, the whole of the increase having been made out of second-class passengers, parcels and miscellaneous earnings.

The growth of the second-class traffic calls for some notice. It developed largely when the financial depression occurred in 1893, and in consequence of the improved second-class accommodation has greatly increased.

A comparison with 1888 is not available, as the first and second-class passenger traffic was not kept separate until 1890. The following comparison, however, shows how largely the public are availing themselves of the cheaper means of conveyance.

Year ending June.	1st Class.		2nd Class.		2nd Class Workmen's Cheap Tickets.		Total.	
	Journeys.	Revenue.	Journeys.	Revenue.	Journeys.	Revenue.	Journeys.	Revenue.
	No.	£	No.	£	No.	£	No.	£
1888 ...	.....	.....	Not available.		.....	.....	15,174,115	783,336
1890 ...	5,440,327	431,760	9,641,250	442,594	1,990,368	15,510	17,071,945	889,864
1898 ...	<b>3,898,396</b>	<b>308,893</b>	<b>15,041,642</b>	<b>594,054</b>	<b>4,293,168</b>	<b>27,783</b>	<b>23,233,206</b>	<b>930,730</b>

#### AVERAGE Earnings per journey.

	1st Class.		2nd Class.		2nd Class Workmen's.		Total.	
1888 ...	.....	.....	Not available.		.....	.....	1s. 0·58d.	
1890 ...	1s. 7·05d.	.....	11·02d.		1·87d.	.....	1s. 0·59d.	
1898 ...	1s. 7·02d.	.....	9·48d.		1·55d.	.....	9·61d.	

The Parcels and Miscellaneous Coaching Earnings show an increase of £59,888.

In the Goods Department all classes of traffic contributed to the increase, viz. :—

#### EARNINGS.

Year.	General Merchandise.	Wool.	Live Stock.	Coal and Coke.	Total Increase.
	£	£	£	£	£
Year ended 30th June, 1888 ...	848,175	217,671	164,847	145,456	.....
Do do 1893 ...	994,817	336,373	299,798	181,026	.....
Do do 1898 ...	<b>1,103,946</b>	<b>283,171</b>	<b>320,532</b>	<b>192,842</b>	.....
<b>Increase over 1888 ...</b>	<b>255,771</b>	<b>65,500</b>	<b>155,685</b>	<b>47,386</b>	<b>524,342</b>
<b>TONNAGE.</b>					
	Tons.	Tons.	Tons.	Tons.	Tons.
Year ended 30th June, 1888 ...	1,152,377	74,148	68,101	2,105,146	.....
Do do 1893 ...	1,287,660	107,491	150,115	2,228,577	.....
Do do 1898 ...	<b>1,546,737</b>	<b>98,608</b>	<b>166,836</b>	<b>2,818,383</b>	.....
<b>Increase over 1888 ...</b>	<b>394,360</b>	<b>24,460</b>	<b>98,735</b>	<b>713,237</b>	<b>1,230,792</b>

Owing to a succession of droughts in various parts of the country the number of sheep depastured has fallen from 61,831,416 in 1891 to 40,147,603 in 1898.

The wool traffic has in consequence declined from the highest point reached in 1895, namely, 747,480 bales weighing 125,095 tons and earning £397,012, to 609,910 bales weighing 98,608 tons earning £283,171 in 1898.

The carriage of Live Stock, however, increased from this cause, many thousand truck loads having been moved to districts where pasture was available and the supplies for sale in the metropolitan markets much augmented. There has also been a large increase in the Frozen Meat trade, the exports having increased from 5,251 tons in 1891 to 26,978 tons in 1898.

The Grain traffic shows very satisfactory development, the tonnage having increased from 198,491 tons in 1891 to 340,040 in 1898, and the ton mileage from 22,130,334 to 57,313,853. The total area under crops in 1898 was 1,820,209 acres, as compared with 855,627 acres in 1888.

The mention of increased agricultural pursuits while writing of a succession of droughts as seriously affecting our flocks may appear contradictory, but is explained by the fortunate escape of portions of the districts devoted to agriculture from the serious effects of the bad seasons, although the crops in some districts were a complete, and in others a partial, failure, the larger area under cultivation produced the increased tonnage.

Coal and Coke and other minerals also show satisfactory increases.

#### ACCOMMODATION AND FACILITIES FOR CONDUCTING THE TRAFFIC.

The quadruplication of the Suburban Line between Redfern and Flemington, and the reconstruction of the station arrangements, together with the duplication of the line, from Granville to Picton, Hurstville to Waterfall, Strathfield to Hornsby, and Adamstown to Teralba, largely contributed to the suburban traffic being conducted with economy and great regularity.

The Passenger train services generally have been considerably accelerated, and additional trains given where there was reasonable prospect of the traffic being developed.

The Passenger train mileage of 1898, compared with 1888, shows an increase of 1,005,292 train miles; about 420,000 of this increase was in connection with new lines, and the balance represents additional train services.

The working of the Passenger Trains on the lines generally may be mentioned with satisfaction. For the three months ended 30th September last the following was the record of the running of the trains:—

TRAIN PUNCTUALITY RETURN.—PERCENTAGE.

Description.	To time, and not exceeding two minutes late.	Two to five minutes late.	Above five minutes late.
	Per cent.	Per cent.	Per cent.
1. Main Suburban (business trains), 5 to 10 a.m. ...	100	.....	.....
2. Local, 5 to 10 a.m. ... ..	97·84	1·23	·94
3. Through Mail and Express ... ..	90·81	2·02	7·17

1. Main Suburban, covering distances up to 13 miles.  
 2. Local, covering distances up to 77 miles.  
 3. Through long-distance Trains and Express and Mail Trains, covering runs of varying distances up to 503 miles, of which, in one instance, 465 miles are single line. The total single lines worked consist of 2,523 miles, of which there are 1,033 on the Southern Division, 817 on the Western, and 678 on the Northern.

The Passenger Rolling-stock, already referred to, has been greatly improved. All the four and six-wheeled vehicles (316) of inferior designs have been replaced by the American type of car of improved design for the Suburban traffic. Pullman sleeping cars are now run daily on the Sydney-Melbourne Express and Sydney-Brisbane Mail Trains, and corridor carriages for first and second class passengers, similar in exterior design to the Pullman car, and replete with the best accommodation, have recently been brought into service for the Sydney-Melbourne Express, forming a vestibule corridor train throughout. Sleeping carriages for through traffic on branch lines have also been introduced.

Lavatories were not provided, except in sleeping cars, prior to 1888. Now all main line through trains have first-class lavatory carriages, and second-class lavatory compartment cars are attached to the mail trains.

Brake-vans of an improved design have been brought into use on all Mail, Express and through trains, and bogie mail-vans, at one end of which a special compartment has been set apart for bicycles, have superseded the old four-wheeled vehicles.

The carriages, which suffer so much by exposure in a climate such as ours have been protected by the erection of carriage-sheds. This accommodation has been provided at Sydney, McDonaldtown, Homebush, Hurstville, Moss Vale, Goulburn, Harden, Junee, Albury, Bathurst, Wallerawang, Mount Victoria, Condobolin, Cowra, Bourke, Cobar, Dubbo, Blayney, Orange, Forbes, Hornsby, Werris Creek, Moree and Jennings.

New Passenger Stations have been built at Bowral, Moss Vale, Wentworth Falls, Katoomba, Lithgow, Orange, Blayney, Helensburgh, Carlton, Erskineville, Exeter, Riverstone, Cockle Creek, Greta and Hartley Vale, and at Newcastle the passenger station has been greatly enlarged and improved, and includes a large Refreshment Room. A new Parcels' Depôt and Cloak Room have been provided at Redfern, and considerable additions and improvements to sidings, platforms and stations have been made at a large number of other places throughout the lines.

The working at the present terminus at Redfern has been much improved by the widening of the Redfern Tunnel, the rearrangement of the lines, and providing an additional up and down road between Redfern and the locomotive and carriage-sheds at Eveleigh. Additional roofed platforms have also been provided.

But the terminal accommodation is altogether inadequate to satisfactorily deal with the constantly increasing traffic, and so long as the extension of the railway into the City remains unsettled the business cannot be conducted with reasonable convenience to the public, or without unnecessary risk.

Extensive and convenient marshalling sidings, illuminated at night by the electric light, have been provided at Clyde, by which the goods traffic in and out of Sydney is expedited, expense saved, and the deliveries at the central terminal goods depôts at Darling Harbour and Redfern, and other stations, accelerated.

The new junction constructed from the Northern to the Main Line enables the heavy stock traffic from the north to be transferred with facility to the stock yards at Flemington, avoids delay and shunting on the Main Suburban Line, and effects a saving of 4 miles 37 chains on each engine bringing stock to Flemington.

A large covered shed for agricultural produce at Redfern, capable of holding 87 wagons, an outward goods-shed fitted with hydraulic cranes at Darling Harbour, capable of accommodating 97 wagons, and a wool-shed for dealing with the wool traffic at the same place, capable of holding 118 wagons, have been erected.

Considerable additional siding accommodation has also been provided at Newcastle in connection with the coal traffic, and goods sheds, loading banks, sidings, weigh-bridges, engine turntables and numerous other minor works have been provided at various places to meet the development of the traffic.

In 1888 separate generating plants supplied Eveleigh and Redfern with the electric light. They have since been centralised, and the current supplied for those places as well as Darling Harbour from a generating station at Eveleigh, giving considerably increased light, while the cost has been reduced by about £2,000 a year, and a further saving will be effected when the current can be supplied direct from the new power-house at Ultimo.

The electric light has also been provided at Flemington, Bullock Island and Newcastle by which the work can be performed with greater expedition and safety.

The improvement to grades and curves, the introduction of more powerful engines, the quadruplication and duplication of the lines where considered necessary, and other important additional facilities, have resulted in improved working and general economy.

The loading of the goods trains has increased 42·75 per cent. as compared with 1891 before the improvements took place.

#### SAFETY APPLIANCES.

Considerable improvements and additional safety appliances have been introduced. In 1888 only 28 miles of line were worked under the "Absolute Block," whereas, in December last,  $8\frac{1}{2}$  miles of quadruple,  $154\frac{3}{4}$  double, and  $992\frac{3}{4}$  miles of single line, making a total of 1,156 miles, were worked under this system. The number of places where points and signals have been interlocked having increased from 104 to 417.

The following table shows the progress that has been made :—

Year.	Miles of line open for traffic.			Miles of line on which the Traffic is worked under the Absolute Block System.			Number and Percentage of Places which have or have not Points and Signals interlocked.					No. of Signals.	No. of Levers.	Inter-Locked Level-crossing Gates.
	Quad-ruple and Double.	Single.	Total.	Quad-ruple and Double.	Single.	Total.	Number of Places.			Percentage.				
							Inter-locked.	Not inter-locked.	Total.	Inter-locked.	Not inter-locked.			
June, 1888 ...	71½	2,042½	2,114	28	...	28	104	318	422	24·63	75·36	2,103	1,492	17
June, 1893 ...	167	2,525½	2,692½	163¼	992¾	1,156	417	221	638	65·35	34·65	3,365	4,284	30

The system of block for the single lines is a combination of the advantages of the "Staff" and the "Absolute Block," known as "Tyer's Tablet," and "Webb and Thompson's Electric Staff Systems." Both afford satisfactory results; the work and responsibility of the Staff have been reduced, and the traffic facilitated and rendered much more secure.

For Express trains a system of automatic exchanger has been adopted, which permits drivers, travelling at a regulated speed, to exchange the tablet when running through stations.

In connection with sections where the traffic is light and tablet instruments are in use, a system has been devised by which special instruments are substituted for the usual instruments at the more remote ends of two sections, for the purpose of cutting out the intermediate tablet stations during certain hours of the day or night. By this, reductions are made in the number of officers which would otherwise be required.

For outlying country lines a modification of the Electric Train Staff System has been arranged, so that if the traffic at any crossing station is insufficient to justify a person being placed in charge, the guard of the train can exchange the staff without in any way interfering with the security of working.

These improved appliances have made it possible to effect savings in various directions. For instance, owing to telephones being used in connection with the "Absolute Block" instead of Morse instruments under the old system, a saving has been effected in the number of telegraph operators, the expenditure in 1898 compared with 1888, having been reduced by one-half, equal to about £7,000 per annum, although the number of messages transmitted has been doubled.

Seventy-one over-bridges and subways have also been provided for the greater security of life in connection with the crossing of the railways.

The fitting of the goods and live stock vehicles with the Westinghouse automatic quick acting brake has now been completed, and practically the whole of the rolling-stock, including engines, passenger carriages, and goods and live stock vehicles have now been fitted with this valuable appliance by which the trains have been expedited and various economies effected.

The following figures show the relative number of fatal accidents to passengers and employees on the New South Wales Railways for the year ended the 30th of June, 1898, as compared with the United States and Great Britain, with the latest date for which the statistics are available, viz. :—

<i>Fatal Accidents to—</i>				Passengers.	Employees.
New South Wales, June, 1898	...	...	1 in	7,744,402	1 in 1,175
United States, „ 1897	...	...	1 in	2,204,708	1 in 486
Great Britain, Dec., 1897	...	...	1 in	7,747,520	1 in 945

#### FARES AND RATES.

Recognising the great importance of cheap railway transit and providing improved facilities for working the traffic economically, fares and rates have been considerably reduced, and additional train services given where possible to do so without interfering to any serious extent with the necessary improvement in the financial condition of the property.

In the passenger department, workmen's weekly tickets have been extended to a radius of 30 miles of Sydney and Newcastle, and the hours during which the tickets were formerly available also extended.

A lower scale of fares has been adopted for the Newcastle Suburban area, and the Sydney Suburban area was enlarged.

Fares have been reduced to pleasure parties, and various concessions have been made in connection with the holiday excursion arrangements.

Cheap trains are periodically run to and from the country at greatly reduced fares, which are generally less than the single fare for the double journey.



The rates for packages prepaid, not exceeding 112 lb., sent by passenger trains, were revised, with a view to encouraging small parcels traffic, and reductions made, as shown hereunder, on parcels not exceeding 70 lb. :—

Weight.	22 Miles.		50 Miles.		150 Miles.		300 Miles.		500 Miles.	
	1888.	1898.	1888.	1898.	1888.	1898.	1888.	1898.	1888.	1898.
Not exceeding—	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
3 lb. ... ..	0 3	0 3	0 4	0 3	0 9	0 6	1 5	1 0	1 10	1 6
7 lb. ... ..	0 5	0 3	0 8	0 3	1 5	0 9	2 10	1 3	3 8	2 0
14 lb. ... ..	0 7	0 3	0 11	0 6	2 1	1 0	3 10	2 0	4 8	2 6
28 lb. ... ..	0 9	0 6	1 3	0 9	2 9	1 6	5 3	3 0	6 6	4 0
42 lb. ... ..	0 11	0 9	1 7	1 0	3 5	2 3	6 8	4 0	8 4	5 6
56 lb. ... ..	1 2	1 3	1 7	1 3	3 5	3 0	6 8	5 0	8 4	7 0
70 lb. ... ..	1 2	1 3	1 11	1 6	4 2	3 9	8 1	6 0	10 2	8 6

In the Goods Department important concessions have been made to the Agricultural, Mining, and Pastoral industries, the rates having been very considerably reduced.

TABLE showing the reduced rates of Agricultural produce, Minerals, Live Stock, and Agricultural Implements and Mining Machinery for the year 1898 compared with 1888.

Miles.	DAIRY PRODUCE.		AGRICULTURAL PRODUCE.*		HAY.		AGRICULTURAL IMPLEMENTS AND MINING MACHINERY.		CRUDE ORES.		COKE.		LIVE STOCK.	
			In truck loads Up journey.		5 tons per truck load.	6 tons per truck load.	In truck loads.		In 6-ton truck loads. Up journey.		In full truck loads.		Horses, Cattle, and Pigs, in full truck loads.	
	per ton.	per ton.	per ton.	per ton.	per ton.	per ton.	Per ton.	Per ton.	per ton.	per ton.	per ton.	per ton.	per ton.	per ton.
	1888.	1898.	1888.	1898.	1888.	1898.	1888.	1898.	1888.	1898.	1888.	1898.	1888.	1898.
50	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
100	17 8	8 10	5 4	4 9	4 7	3 10	17 8	8 10	4 10	2 6	8 10	4 10	33 4	33 4
150	34 4	17 2	9 9	8 0	6 4	4 8	34 4	17 2	8 4	4 2	13 0	8 2	66 8	63 4
200	49 4	24 8	12 2	9 8	8 10	6 6	49 4	24 8	10 11½	6 3	17 2	10 11½	98 4	82 1
250	62 8	31 4	14 6½	11 4	11 0	8 1	62 8	31 4	13 1	8 4	21 4	13 1	123 4	98 9
300	72 8	36 4	16 11	11 10	12 7	8 11	72 8	36 4	15 3	10 5	25 6	15 3	140 0	113 4
350	82 8	41 4	18 9½	12 4	14 2	9 9	82 8	41 4	16 11	12 6	29 8	16 11	156 8	127 11
400	92 8	46 4	20 8	12 10	15 10	10 6	92 8	46 4	18 7	14 7	33 10	18 7	173 4	142 6
450	102 8	51 4	22 4	13 4	17 6	11 2	102 8	51 4	20 1	16 8	38 0	20 1	190 0	157 1
500	112 8	56 4	24 0	13 8	19 1	11 10	112 8	56 4	21 7	18 9	42 2	21 7	206 8	171 8
550	122 8	61 4	25 8	14 0	20 8	12 6	122 8	61 4	23 1	20 10	46 4	23 1	223 4	186 3
600	132 8	65 1	27 4	14 4	22 4½	13 2	132 8	65 1	24 9	22 11	50 6	24 6	240 0	193 9
650	142 8	69 3	29 0	14 8	24 6½	13 10	142 8	69 3	26 5	25 0	54 8	25 11	256 8	201 3

\* Grain, Flour, Meal, Bran, Pollard, Millet Seed, Beet-root, Green Chicory-root, Potatoes, Pumpkins, Melons, Turnips, and other Agricultural Produce, not otherwise classified. † Forwarded at the convenience of the Department. General Goods.—A general truck rate was introduced in May, 1894, for distances over 90 miles, embodying considerable reductions upon the ordinary tonnage rates, and further concessions have since been made.

These are the principal directions in which low rates may be expected to develop traffic, and to this end efforts have been specially directed. The higher rates for goods of a general character have also been materially lowered. Large numbers of articles have been reduced to a lower class, and the 4th class rate, which was as high as 9d. per ton per mile has been abolished altogether, so that the 3rd class is now the maximum rate.

The rates for agricultural produce have been made specially low in consequence of the settlement that the cultivation of the land induces. A rough estimate of the value to the Railways of 10,000 acres of land under cultivation, as compared with 10,000 acres employed for running sheep, strongly illustrates this point. A distance of 300 miles from Sydney has been adopted in each case, the estimated freight from the agricultural industry being £2,660 as compared with £87 from the pastoral product.

With the view of encouraging small producers, single packages of such commodities as dairy produce, butter, cheese, eggs, fruit, jams, vegetables, garden produce, honey and wine have been reduced by about one-half the rates formerly charged.

To assist pastoralists in time of drought, which have been severe of late years, the rates for starving stock moved from one district to another have been reduced, on the forward journey by 50 per cent., and on the return journey by 75 per cent. Fodder for starving stock and store stock carried by rail owing to the stock routes being impracticable, as well as sheep sent to boiling-down works in consequence of grass and water failing, are also carried 25 per cent. less than the ordinary rates.

To encourage development, Agricultural and Mining machinery are carried at low rates, and the introduction of a reduced truck rate for general merchandise has been a considerable advantage to traders and others.

The rates on Wool have also been reduced.

The reduced rates on coal in the Newcastle, Western and Illawarra Districts amount to over £25,000 a year for the past four years.

As previously stated, the great importance of cheap railway transit has been recognised, and every economy in working has been studied to bring about the desirable result. In addition, however, to economy of working, volume of traffic is required; and this indispensable factor can only be derived from increased population and greater development of the land.

On a large portion of the lines trains only run once a day, and in some instances three times a week. When the traffic is sufficient to warrant these services being materially increased, a proportionate reduction of rates may be looked for; and if the volume of traffic approaches in a comparable degree to that of other countries where cheaper rates prevail, any inequalities which may exist will disappear.

In addition to the absence of volume of traffic, there is the disadvantage of a large proportion of unbalanced running, empty trucks having to be hauled in one direction, and thus practically reducing the earning power of the trains by one-half. There is also the prevalence of severe grades to be reckoned with—a formidable barrier in the way of economic working; nevertheless, much has been done in the direction of cheapening the conveyance of both passenger and goods traffic.

RETURN of Ton Mileage for the year ended 31st December, 1898, as compared with 1891.

Description of Traffic.	Total Tons carried.	Total Miles carried.	Average Miles per Ton.	Earnings, exclusive of Terminal Charges.		Percentage of each class to total weight.	
				£	d.		
Coal ... ..	1898	2,902,466	47,263,697	16.28	124,540	63	59.40
	1891	2,673,378	46,882,655	17.53	148,299	76	61.28
Firewood ... ..	1898	203,466	5,739,654	28.21	19,450	81	4.16
	1891	176,790	4,734,019	26.77	21,709	110	4.06
Grain, Flour, &c. ... ..	1898	340,040	57,313,853	168.55	132,965	56	6.96
	1891	198,491	22,130,334	111.49	61,521	66	4.55
Hay, Straw, Chaff ... ..	1898	109,628	21,643,936	197.43	33,732	37	2.24
	1891	64,967	10,024,149	154.29	19,797	46	1.49
A Class and Miscellaneous ... ..	1898	531,584	42,266,243	79.51	157,930	90	10.88
	1891	581,010	26,968,182	46.41	104,625	93	13.32
Wool ... ..	1898	98,451	25,881,115	262.88	247,622	30	2.02
	1891	111,797	30,282,222	270.86	314,151	49	2.56
Live Stock ... ..	1898	204,409	50,393,492	246.53	356,882	70	4.18
	1891	128,211	34,650,831	270.26	267,661	85	2.94
All other Goods ... ..	1898	496,606	64,494,979	129.87	649,458	42	10.16
	1891	427,589	65,119,272	152.29	761,757	58	9.80
Total ... ..	1898	4,886,650	314,996,969	64½	1,722,579	31	100.00
	1891	4,362,233	240,791,664	55½	1,639,520	63	100.00

The ton mileage was not worked out for 1888, 1889, and 1890. The comparison cannot therefore be made with those years.

It is computed that if the 1891 rates had been in operation during the seven years, 1891 to 1898, the revenue would have been increased to the extent of £725,885. This sum represents considerable additional haulage without any additional revenue, as will be seen from the figures given below:—

	Tons carried for no additional Revenue.	Tons carried 1 mile for no additional Revenue.
	tons.	tons.
Coal ... ..	2,639,154	43,405,966
Firewood ... ..	381,496	10,254,150
Grain, Flour, &c. ... ..	201,098	31,407,920
Hay, Straw, and Chaff ... ..	82,637	14,883,627
A. Class and Misc. ... ..	162,905	10,666,564
Wool ... ..	34,800	9,482,004
Live Stock ... ..	61,348	16,063,099
All other Goods ... ..	255,629	33,515,723
	3,819,067	169,679,053

### FINANCIAL RESULTS.

The following Statement shows the financial improvement which has taken place since the Commissioners took over the working of the Railways:—

Five years, period 1884–1888.

Years.	Miles Open for Traffic.	Gross Earnings.	Working Expenses.	Net Earnings.	Capital.	Return on Capital.
	No.	£	£	£	£	£
5 years, 1884–1888 ...	2,114	10,924,094	7,240,715	3,683,379	27,722,748	3.06

Ten years, shown in five-year periods since the Commissioners took over the working of the Railways.

Years.	Miles Open for Traffic.	Gross Earnings.	Working Expenses.	Net Earnings.	Capital.	Return on Capital.
	No.	£	£	£	£	£
5 years, 1889–1893 ...	2,351	14,180,336	8,784,576	5,395,760	34,657,571	3.37
5 years, 1894–1898 ...	2,691 $\frac{1}{4}$	14,553,652	7,927,142	6,626,510	37,719,402	3.59

A comparison of the percentage of Working Expenses to Gross Earnings gives the following results :—

Year.							Percentage of Working Expenses to Gross Earnings.	Saving on the 1888 result.	
							per cent.	per cent.	£
1888	...	...	...	...	...	...	66·69	.....	.....
1889	...	...	...	...	...	...	64·39	2·30	equal to 58,385
1890	...	...	...	...	...	...	63·26	3·43	„ 90,315
1891	...	...	...	...	...	...	61·57	5·12	„ 152,290
1892	...	...	...	...	...	...	61·60	5·09	„ 158,161
1893	...	...	...	...	...	...	59·39	7·30	„ 213,675
1894	...	...	...	...	...	...	56·58	10·11	„ 284,449
1895	...	...	...	...	...	...	54·46	12·23	„ 352,004
1896	...	...	...	...	...	...	55·02	11·67	„ 329,143
1897	...	...	...	...	...	...	53·11	13·58	„ 409,402
1898	...	...	...	...	...	...	53·34	13·35	„ 404,071
							Total	...	£2,451,895

It was not formerly the practice to include in the Railway Accounts the stores obtained from the Government General Stores, the value of postage stamps, the cost of printing and stationery obtained from the Government Printing Office, gratuities paid to employees, Bank commission, &c., but the Accounts are now debited with all expenditure, and the Working Expenses have, very properly, been augmented by such items to the extent of about £250,000 during the past ten years.

The expansion of capital, gross, and net savings and miles opened during the period under review were as follows :—

	Year ended—	
	30 June, 1888.	30 June, 1898.
Railway Capital ... ..	£27,722,748	£37,719,402
Gross traffic ... ..	£2,295,124	£3,026,748
Net profit, after paying working expenses ...	£764,573	£1,412,143
<i>(Return on Capital, after paying working expenses)...</i>	2·85%	3·75%
Miles open—Railways ... ..	2,114	2,691½

The total number of Staff employed on the Railways, the average number of Staff per mile of line open, the amount of salaries and wages paid, and the gross earnings for the year ended the 30th of June, 1888, compared with 1898, are as follows :—

	June, 1888.	June, 1898.	
Total Staff ... ..	9,605	10,574	
Average Staff per average mile of line open ... ..	4·70	3·98	
	Salaries.	Wages.	Total.
Year ended 30th June, 1888...	£220,869	£978,522	£1,199,391
Do 1898...	221,031	993,558	1,214,589
Increase	162	15,036	15,198

The actual and average rates of pay of the principal groups of employees, and privileges of the service are given in the list attached.

The following table shows the comparative value and importance of the Railway property of this Colony, as compared with the other Australasian Colonies:—

	LINES OPEN.		CAPITAL.	
	1888. miles.	1898. miles.	1888. £	1898. £
New South Wales ... ..	2,114	2,691 $\frac{1}{4}$	27,722,748	37,719,402
Victoria... ..	2,018	3,113	28,212,064	38,602,304
South Australia ... ..	1,500	1,723 $\frac{3}{4}$	9,395,533	12,764,106
Queensland ... ..	1,929 $\frac{3}{4}$	2,635 $\frac{3}{4}$	12,169,238	18,056,285
Western Australia ... ..	183	992	833,083	5,047,261
Tasmania ... ..	157 $\frac{1}{2}$	424 $\frac{3}{4}$	1,165,269	3,526,322
			23,563,123	39,393,974
New Zealand ... ..	1,758	2,055	13,352,978	15,993,903
Total ... ..	9,660 $\frac{1}{4}$	13,635 $\frac{1}{2}$	£92,850,913	£131,709,583

#### GROSS EARNINGS.

New South Wales ... ..	2,295,124	3,026,748
Victoria ... ..	2,756,049	2,608,896
South Australia ... ..	883,713	984,228
Queensland ... ..	843,132	1,215,811
Western Australia ... ..	45,113	1,019,677
Tasmania ... ..	59,890	166,834
	1,831,848	3,386,550
New Zealand ... ..	994,843	1,376,008
Total Gross Earnings ... ..	£7,877,864	£10,398,202

#### NET EARNINGS.

(After paying Working Expenses.)

New South Wales ... ..	764,573	1,412,143
Victoria... ..	1,003,030	962,842
South Australia ... ..	451,439	380,754
Queensland ... ..	306,310	529,745
Western Australia ... ..	(Loss) 6,527	233,359
Tasmania ... ..	2,591	38,290
	753,813	1,182,148
New Zealand ... ..	307,515	518,817
Total Net Earnings ... ..	£2,828,931	£4,075,950

For years ending 30th June, 1888 and 1898, except in the case of Tasmania (December, 1888 and 1897), New Zealand (March), Queensland (December, 1888, and June, 1898), and West Australia (December, 1890, and June, 1898).

## TRAMWAYS.

THE Tramways also show very satisfactory results. In October, 1888, 38½ miles of line were open; various lines and extensions have since been constructed, and on the 30th of June last a total of 65 miles of line had been opened for traffic, viz. :— 54 miles steam, 4 miles cable, and 7 miles electric.

The following shows the comparative financial results of the working for the ten years ending the 30th June, 1898, compared with the previous ten years, viz. :—

	Ten years ending 30th June, 1888.	Ten years ending 30th June, 1898.
	£	£
Capital expended on lines open ... ..	877,244	1,478,251
Gross earnings ... ..	1,534,456	2,876,090
Net earnings ... ..	127,474	503,523
Return on the capital ... ..	2·63 per cent.	4·16 per cent.

The capital has increased by 68·51 per cent., the gross earnings by 87·43 per cent., and the net earnings by 295·00 per cent., the return on the outlay having improved from 2·63 to 4·16 per cent.

This improved financial condition has permitted of considerable reductions in fares and additional service being provided in numerous directions, the reduction in fares since 1888 amounting to 30 per cent. and the additional service 58 per cent.

The rolling-stock, permanent-way, and works generally have been efficiently maintained. Eighty per cent. of the cars in use in 1888 have been renewed. Twenty miles of line of 42-lb. rails have been relayed with 60-lb. and 80-lb. rails, 5 miles duplicated, and 8¼ miles wood-paved.

Although every effort has been made to make the present system of steam and cable tramways as efficient and useful as possible, the necessity of effecting important improvements in the direction of replacing the present systems by electric traction has been recognised. Considerable experience has been gained on the North Shore line, and owing to the rapid advances which have been made in perfecting the overhead electric trolley system in various parts of the world that system has been adopted for the George and Harris Streets line, now being constructed, and will be introduced in connection with the conversion of the existing suburban steam lines and portion of the cable lines.

The expansion of capital, gross and net earnings, and miles open, during the period under review were as follows :—

	Year ended—	
	30 June, 1888.	30 June, 1898.
Tramway Capital ... ..	£877,244	£1,478,251
Gross Traffic ... ..	£236,519	£313,871
Net profit, after paying working expenses...	£17,323	£54,730
(Return on Capital, after paying working expenses) ... ..	1·98%	3·75%
Miles open ... ..	38½	65

The total number of staff employed on the Tramways, the average staff per mile of line open, the amount of salaries and wages paid, and the gross earnings for the year ended the 30th June, 1888, compared with 1898, are as follows :—

	June, 1888.		June, 1898.	
Total Staff ... ..	...	1,013	...	1,448
Average Staff per mile open ... ..	...	26·31	...	23·00
		Salaries.	Wages.	Total.
Year ended 30th June, 1888...		£11,725	£153,455	£165,180
Do do 1898 ...		15,424	175,251	190,675
Increases ...		3,699	21,796	25,495

### THE AMBULANCE MOVEMENT.

The Ambulance movement continues to make very satisfactory progress. In October, 1888, the Corps consisted of 191 members only; in 1894 the membership had increased to 850. The Corps now numbers 1,500 enrolled members, but at least double that number have received instruction, though, owing to the nature of their duties, many are unable to attend a complete course, and, therefore, do not present themselves for examination.

The membership is widely distributed, and may be found in every branch of the service, in the workshops, and at every station of importance throughout the system.

With a view of encouraging the staff, each member who passes the first examination is presented with an "Ambulance certificate," and, if successful in passing the second examination, is presented with a silver medal. As a special acknowledgment of the exceptional service and ability of six members, each was presented with a gold medal.

Although New South Wales Railways compare favourably in regard to freedom from accident with any other railway system, all passenger trains running outside the Suburban Section and mixed trains on Branch Lines are fitted with a Medical Chest and Ambulance appliances available in case of need.

Ambulance equipment is also in reserve at a number of Railway Stations, and each break-down van is also fitted with a Medical Chest and equipment.

The Ambulance instruction is conducted by the Railway Medical Officer in the various centres throughout the Colony. He is ably assisted by several of the old members of the Corps, who ungrudgingly devote a great deal of their spare time to the work. Great assistance is also rendered by Medical men in some of the largely-populated country cities. Much useful service is performed by members of the Corps. Upwards of 300 cases are reported annually to the Corps Secretary in which "first aid" is rendered in cases of injuries of all kinds to employees and many of the general public.

### ESTABLISHMENT OF A RAILWAY INSTITUTE.

Soon after taking office, the Commissioners became convinced that great good would result if a building were provided where the railway staff could meet for the purpose of mutual intercourse and improvement; where a central library could be established, and accommodation provided for classes for the instruction of the staff, particularly on subjects that would render them more efficient in the railway service. In this movement the late Chief Commissioner, Mr. Eddy, took great interest.



The Commissioners having formulated a scheme and submitted it to the Government, funds were provided by Parliament for the erection of the building. A suitable site adjacent to the Redfern terminus was selected, and the Railway Institute was built at a cost of £6,000, and formally opened by Mr. McMillan, then Minister for Railways, on the 14th March, 1891. The Institute contains a splendid library of 7,512 volumes, which are circulated amongst the employees all over the Colony. This provision is much appreciated by the Staff, as a large number of the employees are located at considerable distances from public libraries, and would practically be unable, if it were not for the Institute library, to obtain the use of books. Numerous classes are also attached to the Institute, embracing such subjects as safe railway working, shorthand, typewriting, telegraphy, mechanical drawing, and railway accounts. Lectures and social entertainments are also held frequently in the large hall of the Institute, which seats 600 persons. A monthly newspaper, called the *Railway Budget*, is also published in connection with the Institute. This paper, in addition to reporting the various matters in hand in connection with the Institute, also publishes information affecting railway matters generally, and endeavours to disseminate knowledge amongst its members in regard to railway improvements, &c., which are taking place in other lands.

The management is left entirely to the staff, and the Committee, elected by the members, have shown an enthusiastic desire to make it of the best possible service to the employees. So much have its advantages been appreciated, and so popular has the building become as a meeting-place, that the original accommodation proved insufficient, and extensive additions were recently completed at a cost of £2,000.

#### INTERCOLONIAL RAILWAY CONFERENCES.

The desirable arrangement of holding annual Intercolonial Railway Conferences for the interchange of ideas on railway matters, was brought into active operation by a meeting of the Railway Commissioners of New South Wales, Victoria, South Australia, and Queensland, at Sydney, on the 14th September, 1898. For a considerable period prior to that date the advantage of such meetings was generally recognised, and although occasionally conferences for the discussion of subjects of special interest took place, no arrangement existed for holding periodical meetings. The result of the first meeting has demonstrated their value, and the advantage of holding them regularly will, it is anticipated, be appreciable, the united interests representing over 10,000 miles of railway and a capital value of about £110,000,000.

These conferences have already done much to bring about uniformity of practice, and vexed questions, many of which it has been found impracticable to settle by correspondence, have been readily disposed of; and as the railway interests of the Colonies become more united, the great advantage to be derived from this intercourse will be fully realised.

The Conferences are preceded by meetings of the principal officers, at which the details of approved subjects for discussion are thoroughly investigated, and subsequently dealt with at the Commissioners' conference.

The Colony of Western Australia recently joined the Conference, and now all the Colonies of the Continent of Australia are represented.

## STATEMENT of the New South Wales Railway Capital Account to 30th June, 1898.

	£
CAPITAL SPENT TO 30TH JUNE, 1888 ... ..	27,722,748
Capital moneys subsequently paid on account of lines authorised prior to the Railway Act coming into force, principally for the following lines:—	
Illawarra Line ... ..	} 2,472,239
Cooma Branch ... ..	
Homebush to Waratah (including the Hawkesbury Bridge) ...	
Hornsby to St. Leonards ... ..	
ACTUAL CAPITAL INCURRED PRIOR TO THE RAILWAY COMMISSIONERS TAKING THE LINES OVER ... ..	30,194,987
CAPITAL SPENT TO 30TH JUNE, 1898 ... .. (as given in the Annual Report.)	37,719,402
INCREASE IN CAPITAL TO 30TH JUNE, 1898 ... ..	<u>7,524,415</u>

Principally incurred in constructing the following 496 miles of new lines:—

Kiama to Nowra... ..	} £ 3,196,264
Nyngan to Cobar... ..	
Culcairn to Corowa ... ..	
Cootamundra to Temora ... ..	
Molong to Forbes ... ..	
Milson's Point Line ... ..	
Lismore to Murwillumbah ... ..	
Marrickville to Burwood ... ..	
Jerilderie to Berrigan ... ..	
Parkes to Condobolin ... ..	
Narrabri to Moree ... ..	
Nevertire to Warren ... ..	

## DUPLICATIONS —

96 miles of single line:—

Redfern to Flemington ... ..	} 1,443,437
Granville to Campbelltown and Picton ... ..	
Strathfield to Ryde ... ..	
Ryde to Hornsby... ..	
Hurstville to Waterfall ... ..	
Adamstown to Teralba ... ..	

## ROLLING-STOCK AND GENERAL WORK—

Rolling-stock to meet the increased traffic, and for 496 miles of new lines, improvements of grades and curves, additional sidings, loading-banks and goods-sheds, signal and interlocking apparatus, continuous brakes, houses for employes, and additional works generally	} 2,884,714
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------

£7,524,415

STATEMENT showing the cost of Construction and cost per Mile open on different sections of the Railway Lines, on the 30th June, 1898.

Lines open for Traffic.	Length in Miles.	Total Cost.	Cost per Mile.
	m. ch.	£	£
Darling Harbour Branch .....	1 42½	363,106	237,130
Sydney to Granville.....	13 36¼	1,895,831	140,921
Granville to Goulburn.....	121 5¾	2,584,259	21,345
Goulburn to Wagga.....	174 79¼	1,548,540	8,849
Wagga to Wodonga.....	79 13¾	915,115	11,559
Junge to Hay .....	167 35¾	969,979	5,793
Narrandera to Jerilderie .....	64 54¾	409,435	6,330
Granville to Penrith.....	21 26¼	609,220	28,564
Penrith to Bathurst.....	109 27	2,447,417	22,384
Bathurst to Dubbo .....	134 05	1,228,427	9,163
Dubbo to Bourke .....	225 45	1,347,500	5,974
Wallerawang to Mudgee .....	85 06	931,405	11,536
Blacktown to Richmond .....	16 12	176,487	10,928
Goulburn to Cooma .....	130 40	1,403,346	10,754
Cootamundra to Gundagai .....	33 45½	270,008	8,043
Orange to Molong .....	22 60	269,821	11,860
Murrumburrah to Blayney.....	110 63	1,080,469	9,753
Sydney to Kiama .....	71 53	1,953,332	27,257
Homebush to Waratah .....	93 03	2,640,996	28,386
Newcastle to Wallangarra .....	392 54	4,993,188	12,716
Werris Creek to Narrabri .....	96 48	567,433	5,874
Bullock Island Branch.....	1 45½	89,860	57,282
Morpeth Branch .....	3 37½	60,849	17,542
Hornsby to Milson's Point .....	13 27½	598,844	44,878
Campbelltown to Camden .....	7 65	39,201	5,018
Kogarah to Sans Souci.....	4 71	12,111	2,478
Culcairn to Corowa .....	47 39	211,101	4,446
Nyngan to Cobar .....	81 27¼	302,211	3,715
Cootamundra to Temora .....	38 69	167,664	4,314
Molong to Forbes .....	72 69	387,714	5,321
Yass Tramway .....	2 73	28,339	9,730
Jerilderie to Berrigan .....	21 65	39,563	1,814
Parkes to Condobolin .....	62 60½	117,224	1,868
Narrabri to Moree .....	63 10	138,886	2,200
Nevertire to Warren .....	12 33¼	24,669	1,987
Kiama to Nowra .....	22 43½	363,318	16,116
Lismore to Murwillumbah .....	63 57	883,615	13,869
Sydenham to Belmore .....	5 3½	187,326	37,140
Total mileage and cost.....	2,691 32¼	32,307,809	.....
Average cost of construction per mile .....	.....	.....	12,004
Rolling-stock .....	£4,476,097	.....	.....
Machinery .....	293,651	.....	.....
Workshops .....	631,864	.....	.....
Furniture.....	9,981	.....	.....
Average cost of rolling-stock, &c., per mile .....	.....	5,411,593	.....
Average and total cost, all charges .....	.....	37,719,402	14,015

Average cost per mile for 403 mls. 46 chs. £3,512.

STATEMENT showing the Average Rates of Pay made to the undermentioned classes of Employés in October, 1888, as compared with June, 1898.

Occupation.	October, 1888.				June, 1898.			
	No.	From	To	Average Rates.	No.	From	To	Average Rates.
Loco. engine-drivers, Railways .....	441	per day. 11/-	per day. 15/-	per day. 13/5¼	385	per day. 11/-	per day. 15/-	per day. 13/8
Loco. firemen, Railways .....	468	8/-	10/-	9/1¼	472	8/-	10/-	9/6
Loco. cleaners, Railways .....	347	5/-	11/-	6/2½	523	2/6	10/-	5/3¾
Fitters .....	309	7/-	14/-	10/5½	287	8/-	14/-	10/6¾
Turners .....	93	8/-	12/8	10/6	108	8/-	12/8	10/6
Machinists .....	57	5/6	10/2	8/8	71	6/6	13/-	8/7½
Boiler-makers .....	96	8/-	12/2	10/2	139	8/-	14/-	10/0¾
Boiler-makers' assistants.....	83	6/-	9/2	7/2¾	96	6/8	8/6	7/2
Moulders .....	24	7/6	14/-	9/11½	34	9/4	14/-	10/4½
Blacksmiths .....	129	7/-	16/-	10/7	120	8/-	16/-	10/8¾
Strikers .....	160	6/-	8/6	7/4¾	150	6/-	8/2	7/3
Tinsmiths .....	20	7/6	11/4	9/8¾	18	7/-	12/-	9/11½
Pattern-makers .....	14	9/-	12/2	10/8¾	8	10/-	16/-	11/6
Gasfitters .....	17	4/-	12/-	8/10	28	7/-	12/6	9/7½
Gas-makers .....	17	5/6	10/-	8/11¾	17	7/6	11/8	9/4
Carriage and wagon builders .....	184	7/-	11/8	10/0¾	163	8/-	12/-	10/0¾
Carriage and wagon examiners .....	81	6/-	14/8	9/7½	84	7/-	13/-	9/4½
Carpenters .....	177	5/-	13/-	9/11¾	96	8/-	14/-	9/7½
Painters .....	94	6/-	11/2	9/1	87	7/6	12/-	9/2
Stationary engine-drivers.....	40	7/-	10/8	8/2	37	6/6	12/-	8/3¼
Fuelmen .....	156	5/-	12/-	7/5¼	161	6/6	9/6	7/1½
Oilers .....	35	4/-	9/-	7/2½	33	4/-	8/-	6/7¼
Pumpers .....	73	7/-	11/-	8/3¾	53	6/-	10/-	8/3½
Guards .....	242	8/-	12/-	10/0½	263	8/6	12/-	9/11¾
Assistant guards .....	90	7/-	8/6	8/3	46	8/-	8/6	8/4¾
Porters.....	1,026	6/-	12/-	7/-	784	6/-	10/-	7/-
Junior porters .....	118	1/8	5/-	3/9¾	393	2/6	5/-	3/10¼
Signalmen .....	139	6/-	11/-	8/6	178	7/-	11/6	9/2¾
Shunters .....	161	5/-	11/-	7/6½	164	7/-	11/-	7/8½
Gangers .....	514	8/-	12/-	9/0½	413	8/6	12/-	8/11
Fettlers and labourers .....	2,818	5/-	10/-	7/3¾	2,687	6/-	9/-	7/0½
Station-masters .....	155	per annum. £150	per annum. £400	per annum. £222/14/-	153	per annum. £150	per annum. £400	per annum. £214/10/4
Officers-in-charge .....	127	£117	£210	£159/3/4	155	£130	£220	£150/0/9¼
Night officers .....	150	£60	£195	£119/8/1	154	£120	£185	£134/14/9½
Clerks .....	362	£120	£500	£191/3/1	303	£125	£500	£195/10/6½
Junior clerks .....	170	£26	£120	£91/10/5	202	£30	£120	£82/13/5½
Operators .....	142	£50	£250	£101/19/10	57	£60	£200	£124/7/8½

Every servant, except salaried officers, is granted a day's leave on full pay for each proclaimed public holiday (averaging about twelve days each year).

In addition to the above, engine-drivers, firemen, guards, assistant guards, signalmen, gangers, tramway drivers, firemen, gripmen, conductors and assistants, gangers and railway shunters are allowed six, and shunters in the tramways three good-conduct holidays.

Expenses, averaging 3s. per day, are also allowed to drivers, firemen, guards, and all others, when away from their home station.

Lodging-houses, with attendants, are also provided at all the principal depôts for drivers, firemen, and guards, free of charge.

Station-masters and officers-in-charge are allowed free houses.

Salaried staff are allowed three weeks' holiday per annum on full pay.

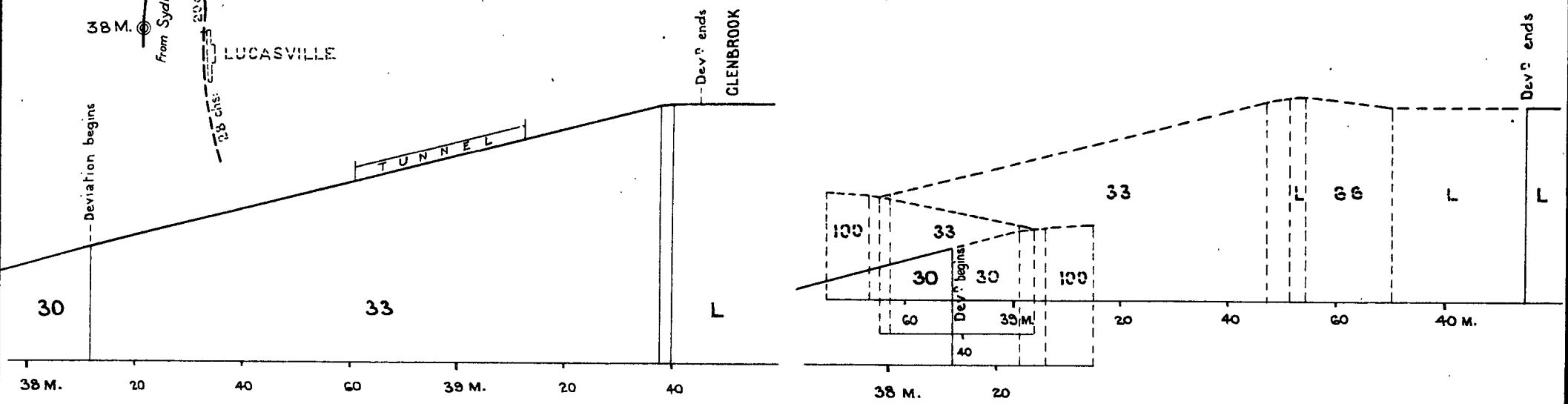
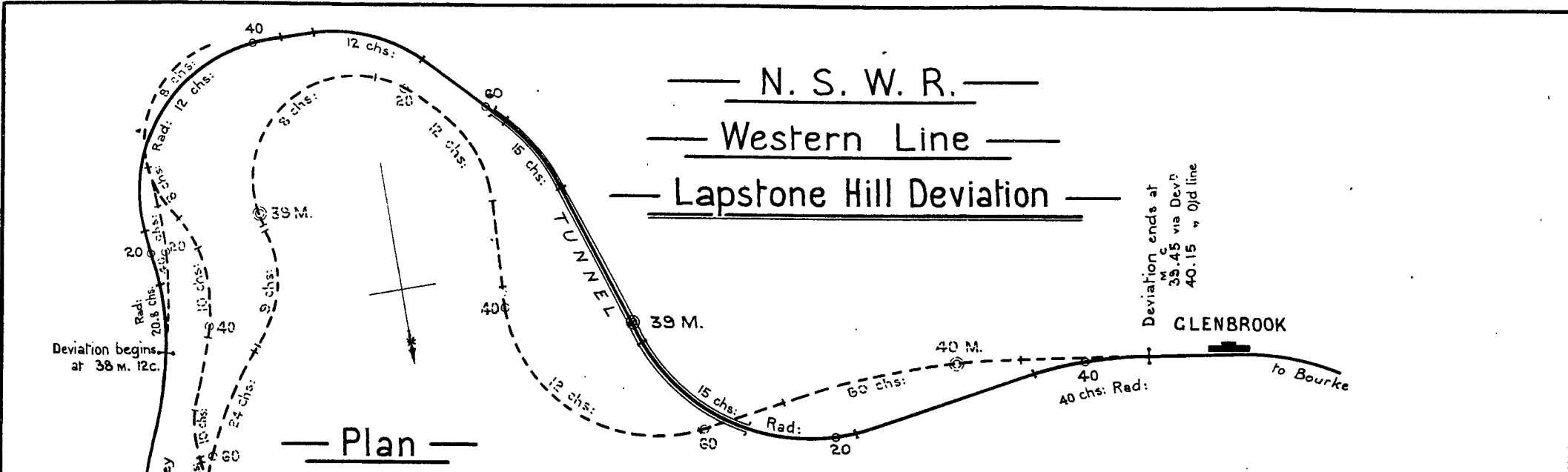
Free passes, "Station to Station," are also allowed, when on leave, to each member of the staff, including wife and family, not exceeding three persons.



— N. S. W. R. —

— Western Line —

— Lapstone Hill Deviation —



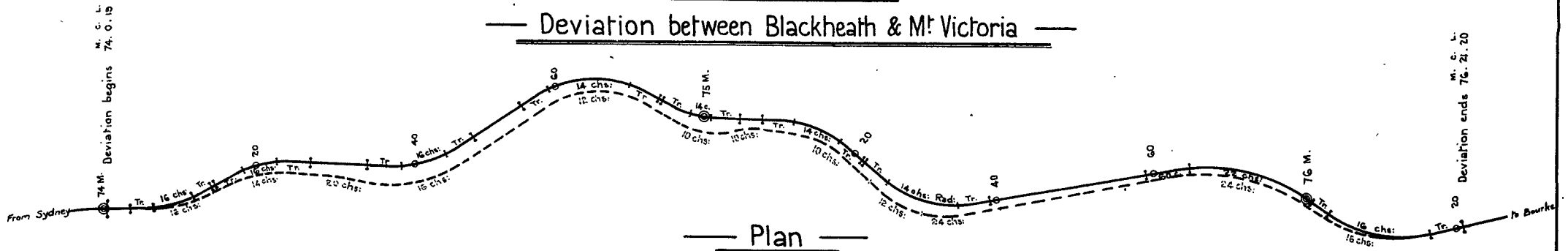
— Plan —

— on Deviation —

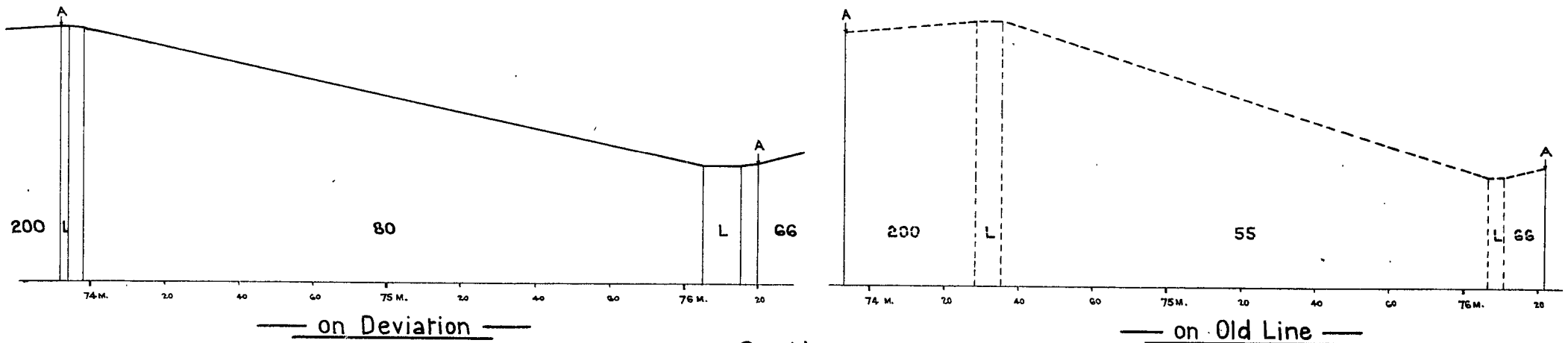
— Section —

— on Old Line —

——— N. S. W. R. ———  
 ——— Western Line ———  
 ——— Deviation between Blackheath & Mt Victoria ———



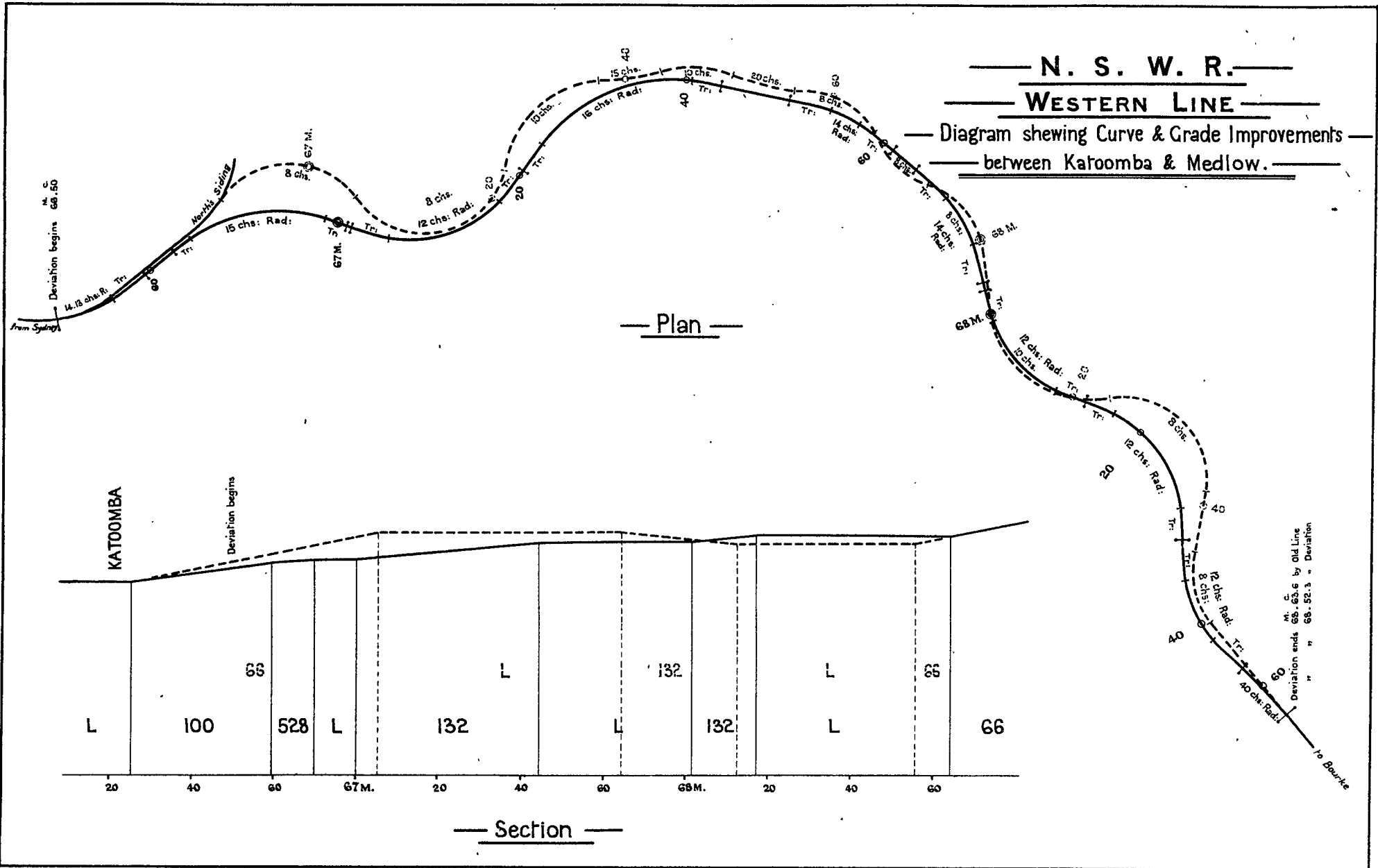
— Plan —



— on Deviation —

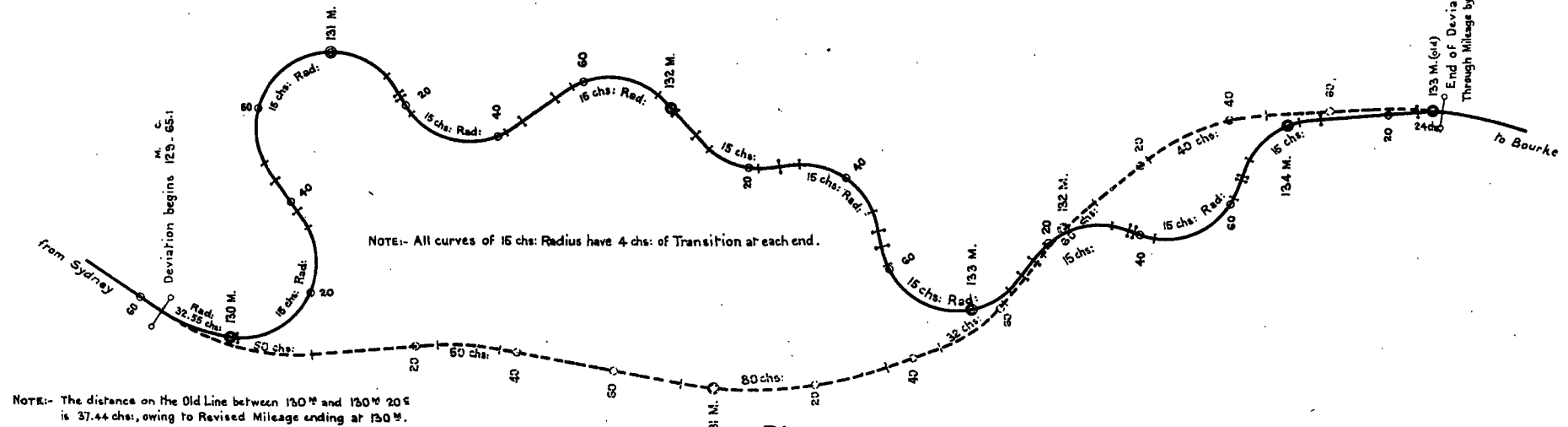
— Section —

— on Old Line —

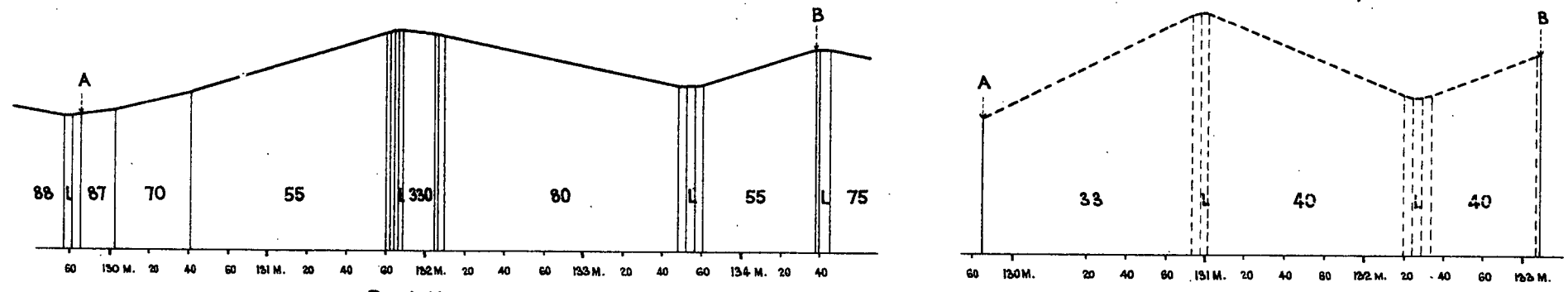




— N. S. W. R. —  
— Western Line —  
— Locksley Deviation. —



— Plan —



— on Deviation —

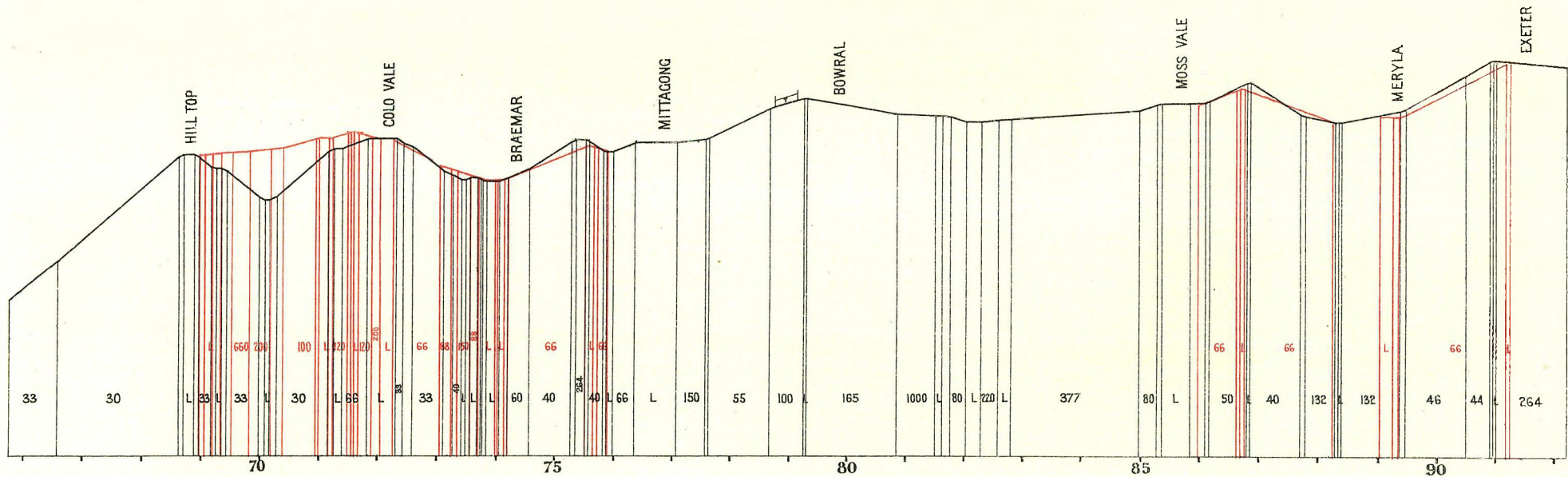
— Section —

— on Old Line —

# SOUTHERN LINE.

Diagram shewing Alterations of Grades between Hill Top and Exeter.

THE RULING GRADE WAS ORIGINALLY 1 IN 33, IT IS NOW 1 IN 66, THEREBY PERMITTING THE TRAIN LOADS  
BEING INCREASED BY 100 PER CENT. OVER A DISTANCE OF 22 MILES.



# SOUTHERN LINE.

Diagram shewing Alterations of Grades between Wingello and Cullerin.

THE RULING GRADE WAS ORIGINALLY 1 IN 40, IT IS NOW 1 IN 66, THEREBY PERMITTING THE TRAIN LOADS  
BEING INCREASED BY 65 PER CENT. OVER A DISTANCE OF 49 MILES.

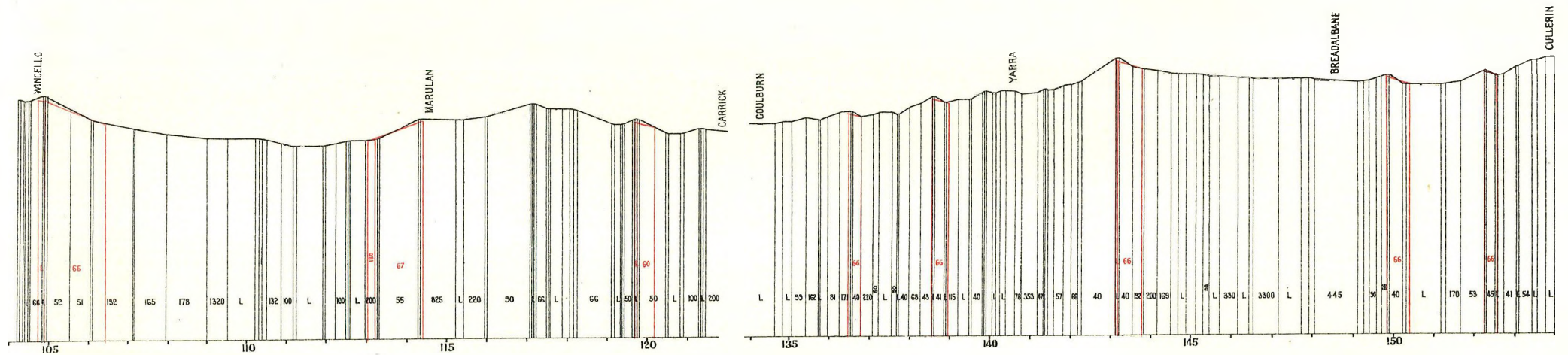


Photo-lithographed by  
W. A. Gullick, Government Printer,  
Sydney, N.S.W.

# SOUTHERN LINE.

Diagram shewing Alterations of Grades between Jindalee Siding and Illabo.

THE RULING GRADE WAS ORIGINALLY 1 IN 40, IT IS NOW 1 IN 75, THEREBY PERMITTING THE TRAIN LOADS  
BEING INCREASED BY 87½ PER CENT. OVER A DISTANCE OF 23 MILES.

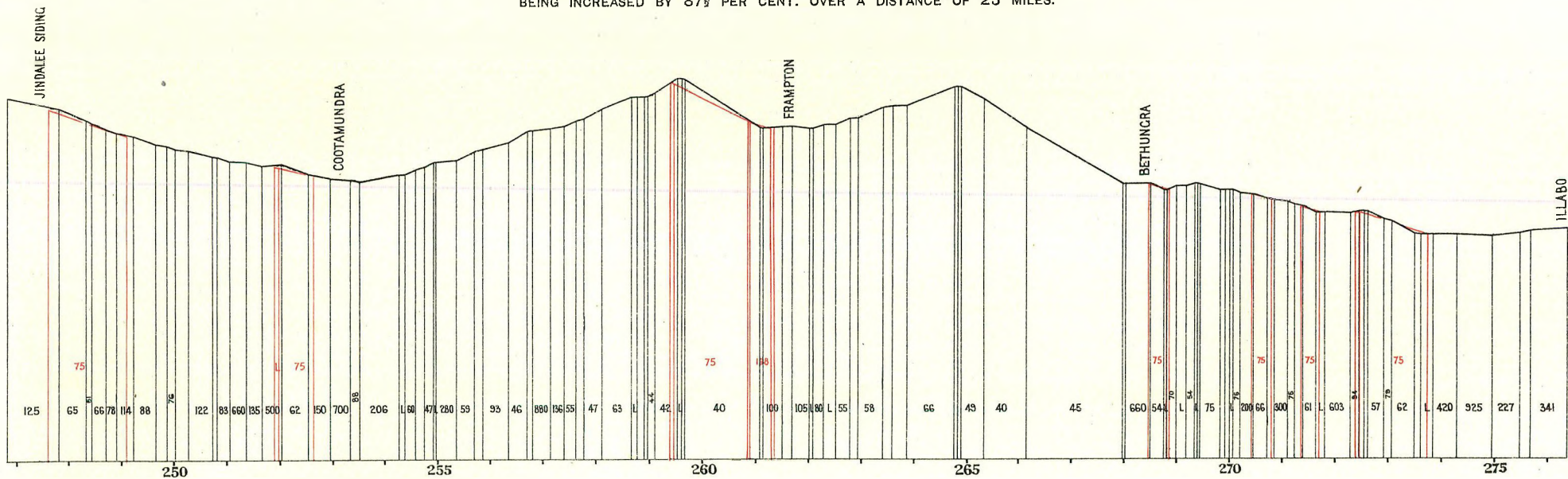


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Sydney, N.S.W.

# ———— WESTERN LINE. ————

Diagram shewing Alterations of Grades between Lawson and Bowenfels.

THE RULING GRADE WAS ORIGINALLY 1 IN 33, IT IS NOW 1 IN 70, THEREBY PERMITTING THE TRAIN LOADS  
BEING INCREASED BY 112 PER CENT. OVER A DISTANCE OF 27 MILES.

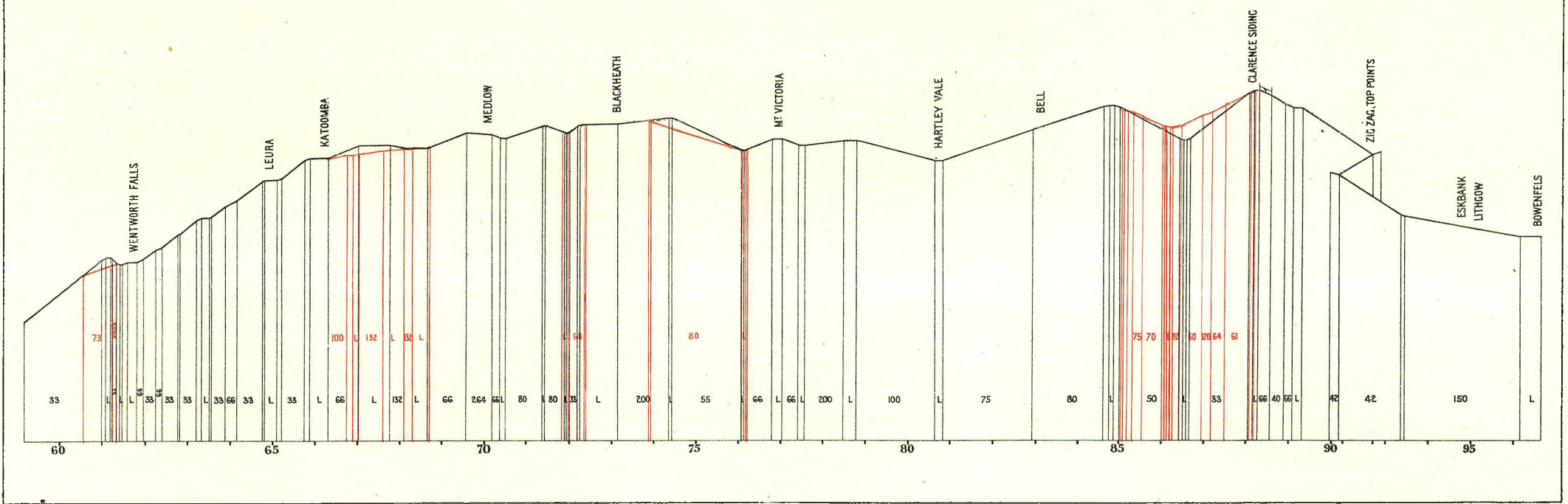


Photo-lithographed by  
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Sydney, N.S.W.

# WESTERN LINE.

Diagram shewing Alterations of Grades between Blayney and Mullion Creek.

THE RULING GRADE WAS ORIGINALLY 1 IN 40, IT IS NOW 1 IN 70, THEREBY PERMITTING THE TRAIN LOADS  
BEING INCREASED BY 75 PER CENT. OVER A DISTANCE OF 31 MILES.

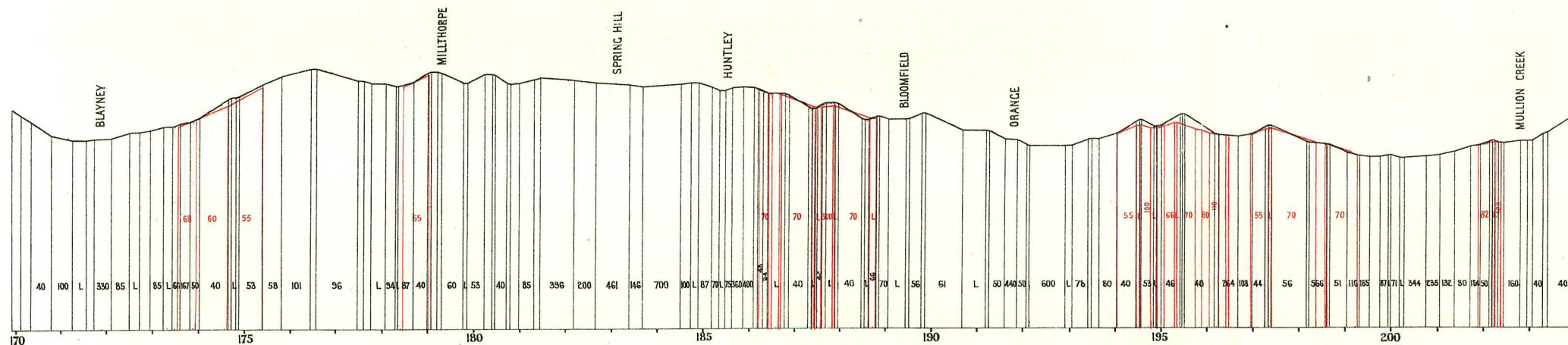
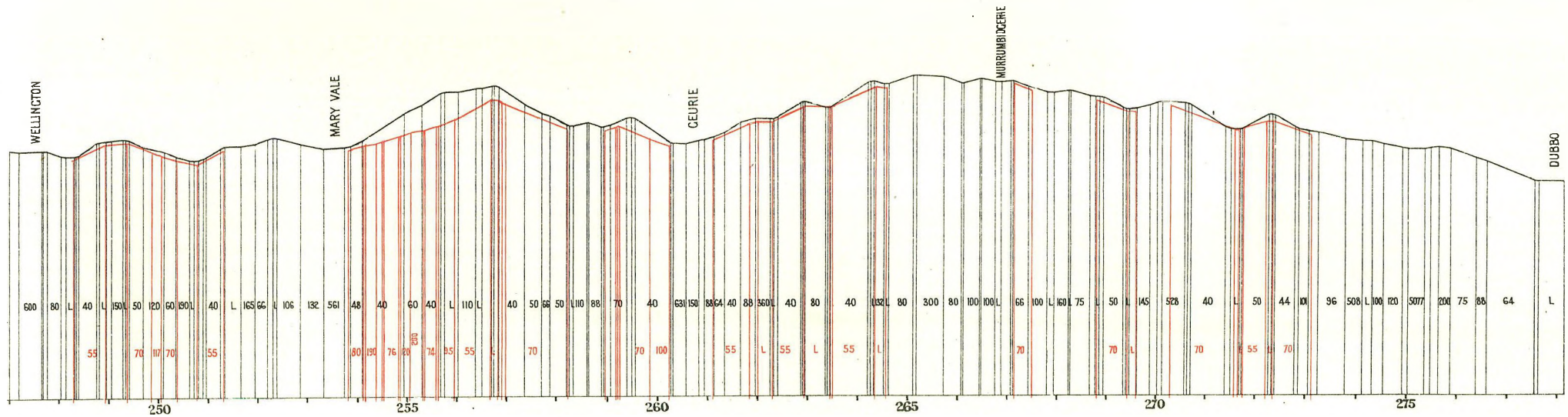


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Sydney, N.S.W.

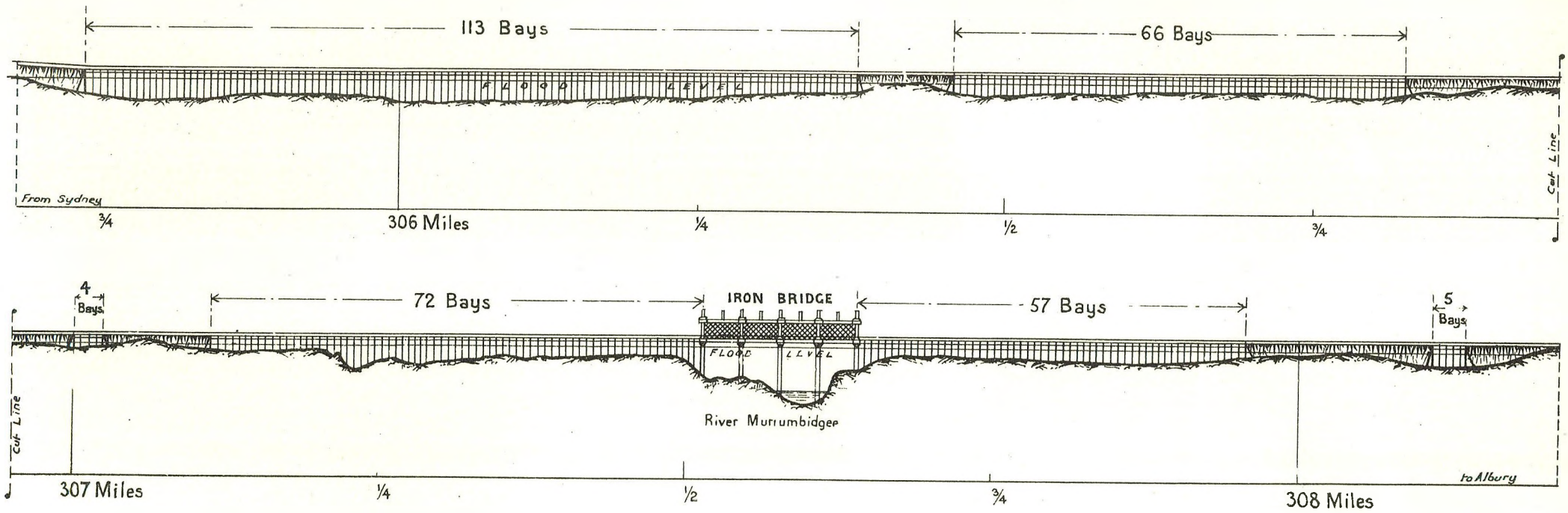
# WESTERN LINE.

Diagram shewing Alterations of Grades between Wellington and Dubbo.

THE RULING GRADE WAS ORIGINALLY 1 IN 40, IT IS NOW 1 IN 70, THEREBY PERMITTING THE TRAIN LOADS BEING INCREASED BY 75 PER CENT. OVER A DISTANCE OF 30 MILES.



— N.S.W.R. —  
— Diagram of Timber Viaducts at Wagga Wagga —  
— Replaced by Steel and Concrete —



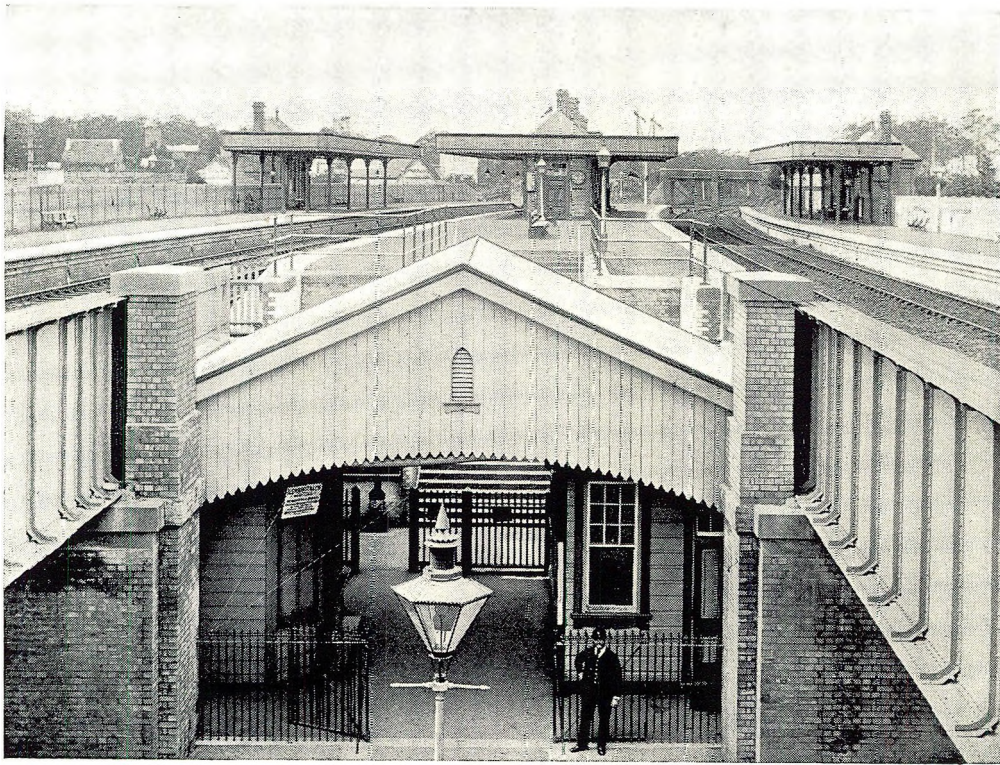
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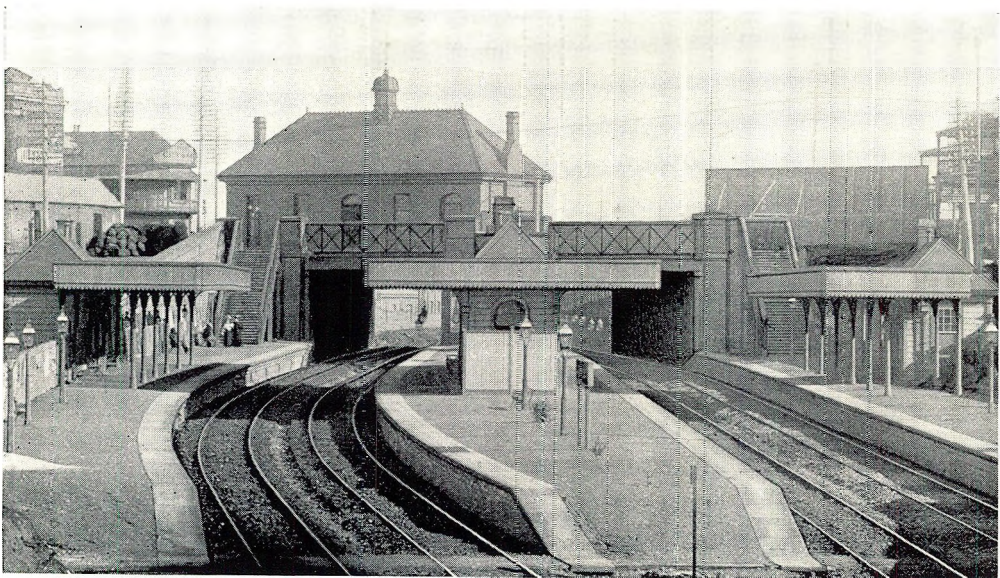
STATIONS ON THE MAIN SUBURBAN LINE.



GENERAL VIEW.



LOW LEVEL BOOKING OFFICE AND SUBWAY COMMUNICATING WITH PLATFORM.



OVERHEAD BOOKING OFFICE AND FOOTBRIDGE COMMUNICATING WITH PLATFORMS.

BUILDINGS.



RAILWAY INSTITUTE, SYDNEY.



MAIN LINE STATION WITH REFRESHMENT ROOM.

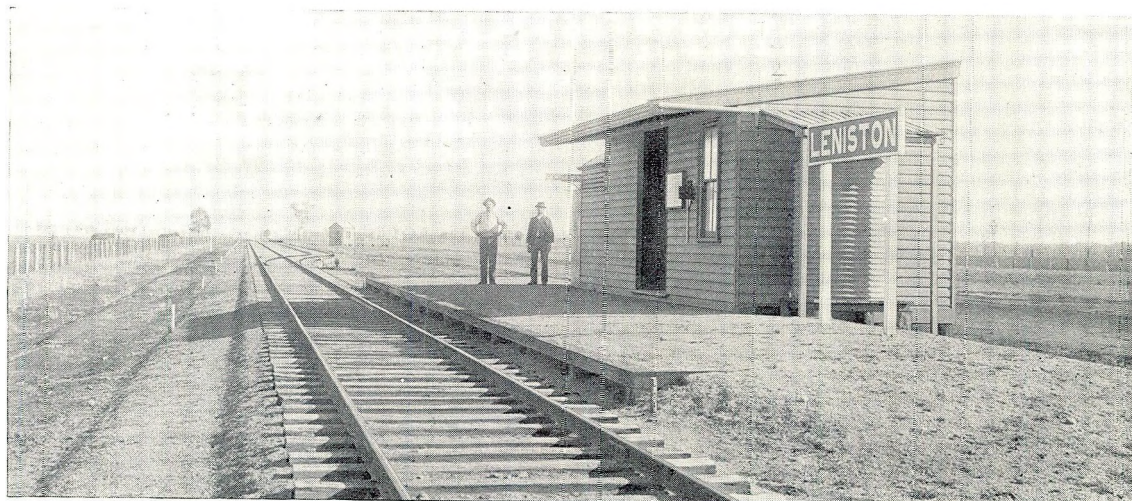


HOUSE FOR OFFICER-IN-CHARGE, COUNTRY STATION.

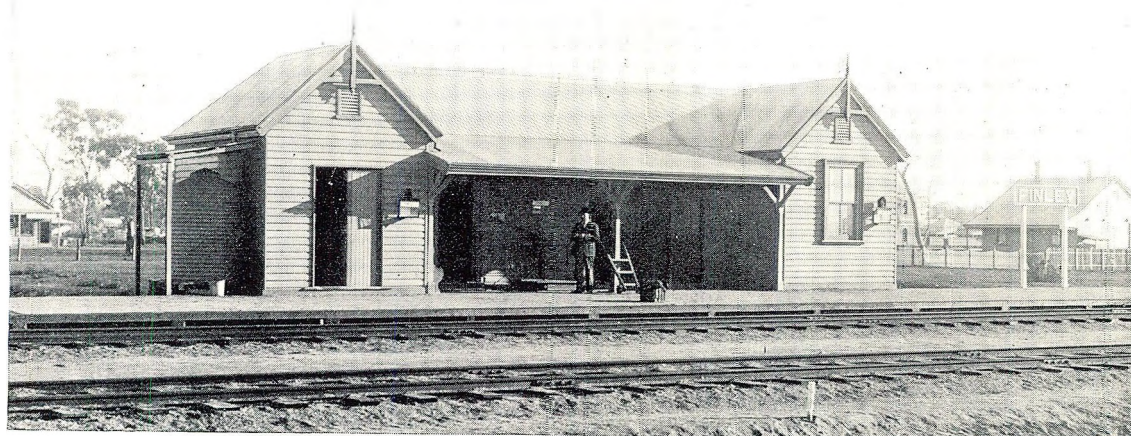
PIONEER LINE.



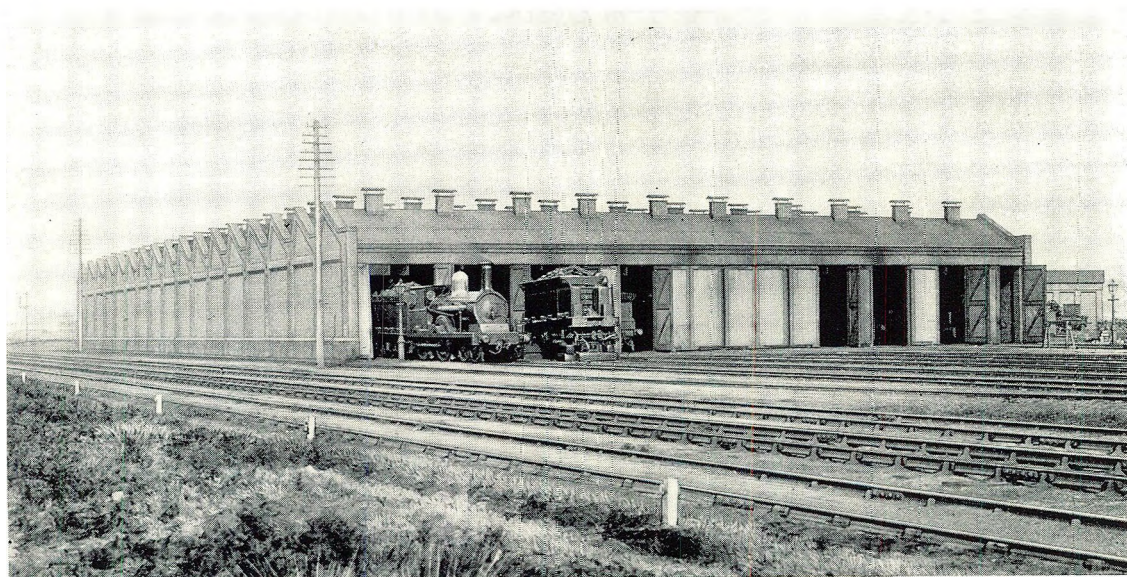
PERMANENT WAY.



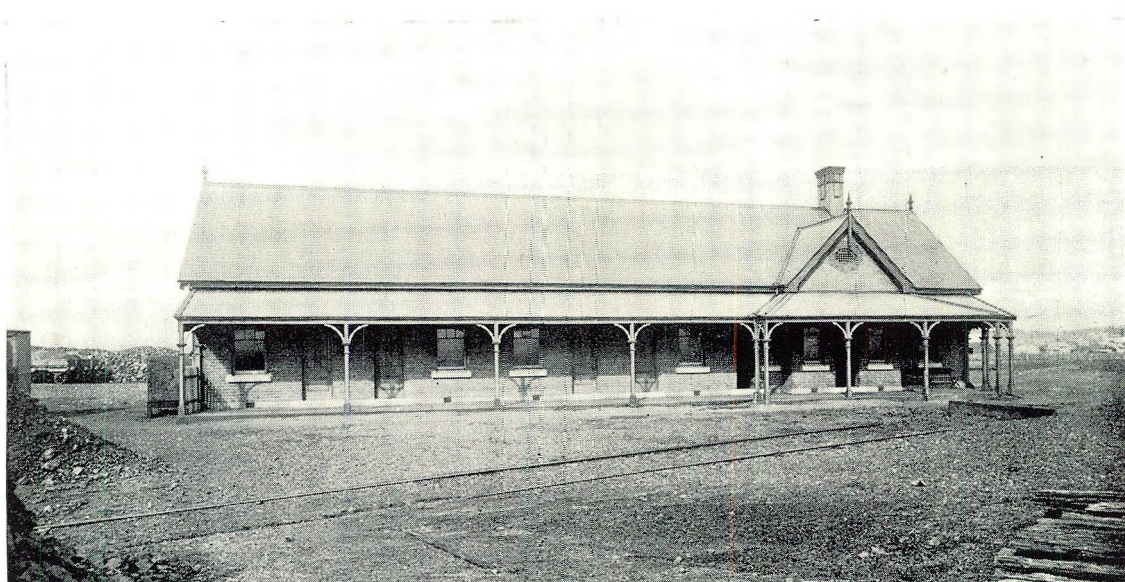
INTERMEDIATE STATION.



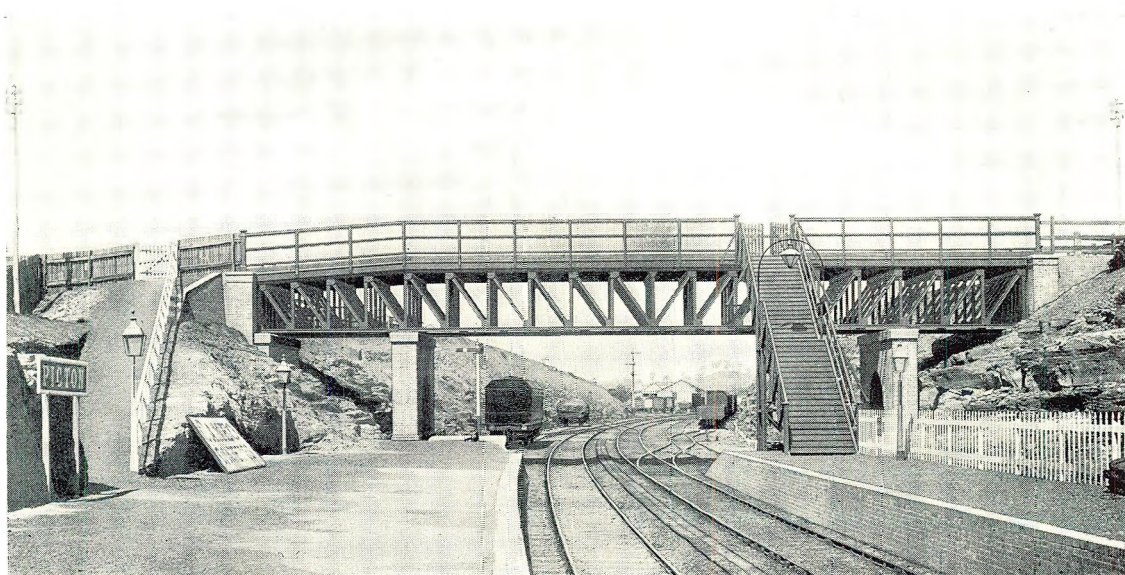
TERMINAL STATION.



ENGINE SHED, COUNTRY DEPÔT, 1ST CLASS.  
Accommodates 50 Engines.



LODGING HOUSE FOR ENGINEMEN FIREMEN AND GUARDS.



MAIN ROAD OVERBRIDGE.  
Superstructure, old rails; centre span 63' 0".

RENEWAL OF VIADUCT NEAR WAGGA WAGGA.

317 Spans of 29' 6" each.



NEW STEEL VIADUCT.



OLD WOODEN VIADUCT.

BRIDGES ON GRADE ALTERATIONS, MAIN NORTHERN LINE.

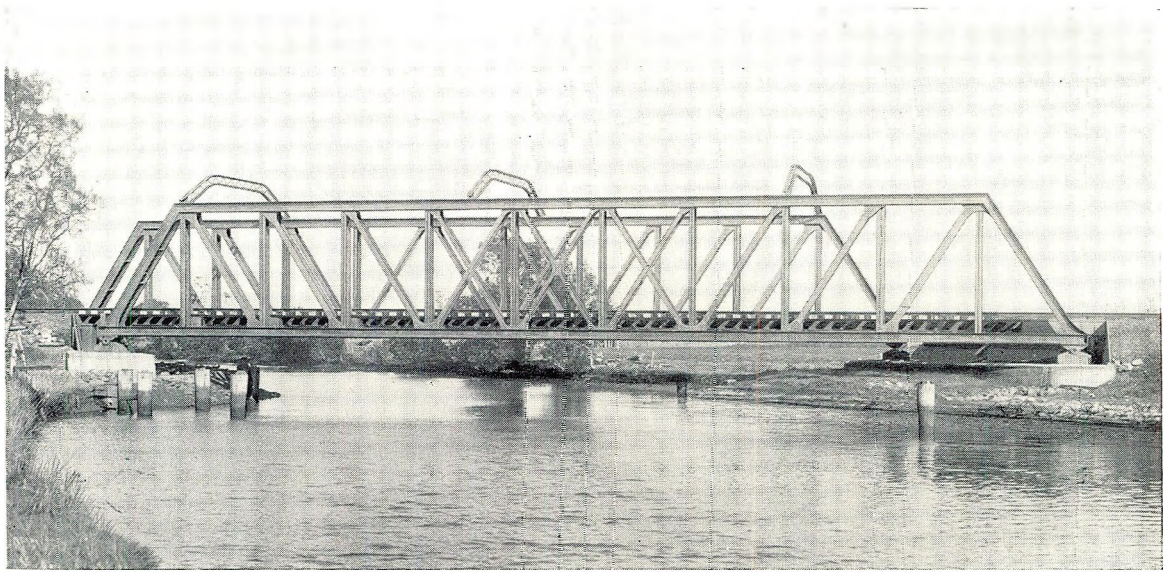


MAIN ROAD OVER BRIDGE. (MONIER ARCH.)



STEEL BRIDGE OVER SALTWATER CREEK.  
(Old timber bridge at back.)

RENEWAL OF BRIDGES ON NORTHERN LINE.



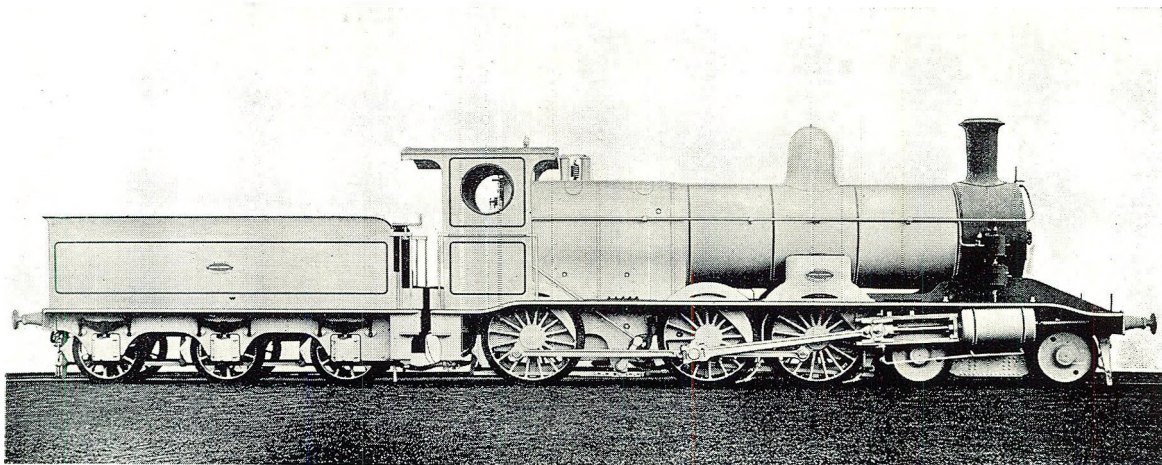
NEW STEEL BRIDGE OVER IRONBARK CREEK.  
Span 112'.



OLD TIMBER BRIDGE OVER IRONBARK CREEK.

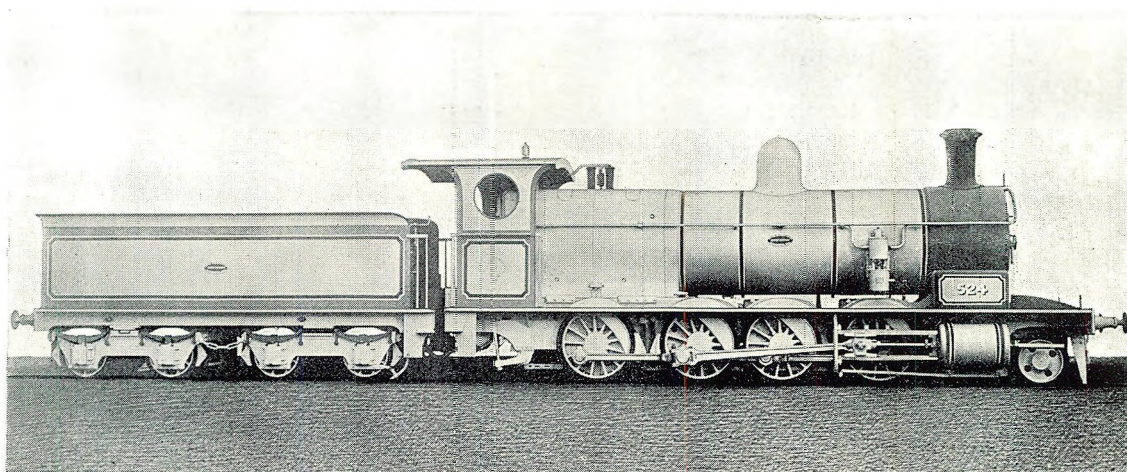


NEW STEEL BRIDGE OVER STYX CREEK.  
Span 72' 10".



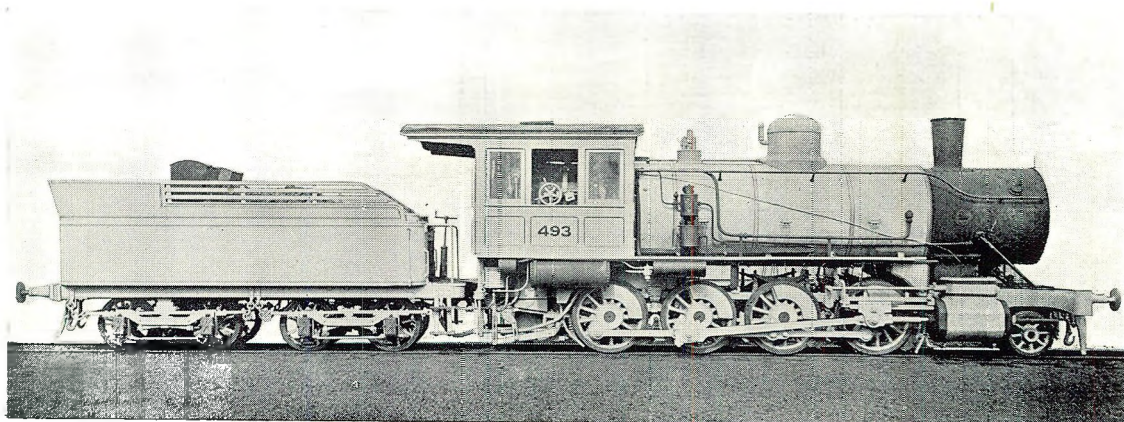
EXPRESS AND MAIL TRAIN ENGINE. CLASS P.  
PRINCIPAL DETAILS.

		ft. in.	Weight in working order :—		t. c. q.
Diameter of bogie-wheels	.. .. .	3 3	Bogie (4 wheels)	.. .. .	14 13 2
Diameter of coupled wheels	.. .. .	5 0	Leading wheels (coupled)	.. .. .	14 10 3
Cylinders 20 inches diameter by 26 inches stroke.			Driving	.. .. .	14 13 0
Heating surface : Tubes	.. .. .	1,786 square feet.	Trailing	.. .. .	12 13 2
Firebox	.. .. .	130			
			Total	.. .. .	56 10 3
Total ..	1,916	..	Tender	.. .. .	31 16 1
Total grate area	.. .. .	27			
Boiler pressure, 160 lb. per square inch.			Total engine and tender	.. .. .	88 7 0
			Capacity of tank, 3,030 gallons.		
			Coal-space, 4½ tons.		



GOODS ENGINE. CLASS T.  
PRINCIPAL DETAILS.

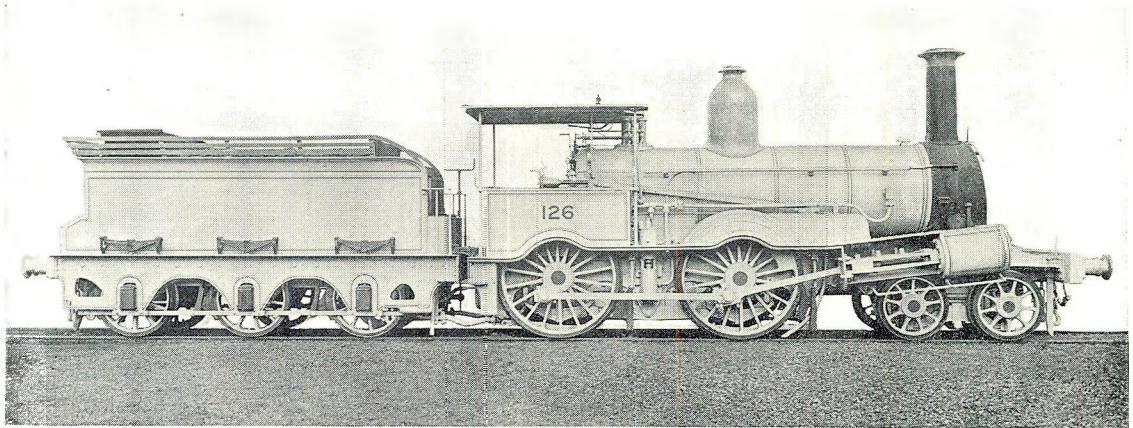
		ft. in.	Weight in working order :—		t. c. q.
Diameter of bogie-wheels	.. .. .	2 9½	Bogie (2 wheels)	.. .. .	6 6 0
Diameter of coupled wheels	.. .. .	4 3	Leading wheels (coupled)	.. .. .	14 2 0
Cylinders, 21 inches diameter by 26 inches stroke.			Intermediate wheels (coupled)	.. .. .	15 10 0
Heating surface : Tubes	.. .. .	2,032 square feet.	Driving	.. .. .	15 9 0
Firebox	.. .. .	166	Trailing	.. .. .	14 8 0
			Total	.. .. .	65 15 0
Total ..	2,198	..	Tender	.. .. .	41 10 0
Total grate area	.. .. .	29½			
Boiler pressure, 160 lb. per square inch.			Total engine and tender	.. .. .	107 5 0
			Water capacity, 3,650 gallons.		
			Coal	.. .. .	6 tons.



GOODS ENGINE. CLASS J.  
PRINCIPAL DETAILS.

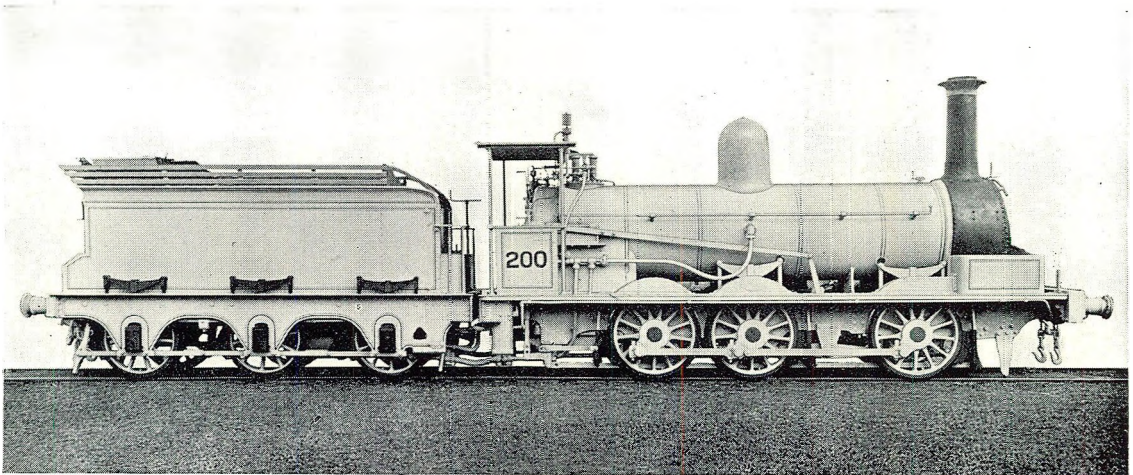
		ft. in.	Weight in working order :—		t. c. q.
Diameter of bogie-wheels	.. .. .	2 3	Bogie (2 wheels)	.. .. .	5 16 3
Diameter of coupled wheels	.. .. .	4 3	Leading wheels (coupled)	.. .. .	13 17 3
Cylinders 21 inches diameter by 26 inches stroke.			Intermediate wheels (coupled)	.. .. .	13 14 0
Heating surface : Tubes	.. .. .	1,809 square feet.	Driving	.. .. .	15 9 0
Firebox	.. .. .	158	Trailing	.. .. .	13 15 0
			Total	.. .. .	62 12 2
Total ..	1,907	..	Tender	.. .. .	37 8 0
Total grate area	.. .. .	32			
Boiler pressure, 160 lb. per square inch.			Total engine and tender	.. .. .	100 0 2
			Water capacity, 3,650 gallons.		
			Coal	.. .. .	6 tons.





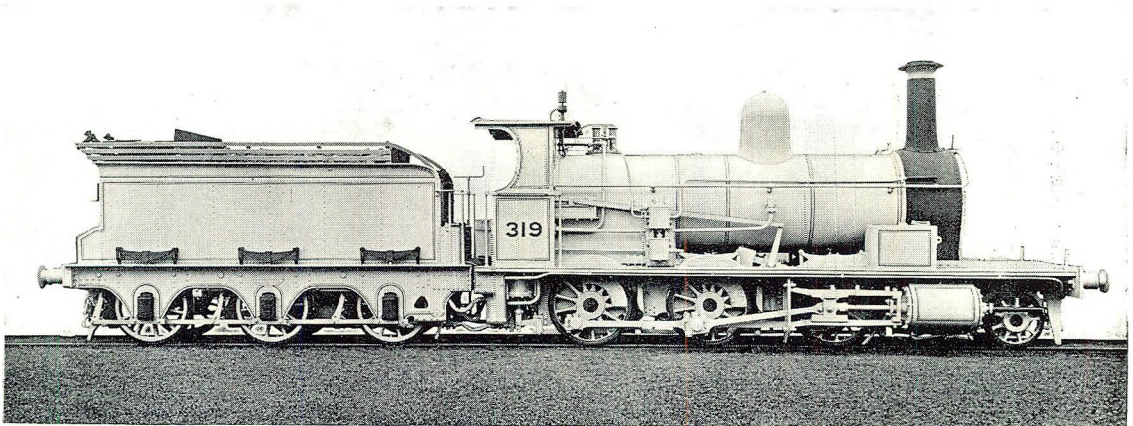
PASSENGER ENGINE, CLASS C.

PRINCIPAL DETAILS.		Weight in working order—	
Diameter of bogie-wheels ... ..	ft. in. 3 0 $\frac{1}{2}$	Bogie (4-wheels) ... ..	t. c. q. 13 14 0
„ coupled wheels ... ..	5 6 $\frac{1}{2}$	Driving wheels (coupled) ... ..	12 13 0
Cylinders, 18 inches diameter by 24 inches stroke.		Trailing „ „ ... ..	12 14 0
Heating surface: Tubes ... ..	987 square ft.	Total ... ..	39 1 0
Firebox ... ..	87 „	Tender ... ..	21 18 3
Total ... ..	1,074 „	Total engine and tender ... ..	60 19 3
Total grate area ... ..	1475 „	Water capacity ... ..	1,800 gallons.
Boiler pressure, 140 lb. per square inch.		Coal „ „ ... ..	t. c. q. 4 10 2



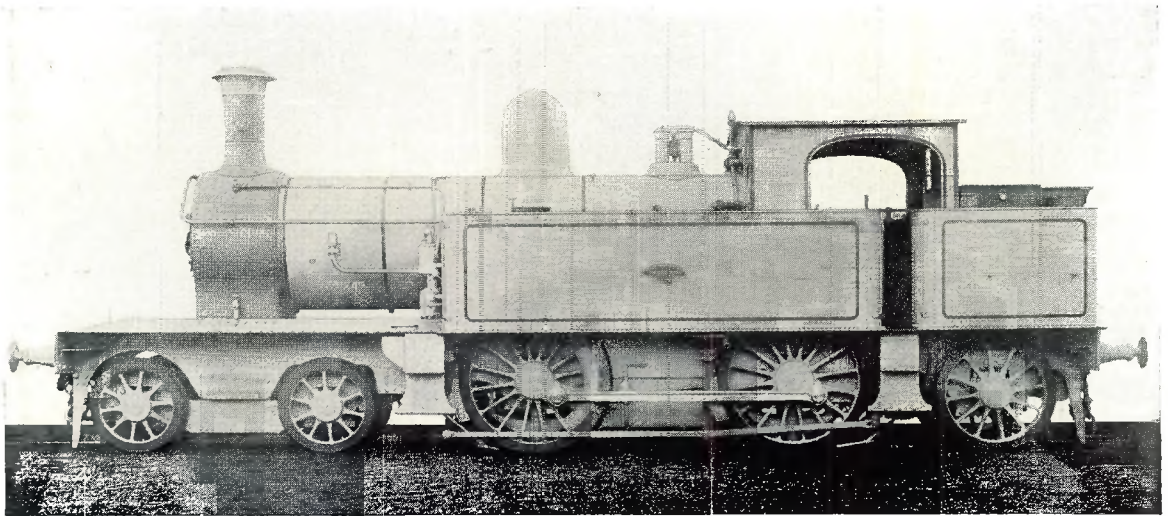
GOODS ENGINE, CLASS A.

PRINCIPAL DETAILS.		Weight in working order—	
Diameter of coupled wheels .. .. .	ft. in. 4 0	Leading wheels (coupled) ... ..	t. c. q. 9 19 2
Cylinders, 18 inches diameter by 24 inches stroke.		Driving „ „ ... ..	12 0 0
Heating surface: Tubes ... ..	1,198.68 square ft.	Trailing „ „ ... ..	11 16 2
Firebox ... ..	81 „	Total ... ..	33 16 0
Total ... ..	1,279.68 „	Tender ... ..	22 11 0
Total grate area ... ..	13.63 „	Total engine and tender ... ..	56 7 0
Boiler pressure, 140 lb. per square inch.		Water capacity, 2,000 gallons.	
		Coal „ „ ... ..	t. c. q. 4 10 0



GOODS ENGINE, CLASS B.

PRINCIPAL DETAILS.		Weight in working order—	
Diameter of bogie wheels ... .. .	ft. in. 2 9	Bogie (2 wheels) ... ..	t. c. q. 6 12 3
„ coupled wheels ... ..	4 0	Leading wheels (coupled) ... ..	12 2 2
Cylinders, 18 inches diameter by 26 inches stroke.		Driving wheels (coupled) ... ..	13 7 3
Heating surface: Tubes ... ..	1,050 square ft.	Trailing „ „ ... ..	10 16 2
Firebox ... ..	94 „	Total ... ..	42 19 2
Total ... ..	1,144 „	Tender ... ..	26 3 0
Total grate area ... ..	21 „	Total engine and tender ... ..	69 2 2
Boiler pressure, 140 lb. per square inch.		Water capacity, 2,000 gallons.	
		Coal „ „ ... ..	t. c. q. 4 10 0



SUBURBAN TANK ENGINE, CLASS IM.

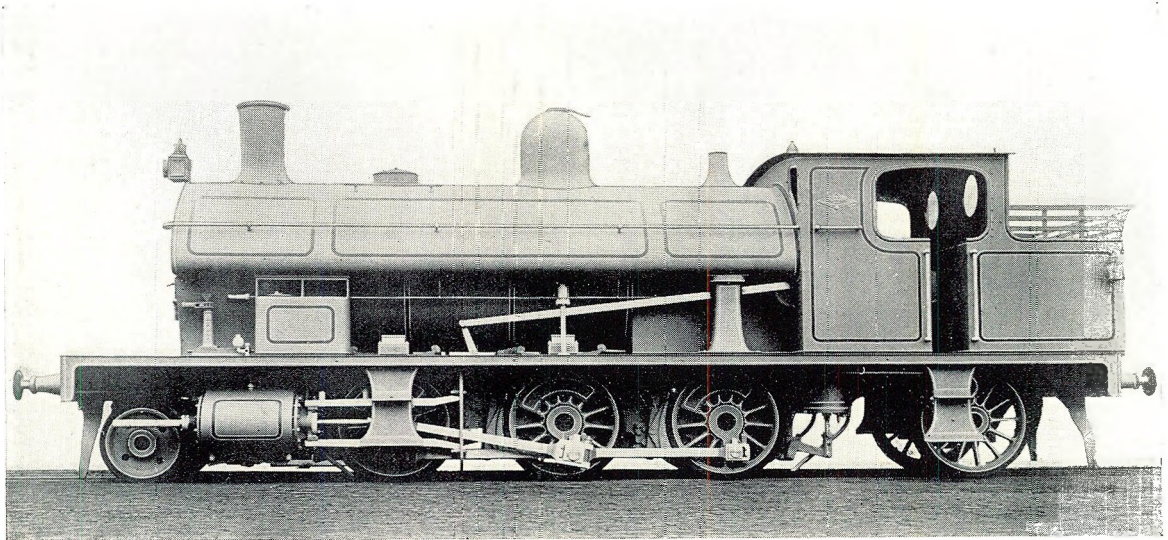
PRINCIPAL DETAILS

	ft.	in.
Diameter of bogie-wheels...	3	3
Diameter of coupled wheels ...	5	1
Diameter of trailing wheels ...	4	0½
Diameter of cylinder, 17 inches x 26 inches stroke		

Boiler pressure, 160 lb. per square inch  
Grate area, 18.75 square feet.

Coal capacity, 2 tons 5 cwt.  
Water capacity, 1,200 gallons.

	t.	c.	q.
Weight in working order—			
Bogie (4 wheels) ...	15	18	3
Driving wheels (coupled) ...	14	8	0
Trailing " " ...	14	6	0
Radial trailing axle " ...	11	16	2
Total ...	56	9	1
Heating surface: Tubes ...	1,108	square feet.	
Firebox ...	127	"	
Total ...	1,235	"	



SADDLE TANK ENGINE, CLASS I.

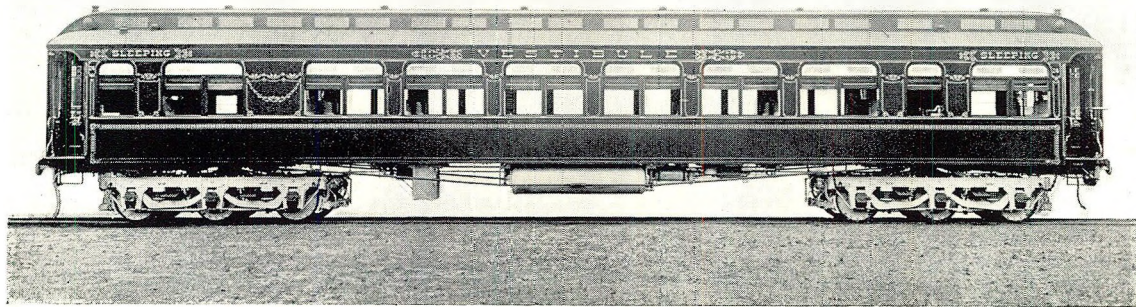
PRINCIPAL DETAILS.

	ft.	in.
Diameter of bogie-wheels...	2	9½
Diameter of coupled wheels ...	4	0½
Diameter of trailing wheels ...	4	0½
Cylinders 18 inches diameter by 26 inches stroke.		
Heating surface: Tubes ...	1,245	square feet.
Firebox ...	100	"
Total ...	1,345	"

Total grate area ... 21 "  
Boiler pressure, 160 lb. per square inch

	t.	c.	q.
Weight in working order—			
Bogie (2 wheels) ...	10	3	2
Leading wheels (coupled) ...	13	0	1
Driving " " ...	13	15	2
Trailing " " ...	14	8	0
Radial trailing axle " ...	14	11	0
Total ...	65	18	1

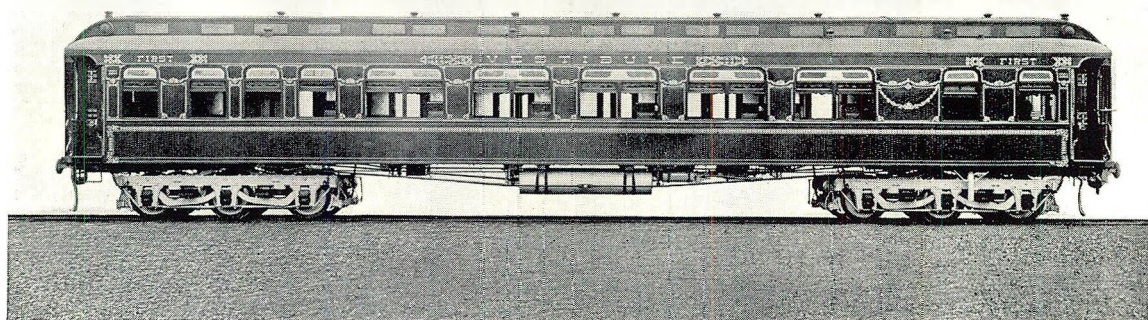
Water capacity, 1,600 gallons.  
Coal " 2½ tons.



PULLMAN VESTIBULE SLEEPING CAR.

	ft. in.
Length of body over panels ... ..	61 0
Length over platforms ... ..	67 11
Width over panels ... ..	9 4½
Height from floor to ceiling in centre of lantern roof ... ..	9 0¾
Tare ... ..	35 tons 10 cwt.

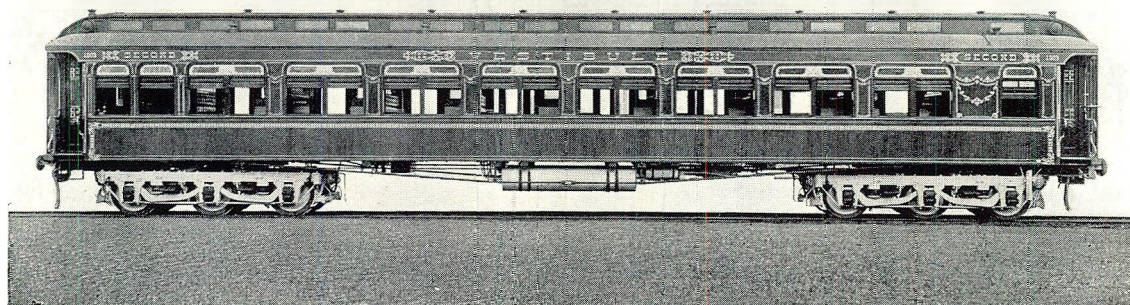
The interior is divided into a smoking-room, with lavatories, &c., a main sleeping compartment (in which there are twenty-four berths), and a ladies' saloon containing four berths. It accommodates during the night twenty-eight persons in all, and during the day has seating capacity for fifty-eight persons. Requisite lavatory accommodation and vestibules are provided at the ends. Through communication is made from one car to another.



FIRST-CLASS VESTIBULE CORRIDOR CAR.

	ft. in.
Length of body over panels ... ..	61 0
Length over buffers ... ..	67 11
Width over panels ... ..	9 4½
Height of body inside, from floor to ceiling, at centre ... ..	9 0¾
Capacity ... ..	45 persons.
Tare ... ..	36 tons 10 cwt.

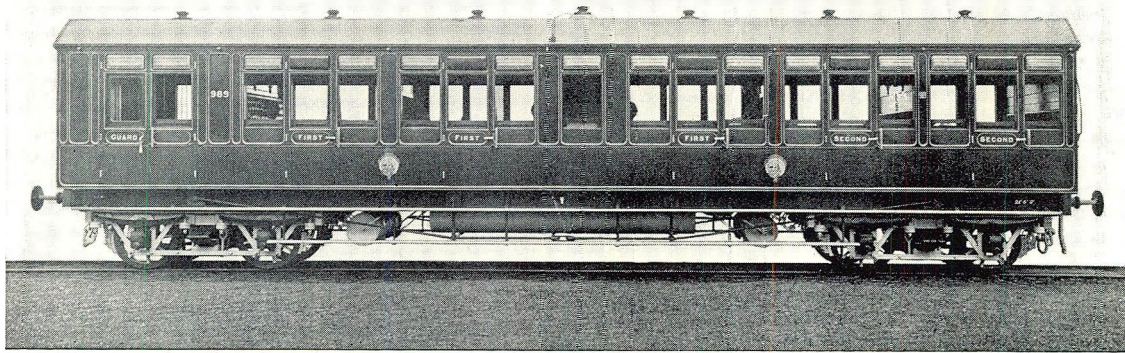
The interior is divided into seven passenger compartments, including a lady's saloon at one end and a smoker's compartment at the other. Seating accommodation is provided for nine in lady's saloon, twelve in smoker's, and six in each of the intermediate compartments. Requisite lavatory accommodation and vestibules are provided at the ends. Through communication is made from one car to another.



SECOND CLASS VESTIBULE CORRIDOR CAR.

	ft. in.
Length of body over panels ... ..	61 0
Length over buffers ... ..	67 11
Width over panels ... ..	9 4½
Height of body inside, from floor to ceiling, at centre ... ..	9 0¾
Capacity ... ..	64 persons.
Tare ... ..	35 tons 12 cwt.

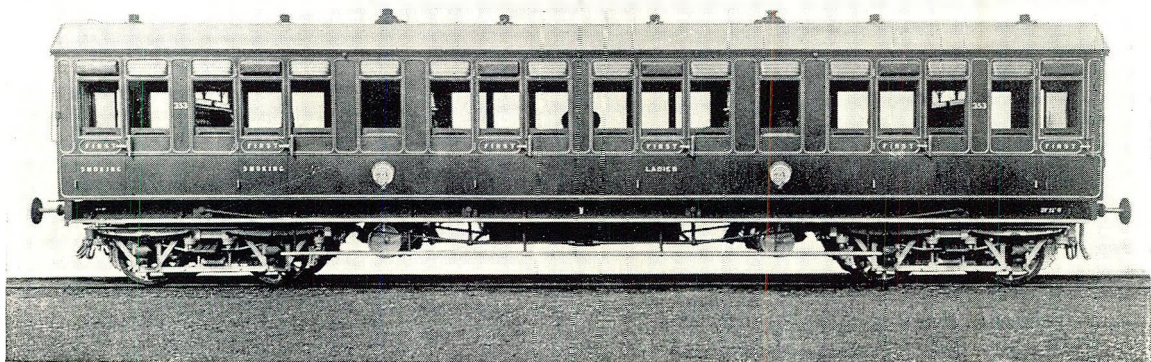
The interior is divided into eight passenger compartments, including lady's at one end and smoker's at the other, each of which will accommodate eight persons. Requisite lavatory accommodation and vestibules are provided at the ends. Through communication is made from one car to another.



COMPOSITE LAVATORY SLEEPING CARRIAGE.

	ft. m.
Length of body over panels ... ..	46 0
Length over buffers ... ..	49 3
Width over panels ... ..	8 6
Height of body inside, floor to ceiling, at centre ... ..	7 8½
Tare ... ..	21 tons 5 cwt.

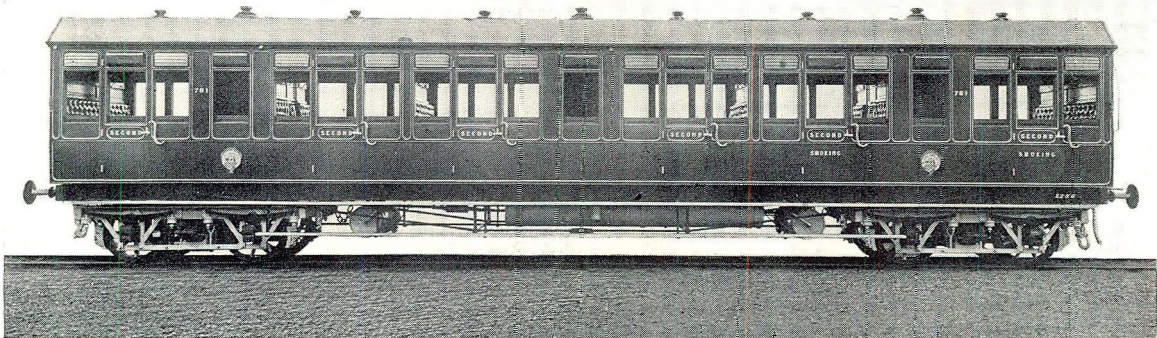
The interior is divided into three first-class compartments, two of which give sleeping and lavatory accommodation to six passengers; two second-class compartments, with seating accommodation for twenty passengers; and a baggage compartment.



FIRST-CLASS LAVATORY CARRIAGE.

	ft. in.
Length of body over panels ... ..	46 0
Length over buffers ... ..	49 3
Width over panels ... ..	8 6
Height of body inside, floor to ceiling, at centre ... ..	7 8½
Tare ... ..	21 tons 11 cwt.

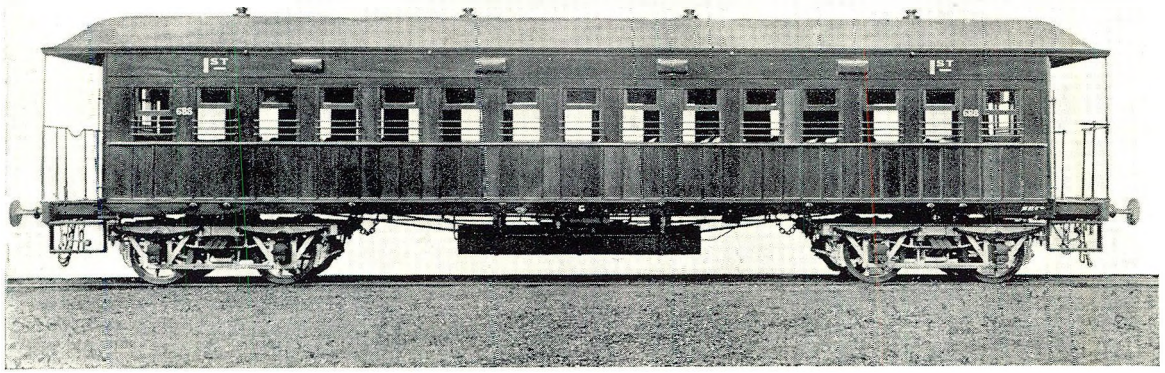
The interior is divided into four compartments, each with seating accommodation for eight passengers, and two end coupes, each with seating accommodation for four passengers, giving a total seating capacity of forty passengers. Lavatory accommodation is provided in the four centre compartments.



SECOND-CLASS LAVATORY CARRIAGE.

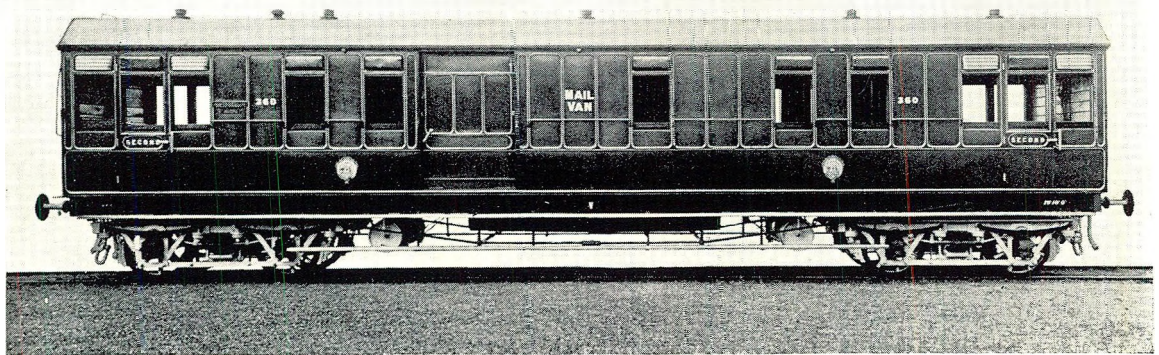
	ft. m.
Length of body over panels ... ..	49 3
Length over buffers ... ..	52 6
Width over panels ... ..	8 6
Height of body inside, floor to ceiling at centre ... ..	7 8½
Tare ... ..	22 tons 10 cwt.

The interior is divided into six compartments, giving seating accommodation for sixty passengers. Lavatory accommodation is provided in each compartment.



SUBURBAN CAR 1ST AND 2ND CLASS (DESIGNED 1889)—N.S.W. GOVT. RAILWAYS.

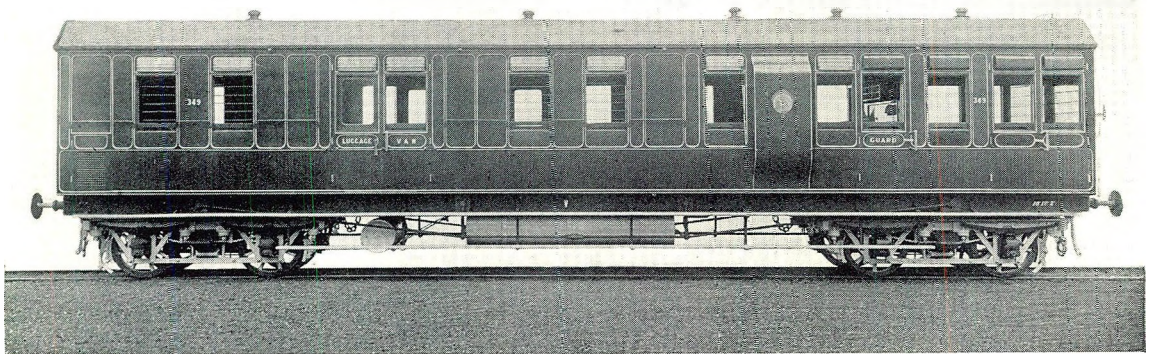
	ft. in.
Length of body ... ..	44 1
Length over platforms ... ..	49 7
"    " buffers ... ..	51 1
Width (outside) ... ..	8 11
Height, floor to centre of ceiling ... ..	8 5½
Capacity ... ..	60 passengers.
Tare ... ..	19 tons 12 cwt.



MAIL VAN.

	ft. in.
Length of body over panels ... ..	46 0
Length over buffers ... ..	49 3
Width over panels ... ..	8 6
Height of body inside, floor to ceiling, at centre ... ..	7 8½
Tare ... ..	19 tons 19 cwt.

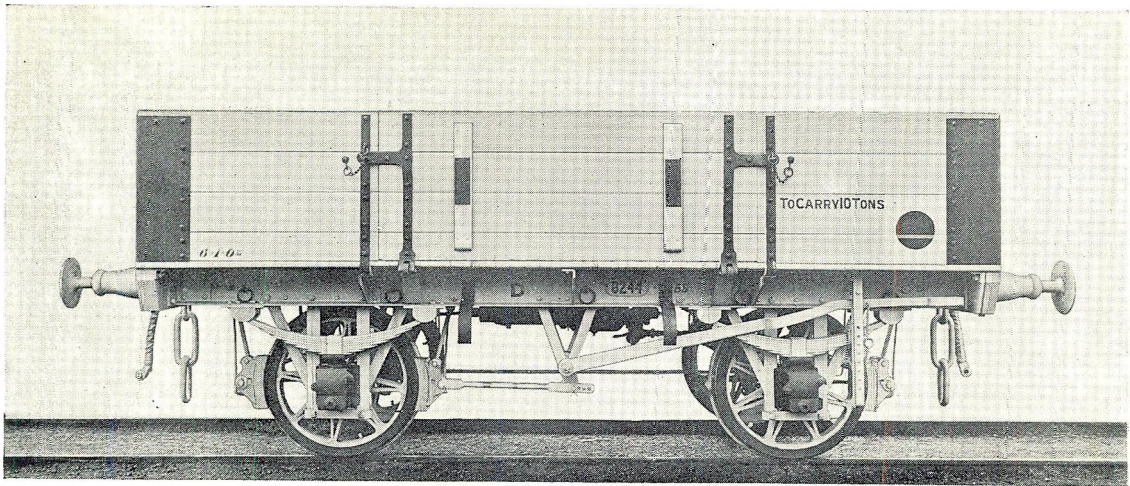
The interior is divided into three compartments—the centre compartment for carrying 7 tons of mails or baggage, a passenger compartment with seating accommodation for ten second-class at one end, and one for carrying bicycles at the other end.



EXPRESS BRAKE-VAN.

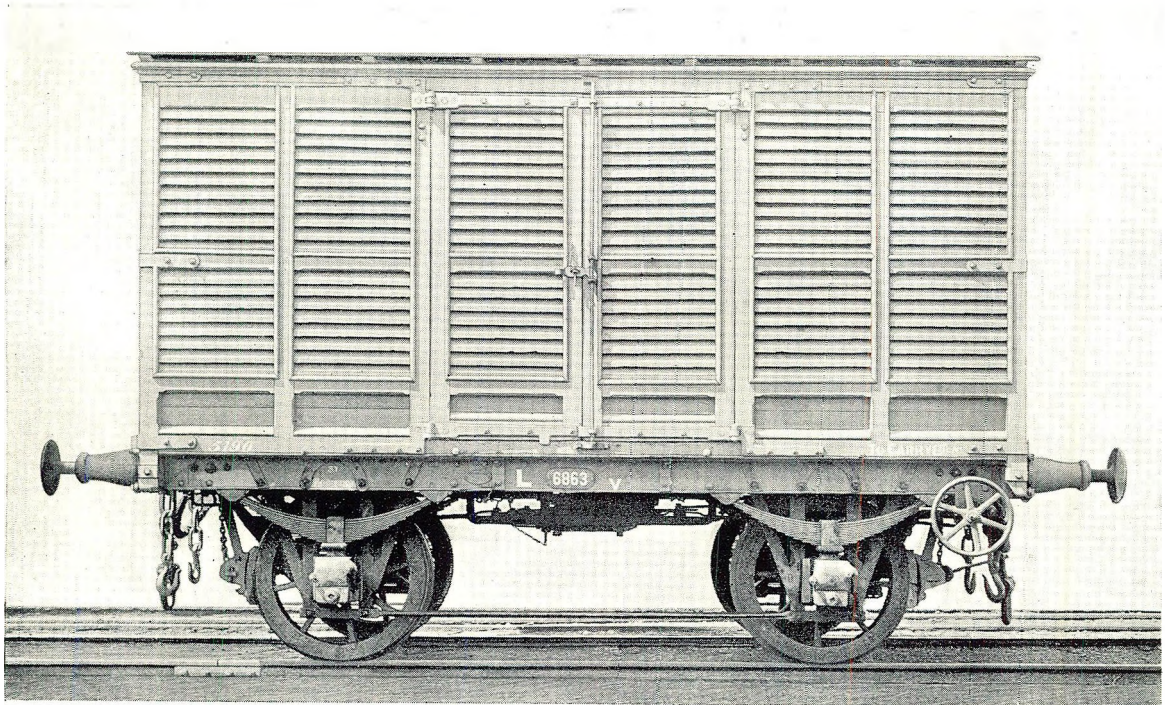
	ft. in.
Length of body over panels ... ..	46 0
Length over buffers ... ..	49 3
Width over panels ... ..	8 6
Height of body inside, floor to ceiling, at centre ... ..	7 8½
Tare ... ..	18 tons 12 cwt.

The van is divided into two compartments—the one for 8 tons of baggage or mails, the other to carry 1½ ton.



ORDINARY GOODS WAGON.

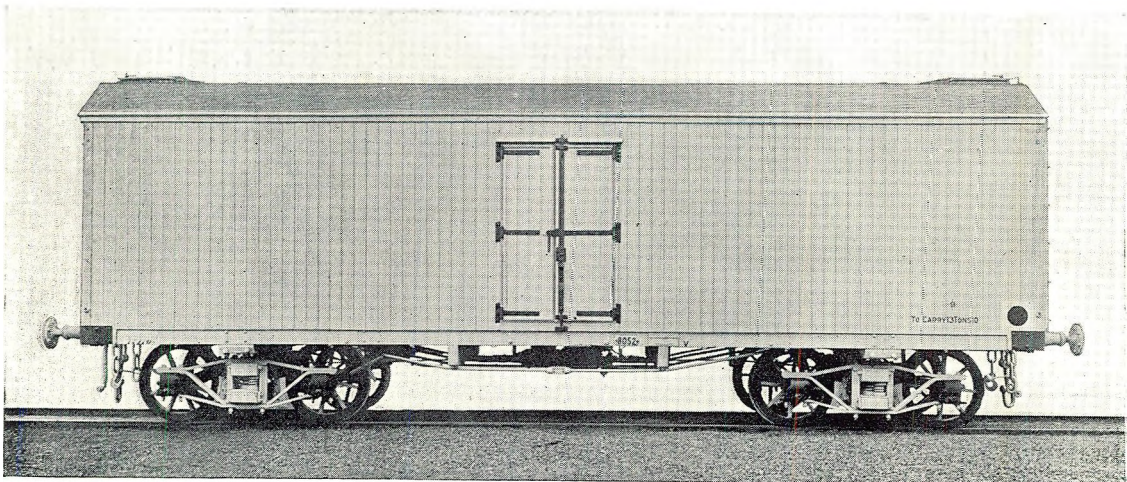
	ft.	in.
Length of body outside	16	0
Length over buffers	19	8
Width outside	8	8 $\frac{1}{2}$
Height of body inside	2	9 $\frac{1}{2}$
Carrying capacity	10	tons.
Tare	6	tons 10 cwt.



LOUVRED VAN.

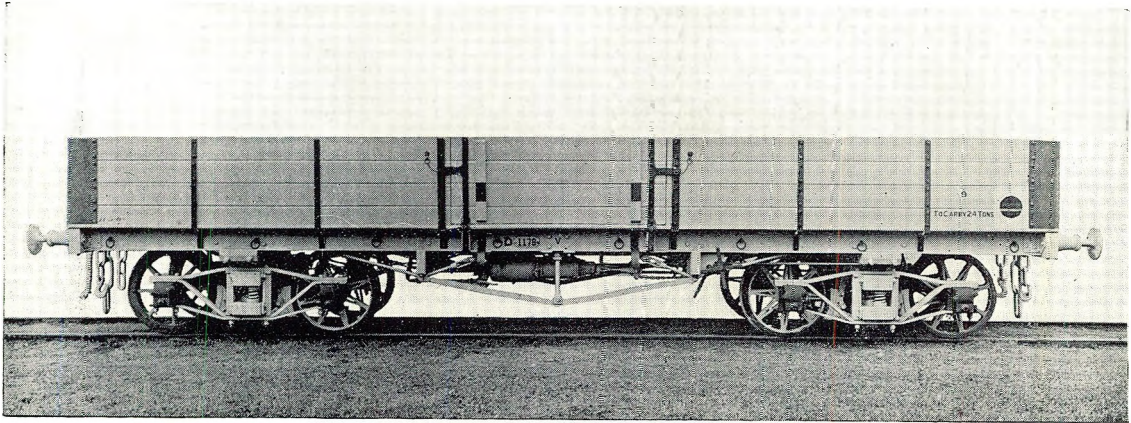
(Used for the carriage of perishable goods, butter, and meat.)

	ft.	in.
Length of body outside	15	0
Length over buffers	18	8
Width outside	8	6
Height from floor to roof	7	0
Carrying capacity	10	tons.
Tare	6	tons 11 cwt.



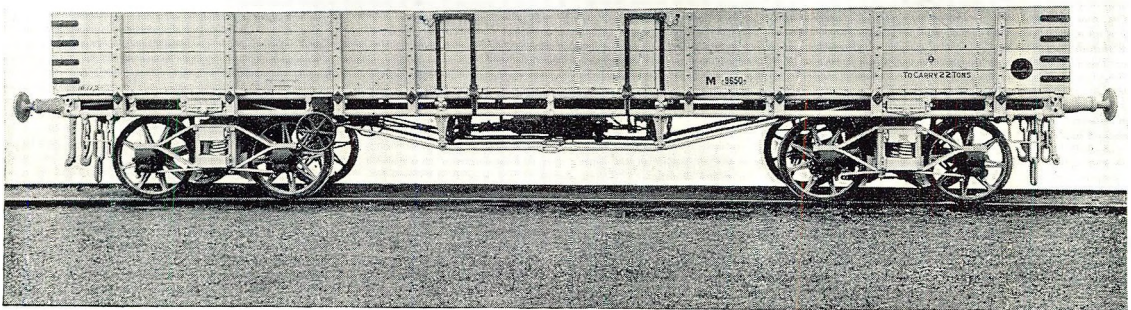
REFRIGERATOR CAR.

	ft.	in.
Length of body outside	34	2
Length over buffers	37	8
Width outside	9	0
Height, floor to ceiling	8	7 $\frac{1}{2}$
Tare	17	tons 13 cwt.
Capacity	{ 540 chilled sheep, or { 675 frozen sheep.	



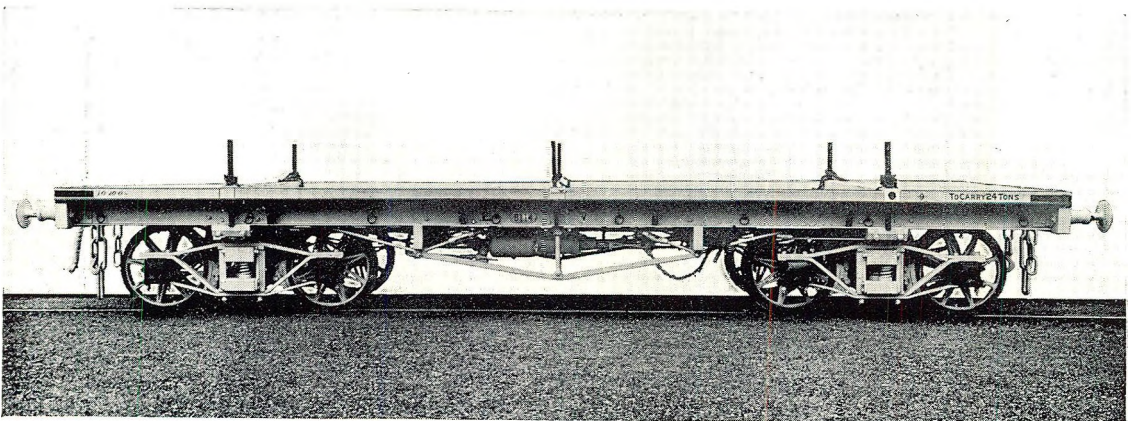
IRON UNDER FRAME BOGIE WAGON.

Length of body outside	...	ft. in.
Length over buffers	...	32 0
Width outside	...	35 8
Height of body inside	...	8 8 $\frac{1}{2}$
Capacity	...	24 tons.
Tare	...	11 tons 7 cwt.



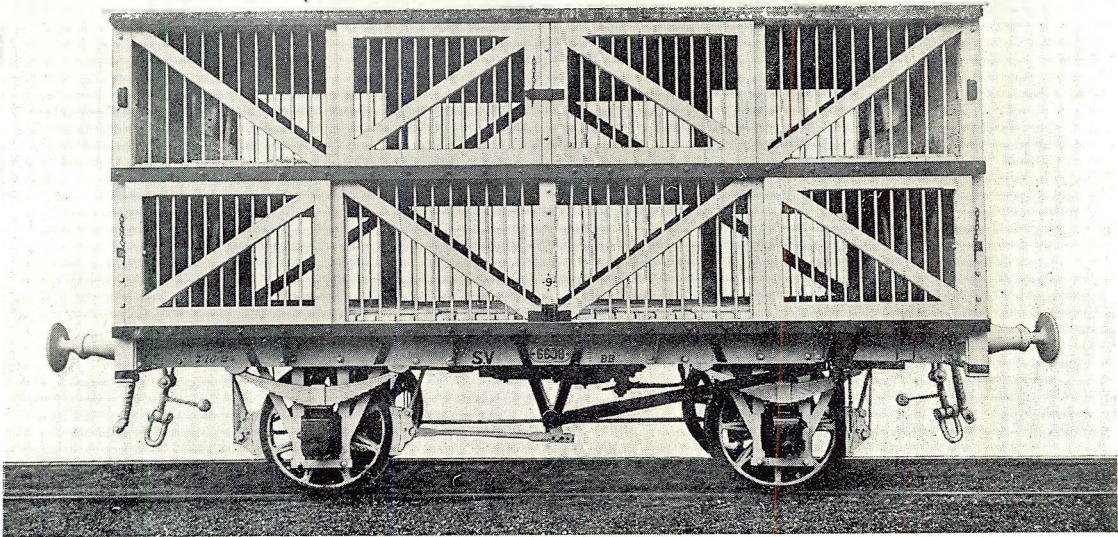
TUBULAR WAGON.

Length of body outside	...	ft. in.
Length over buffers	...	34 8
Width outside	...	38 4
Height of body inside	...	8 0
Capacity	...	22 tons.
Tare	...	10 tons.



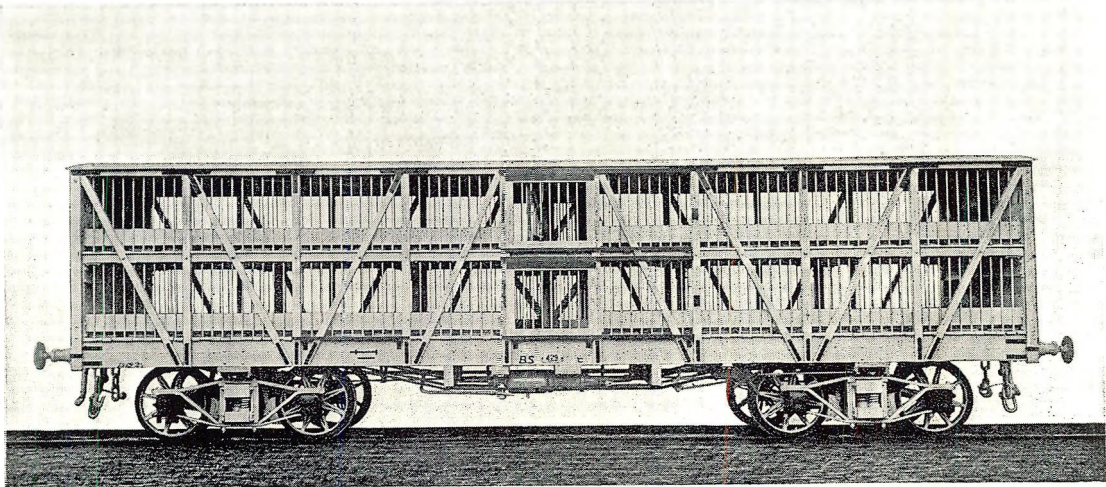
BOLSTER WAGON.

Length of body outside	...	ft. in.
Length over buffers	...	32 0
Width outside	...	35 8
Capacity	...	9 0
Tare	...	24 tons.
	...	10 tons 10 cwt.



SHEEP WAGON.

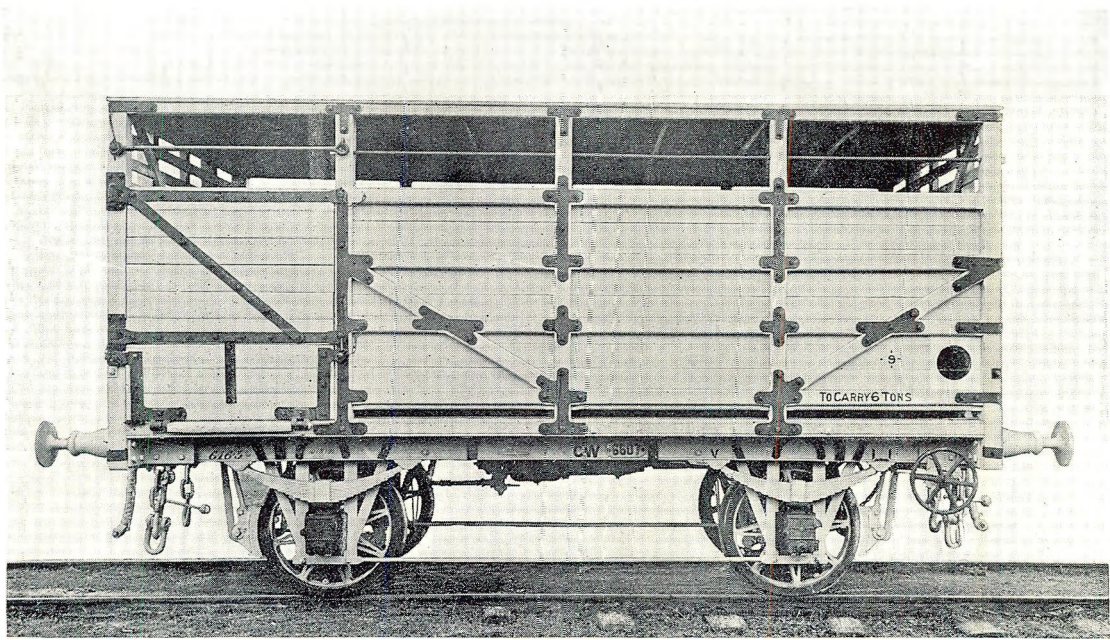
	ft. in.
Length of body outside	15 0
Length over buffers	21 8
Width outside	8 6
Height of body inside	6 9
Capacity	100 sheep.
Tare	7 tons 16 cwt. 2 qrs.



BOGIE SHEEP WAGON.

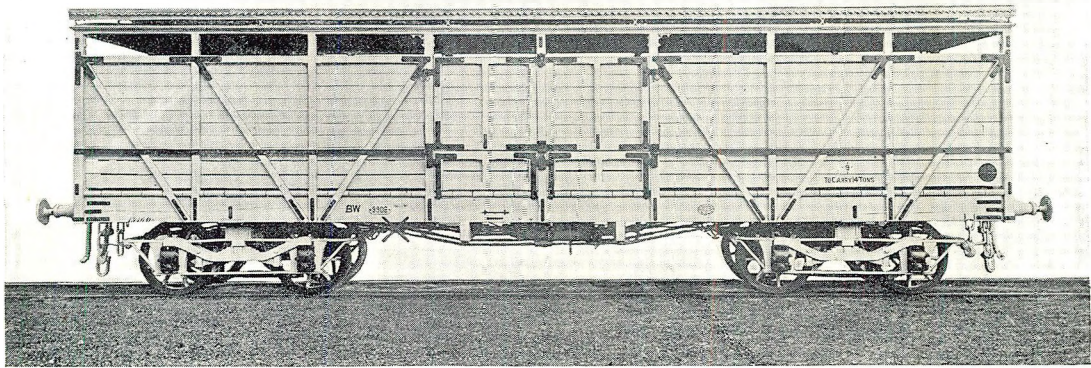
	ft. in.
Length of body outside	36 2
Length over buffers	39 10
Width outside	8 6
Height of body inside	6 11½
Capacity	200 sheep.
Tare	13 tons 19 cwt. 2 qrs.





CATTLE WAGON.

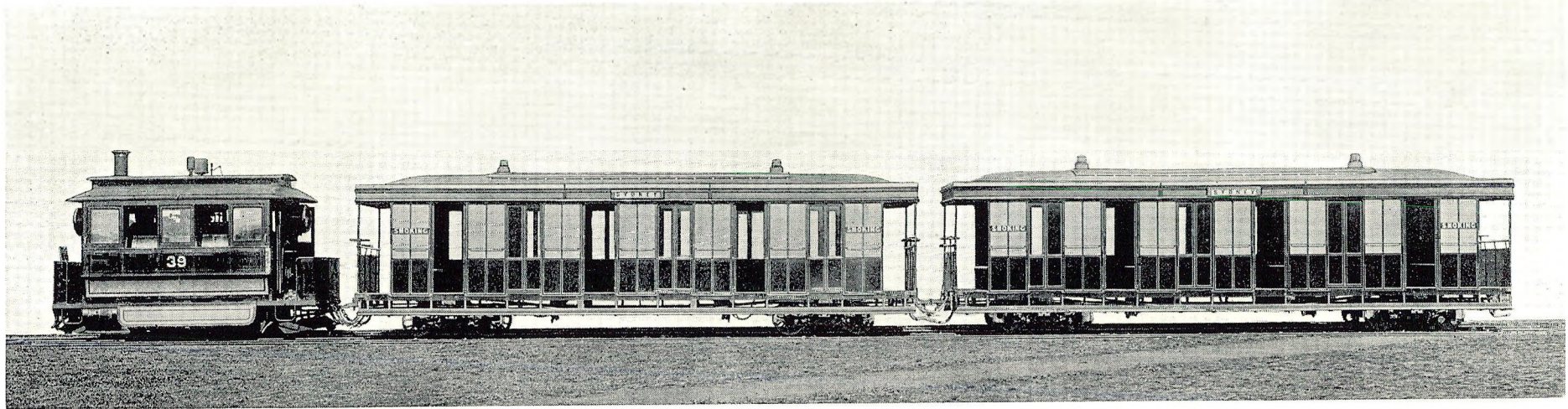
	ft. in.
Length of body outside	18 0
Length over buffers	21 8
Width outside	8 6
Height of body inside	6 10
Capacity	10 cattle.
Tare	6 tons 11 cwt. 2 qrs.



BOGIE CATTLE WAGON.

	ft. in.
Length over body	36 2
Length over buffers	39 10
Width outside	8 6
Height of body inside	7 0½
Capacity	20 cattle.
Tare	13 tons 16 cwt.

STEAM.

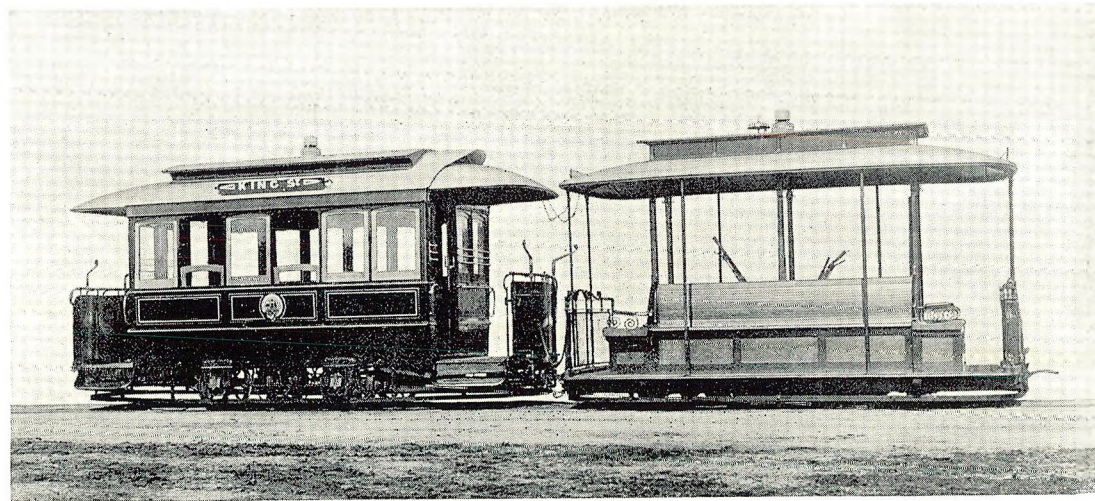


MOTOR AND TWO CARS.

DESCRIPTION OF CARS		ft. in.
Length over headstocks	...	31 9
Width	...	7 5½
Height from floor to ceiling	...	7 6
Tare	...	5 tons.
Seating capacity	...	70 passengers.

Car has ten cross-seats. Bulkheads are provided in order to separate smoking from non-smoking passengers.

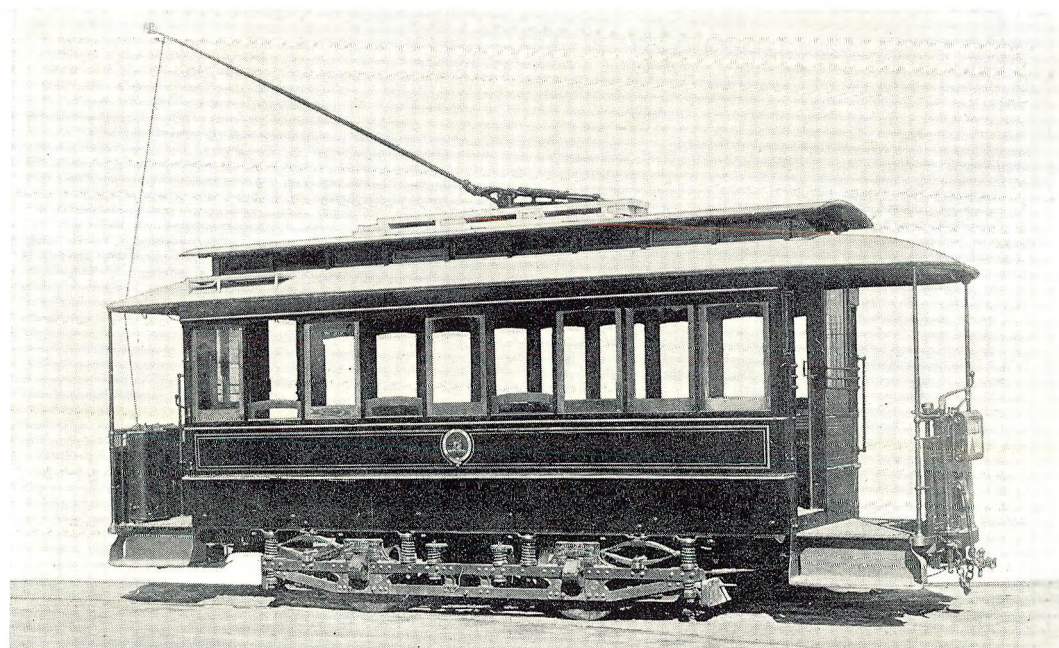
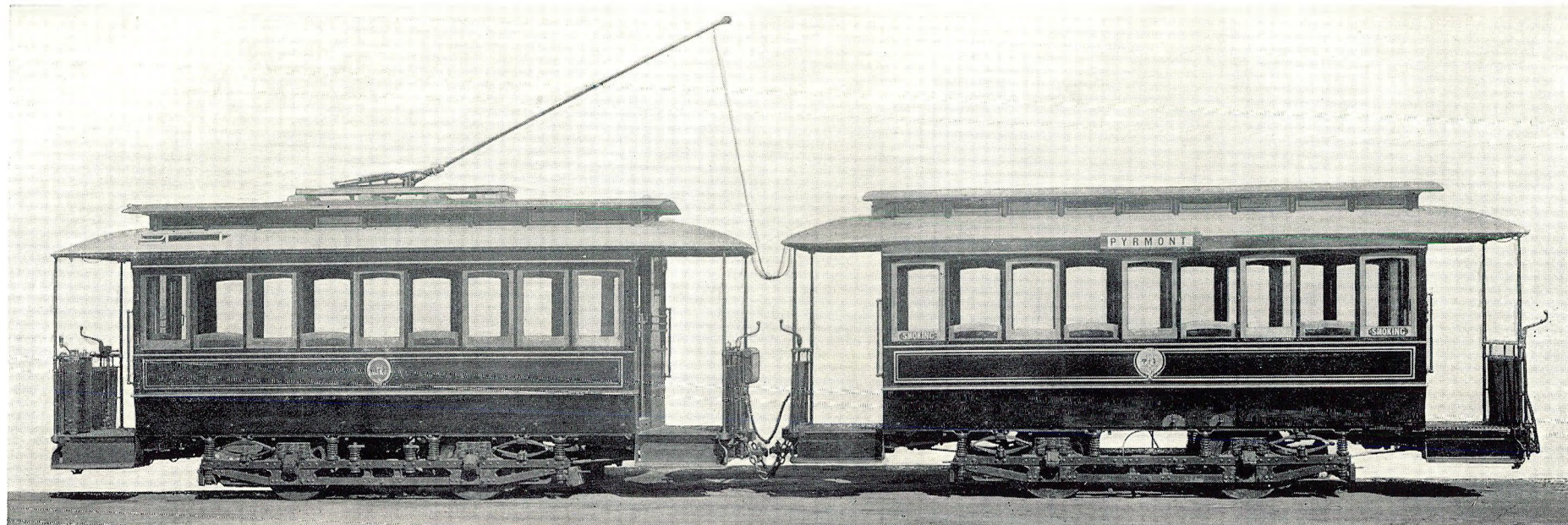
CABLE.



GRIP AND TRAIL CAR.

	Grip Car.	Trail Car.
Length over headstocks	ft. in. 15 0	ft. in. 15 6
Length over saloon body	.....	12 0
Width	.....	6 7¼
Height from floor to ceiling	.....	7 6½
Tare	.....	2 tons.
Seating capacity	.....	2 tons.
	21 passengers.	16 passengers.

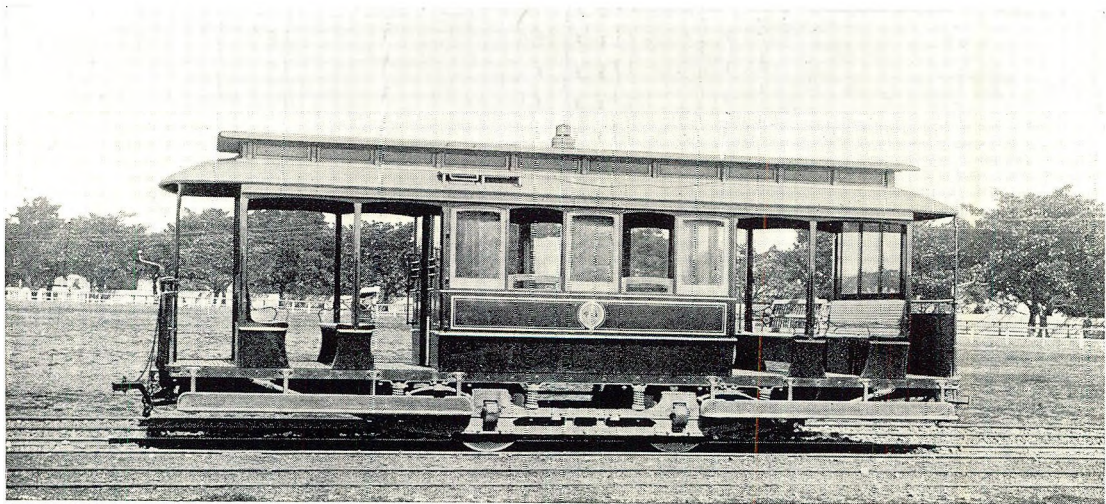
ELECTRIC.



MOTOR AND TRAIL CARS—FOUR-WHEELED CLOSED TYPE.

Length over headstocks ... ..	ft. in.	Tare (including motor equipments)	7 tons 19 cwt. 2 qrs.
Length over saloon body ... ..	25 0	Seating capacity ... ..	26 passengers per car.
Width ... ..	18 0	The saloon seats are placed longitudinally. Sliding doors are provided each end of saloon.	
Height from floor to ceiling ... ..	6 8½		
	7 7		

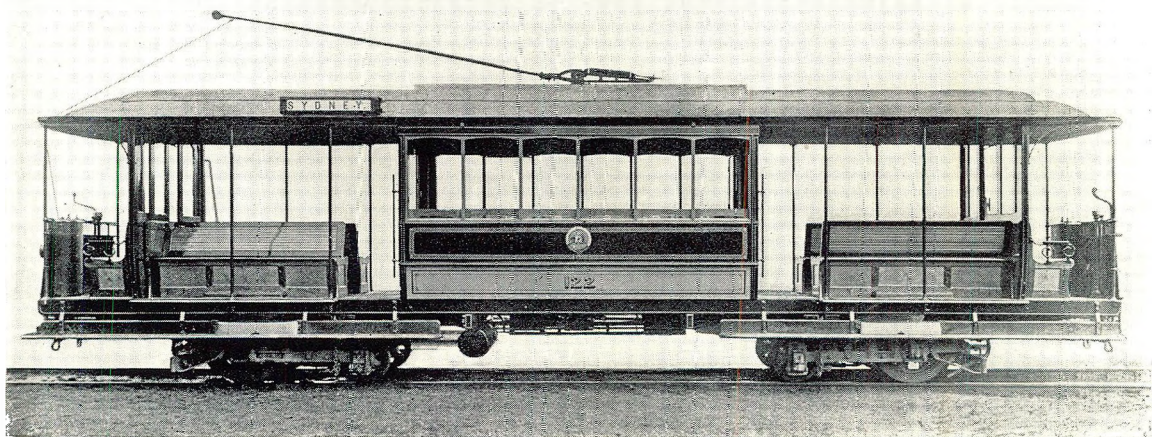
ELECTRIC.



MOTOR OR TRAIL TRAM CAR—FOUR-WHEELED COMBINATION TYPE.

	ft. in.
Length over headstocks ... ..	28 0
Length over bulkhead pillars ... ..	23 0
Length over saloon body ... ..	19 2
Width ... ..	6 8½
Height from floor to ceiling in saloon... ..	7 7
Tare, including motor equipments ... ..	8 tons 3 cwt. 2 qrs.
Seating capacity ... ..	34 passengers.

The car is arranged with a centre saloon and open compartments, with bulkheads each end. The cross-seats between bulkheads and saloon are reversible. The saloon seats are placed longitudinally. Sliding-doors are provided at each end of the saloon.



BOGIE COMBINATION TRAM CAR.

	ft. in.
Length over headstocks ... ..	37 6
Length over bulkhead pillars ... ..	30 3½
Length over saloon body ... ..	12 1½
Width ... ..	7 1½
Height from floor to ceiling in saloon... ..	7 4½
Tare, including motor equipment ... ..	10 tons 10 cwt.
Seating capacity ... ..	48 passengers.

The car is arranged with a centre saloon and open compartments, with bulkheads at each end. The seats between the bulkheads and saloon are reversible. The saloon seats are placed longitudinally. Sliding-doors are provided at each end of saloon, and in the bulkheads.

1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## RAILWAYS AND TRAMWAYS.

(REPORT OF RAILWAY COMMISSIONERS, QUARTER ENDED 31ST MARCH, 1899.)

Presented to Parliament, pursuant to Act 51 Vic. No. 35, sec. 44.

*Printed under No. 1 Report from Printing Committee, 3 August, 1899.*

Offices of the Railway Commissioners of New South Wales,  
Sydney, 27th April, 1899.

To THE HONORABLE THE MINISTER OF RAILWAYS,—

Sir,

In accordance with the provisions of the 44th clause of the Railway Act of 1888, 51 Vic. No. 35, we have the honor to submit, for the information of Parliament, our Report, for the quarter ended 31st March, 1899, upon the subjects specified, viz. :—

### I.—STATE OF THE TRAFFIC.

RAILWAYS.								Quarter ended 31st March, 1898.	Quarter ended 31st March, 1899.
Miles open	...	...	...	...	...	...	...	2,691	2,705 $\frac{1}{4}$
Revenue	...	1898.		1899.		...	...	£717,688	£753,716
	...	Passenger	£296,991	£317,025	...	...	...		
	...	Merchandise	£420,697	£436,691	...	...	...		
Expenditure	...	...	...	...	...	...	...	£390,999	£410,056
Train miles run	...	...	...	...	...	...	...	2,030,989	2,146,076
Earnings per train mile	...	...	...	...	...	...	...	7s. 0 $\frac{3}{4}$ d.	7s. 0 $\frac{1}{4}$ d.
Expenditure per train mile	...	...	...	...	...	...	...	3s. 10 $\frac{1}{4}$ d.	3s. 9 $\frac{3}{4}$ d.
Percentage—Expenditure to earnings	...	...	...	...	...	...	...	54.48	54.40
Number of passengers	...	...	...	...	...	...	...	5,768,074	6,302,432
Tonnage of goods traffic	...	...	...	...	...	...	...	1,100,474	1,231,700
Tonnage of live stock traffic	...	...	...	...	...	...	...	39,078	55,248

TRAMWAYS.								Quarter ended 31st March, 1898.	Quarter ended 31st March, 1899.
Miles open	...	...	...	...	...	...	...	62 $\frac{1}{2}$	66 $\frac{1}{2}$
Revenue	...	...	...	...	...	...	...	£79,964	£90,100
Expenditure	...	...	...	...	...	...	...	£61,626	£68,797
Tram miles run	...	...	...	...	...	...	...	805,241	878,188
Earnings per tram mile	...	...	...	...	...	...	...	1s. 11 $\frac{3}{4}$ d.	2s. 0 $\frac{1}{2}$ d.
Expenditure per tram mile	...	...	...	...	...	...	...	1s. 6 $\frac{1}{4}$ d.	1s. 6 $\frac{3}{4}$ d.
Percentage—Expenditure to earnings	...	...	...	...	...	...	...	77.06	76.36
Number of fares collected	...	...	...	...	...	...	...	18,876,523	21,324,710

## II.—CONDITION OF THE LINES.

A report as to the condition of the lines will be found as an Appendix, page 4.

## III.—SPECIAL RATES.

A statement of the special rates, and the reasons for making the same, will be found attached, page 4.

## IV.—STAFF.

These returns are given as an Appendix, pages 5 to 7.

## RAILWAYS.

### GENERAL REMARKS.

The Working for the quarter has resulted in an increase in the earnings of £36,028, and an increase in the Working Expenses of £19,057, the result being an improvement over the corresponding quarter of last year of £16,971.

Nearly all classes of traffic contributed to the increase, viz., First-class passengers, £3,108; second-class, £15,296; parcels, &c., £1,630; live stock, £12,749; coal and coke, £6,770; hay, straw, and chaff, £6,693; minerals (other than coal and coke), £2,465; general merchandise, £912; and wool, £190. Grain, flour, &c., shows a decrease of £14,085.

The passenger traffic shows an increase of 534,358 passenger journeys, and the goods traffic 131,226 tons.

### CONDITION OF LINES AND ACCOMMODATION FOR THE TRAFFIC.

The grade improvements between Werris Creek and Gunnedah, Boggabri and Baan Baa, Waratah and East Maitland, and Glennie's Creek and Liddell have been completed, satisfactory progress is being made with the improvement of the grades between Ravensworth and Liddell, Muswellbrook and Scone, Braefield and Quirindi, and Quirindi and Quipolly, and the work in connection with the grades near Carlingford, Berowra, Woy Woy, and Point Clare, is being proceeded with.

A large amount of relaying, reballasting, and resleepering has been done. The renewing of the Wagga Wagga viaduct has made satisfactory progress, and the Permanent-way and Works generally have been efficiently maintained.

## TRAMWAYS.

## TRAMWAYS.

## GENERAL REMARKS.

The Earnings show an increase of £10,136, and the Working Expenses £7,171, the net increase over the corresponding period of last year being £2,965.

We have the honor to be,

Sir,

Your most obedient servants,

CHARLES OLIVER,  
Chief Commissioner.

W. M. FEHON,  
Commissioner.

DAVID KIRKCALDIE,  
Commissioner.

## APPENDIX I.

## NEW SOUTH WALES GOVERNMENT RAILWAYS.

## REPORT on Condition of Way and Works for the quarter ending 31st March, 1899.

Sir, Office of Engineer-in-Chief for Existing Lines, 6 April, 1899.

I have to report, for the information of the Commissioners, that the permanent way and works have been efficiently maintained during the past quarter.

Relaying, reballasting, and resleepering operations have been vigorously carried on in all divisions, and special attention has been given to the renovation of buildings and the renewal of fencing.

The grade improvements on the North-western Line, between Werris Creek and Gunnedah, and Boggabri and Baan Baa, also those on the Northern Line between Waratah and East Maitland, and Glennie's Creek and Liddell, have been completed, and satisfactory progress is being made with others between Ravensworth and Liddell, Muswellbrook and Scone, Braefield and Quirindi, and Quirindi and Quipolly, while others in the vicinity of Carlingford, Berowra, Woy Woy, and Point Clare have just been started.

The work of renewing the Wagga viaduct in steel has been steadily continued.

I have, &c.,

THOMAS R. FIRTH,  
Engineer-in-Chief for Existing Lines.

The Secretary to the Railway Commissioners.

## APPENDIX II.

## NEW SOUTH WALES GOVERNMENT RAILWAYS.

STATEMENT, in accordance with clause No. 41 of the Railway Act, showing the Special Rates which have been made, and the reasons for making such rates, Quarter ending 31st March, 1899.

Article.	Particulars of Rate.	Reason for Rate.
Live hares .....	Half parcels rates to be charged when sent by passenger train .....	New rate.
Artesian boring plant .....	Consignments of not less than 5 tons, Darling Harbour to Finley, loaded in one 4-wheeled wagon, to be charged £21.	To secure traffic.
Broom handles .....	When forwarded to a manufactory, "B" class rates and conditions .....	To encourage traffic.
Slag .....	E. and A. Copper Co.'s Works, New Lambton Colliery branch, to Sulphide Corporation Works, Cockle Creek, 11d. per ton.	do
Small coal .....	From Waratah Colliery to Sulphide Works at Cockle Creek, 1d. per ton per mile.	To secure traffic.
Malt and sugar .....	To Bourke, in 6-ton truck loads, £28 per truck .....	do
Meal, bran, and pollard .....	Jerilderie to Hay, to be charged an equal distance on the down journey at the special up journey rates to that which it is carried on the up journey, the remainder of the distance to be charged at "A" rates.	do
Salt .....	Sydney to Armidale, 29s. 11d. per ton; Newcastle to Armidale, 22s. 3d. per ton—conditionally upon 50 tons being sent from either place each month.	do
Preserved meat .....	Morisset to Newcastle, "A" rates and conditions .....	do
Shale and oil .....	Joadja to Darling Harbour, 5s. 11d. per ton .....	To equalise rates.



## APPENDIX III

## NEW SOUTH WALES GOVERNMENT RAILWAYS AND TRAMWAYS.

RETURN, in accordance with clause No 41 of the Railway Act, showing the Appointments of Employees from the 1st January to the 31st March, 1899

Date	Name	Position	Rate	Remarks
1899				
ENGINEER IN CHIEF FOR EXISTING LINES BRANCH				
2 Jan	Edwards, James	Labourer	6/6 per day	Vice T. Donohue
2 "	Rawling, Robert	Labourer	6/6 per day	Vice J. Clinton
6 "	Lunney, William	Office boy	2/ per day	
11 "	Hammond Ernest	Fettler	7/0 per day	Vice J. Cutts
11 "	Hardy, William	Fettler	7/6 per day	Vice W. Kilduff
16 "	Weeks, John	Labourer	6/6 per day	Vice F. Williams
20 "	Brown John	Labourer	6/6 per day	Vice J. Coyne
21 "	Mildenhall, Thomas	Messenger	2/ per day	Vice H. Webb
23 "	Boiton, Frank	Office boy	2/ per day	Vice T. Hudson
7 Feb	Faiquhaison, Alfred	Labourer	6/6 per day	Vice J. Sweeney
7 "	Cardwell, Arthur	Labourer	6/6 per day	Vice J. Hyslop
6 Mar	Upton, Ernest	Office boy	2/ per day	Vice C. Jones
8 "	Netting James	Labourer	6/6 per day	Vice P. McEadden
8 "	Steel, Benjamin	Labourer	6/6 per day	Vice W. Stewart
17 "	Andrews, George	Fettler	6/6 per day	Vice R. Ford
20 "	Brennan Charles	Labourer	6/6 per day	Vice J. Brennan
27 "	Gale, Albert	Labourer	6/6 per day	Vice W. Knight
CHIEF MECHANICAL ENGINEERS BRANCH				
1 Jan	Crawford, Robert	Cleaner	6/6 per day	
1 "	Pierce, Vincent	Labourer	6/6 per day	
1 "	Graham, John	Boilermaker	9/4 per day	
1 "	Mullen, Samuel	Fitter	9/6 per day	
1 "	Morgan, Thomas	Fitter	9/6 per day	
1 "	Cheeseman, Joseph	Washer out	7/ per day	
1 "	Watson, John E.	Cleaner	7/6 per day	Transferred from Extra Staff
1 "	Hinford James	Labourer	6/6 per day	
1 "	Williams James	Labourer	6/6 per day	
1 "	Higgs, Henry	Labourer	6/6 per day	
1 "	Moutisse, Patrick	Labourer	6/6 per day	
1 "	Cate, Phyllis	Labourer	6/6 per day	
1 "	Neve, William	Labourer	6/6 per day	
11 "	Templeton, John	Labourer	6/6 per day	Vice D. Dowling
30 "	Joyell, Frederick	Messenger	2/6 per day	Vice W. Smith
1 Feb	Williams, Sylvanus	Blacksmith	10/ per day	Transferred from Extra Staff
" "	Dowling, Joseph	Shop boy	2/6 per day	Vice J. Hanks
4 "	Prochatschek, Gustav	Fitter	9/6 per day	Vice E. Glading
6 "	O'Connell, Christopher	Shop boy	3/ per day	Vice J. Hanks
9 "	Arthur, John James	Cleaner	2/6 per day	
10 "	Saxon, Joseph	Telephone boy	3/3 per day	
11 "	Sharp, Hubert O.	Telephone boy	3/3 per day	
16 "	Milne, Thomas	Fuelman	6/6 per day	Vice W. Brown
17 "	Melville, William	Messenger	10/ per week	
28 "	Lobb, Joseph	Cleaner	2/6 per day	
28 "	Levitt, Robert	Telephone boy	2/6 per day	
3 Mar	Hellyer, Vincent	Cleaner	5/ per day	
3 "	Lidden, James	Cleaner	3/3 per day	
3 "	Owens, Alfred	Ironmoulder	10/ per day	Transferred from Extra Staff
6 "	Hood, James	Shop boy	2/ per day	
10 "	Ferguson, Alexander	Call boy	3/3 per day	
11 "	Longhuist John	Call boy	3/3 per day	
13 "	Watson, David	Wagon builder	9/ per day	Vice B. Wall
14 "	M Gee, John	Cleaner	3/3 per day	
15 "	Livingstone, John R.	Call boy	2/6 per day	
15 "	Stumpson, Charles	Call boy	2/6 per day	
15 "	McCabe, Leslie	Telephone boy	2/6 per day	
15 "	Hamilton Charles	Telephone boy	2/6 per day	
17 "	Blake, Albert	Shop boy	2/6 per day	Vice W. Inghs
17 "	Gilroy, Leslie	Call boy	3/3 per day	
17 "	Ballinger John	Cleaner	3/ per day	
18 "	Kirkby, Henry	Fitter	9/6 per day	Vice W. Yates
22 "	Field, Frederick	Call boy	3/3 per day	
23 "	Thomas, Robert	Machinist	8/ per day	Vice F. Fiddes
24 "	McCreal, Joseph	Cleaner	3/3 per day	
28 "	McCourt, Henry	Cleaner	3/3 per day	
29 "	Winters, Herbert	Call boy	2/6 per day	
CHIEF TRAFFIC MANAGERS BRANCH				
1 Jan	Irvine, John	Porter	6/ per day	Vice J. Purkis
6 "	Rothwell, George	Porter	7/ per day	Vice G. Hodges
6 "	Steel, Clara	Gatekeeper	Free house	Vice M. Steel
9 "	Mulhern, Annie	Platform Attendant	12/ per week	Vice M. Parrish
18 "	Steeper, William	Telegraph probationer	2/6 per week	
20 "	Brayne, George	Probationer	5s per week	Vice H. Riches
20 "	Little, Joseph	Telegraph probationer	2/6 per week	Vice F. Bellingham
24 "	Robertson, Mrs Jessie	Gatekeeper	Free house	Vice H. Murray
27 "	Fitzgerald, Catherine	Gatekeeper	7/ per week	Vice E. Cunningham
27 "	Geggie, George	Telegraph Probationer	2/6 per week	Vice J. Guilfoyle
27 "	Johnson, Edgar	Telegraph Probationer	2/6 per week	Vice H. Morris
28 "	Hollman John	Telegraph Probationer	2/6 per week	Transferred from Extra Staff
29 "	Hardigan, Catherine	Gatekeeper	Free house	Vice E. Cole
31 "	Jameson, Elizabeth	Gatekeeper	Free house	Vice E. Furbanks
3 Feb	Frost, Richard	Porter	6/ per day	Transferred from Extra Staff
3 "	Brayne Walter	Probationer	10/ per week	Vice M. Cantwell
3 "	Davis, William	Telegraph Probationer	2/6 per week	Vice J. Perry
4 "	Lilley, James	Telephone Boy	10/ per week	Vice W. McDonald
10 "	Sommers, John	Telegraph Probationer	2/6 per week	Vice L. Mann
10 "	Johnson, Charles	Junior porter	2/6 per day	
11 "	Hedges, Mary	Gatekeeper	7/ per week	Vice S. Rea
13 "	Howell, Cecil	Junior porter	2/6 per day	Vice H. Norris
13 "	Stoiphair, Margaret	Gatekeeper	7/ per week	Vice M. Killeen
17 "	Henning, Virgil	Junior porter	3/4 per day	Transferred from Extra Staff
17 "	Retallock, Oswald	Junior porter	2/6 per day	Transferred from Extra Staff
17 "	Wakeham, Rhyet	Junior porter	3/4 per day	Transferred from Extra Staff
21 "	Ingram, Sarah	Gatekeeper	Free house	Vice M. Ryan
24 "	Weir, Kate	Gatekeeper	Free house	Vice E. Monarty
24 "	Wand, Percy	Telegraph Probationer	2/6 per week	Transferred from Extra Staff
24 "	Bailey, Albert	Junior porter	5/ per day	Transferred from Extra Staff
28 "	Roberts, Stanley	Telegraph Probationer	2/6 per week	Vice C. Topham
3 Mar	Welch, Albert	Telegraph Probationer	2/6 per week	Transferred from Extra Staff
3 "	Cox, Joseph	Telegraph Probationer	2/6 per week	Transferred from Extra Staff
4 "	Bennett, Mrs Beatrice	Gatekeeper	Free house	Vice Mrs Krempin
6 "	Dilow, Louisa	Gatekeeper	10/ per week	Vice S. Riley
7 "	O'Brien, Thomas	Porter	6/ per day	Vice F. Davidson

## APPENDIX III—continued.

Date.	Name.	Position.	Rate.	Remarks.
1899. CHIEF TRAFFIC MANAGER'S BRANCH—continued.				
10 Mar.	Clark, Gwendoline . . . . .	Gatekeeper	Free house	Vice M. Clark.
13 "	Williams, Henry . . . . .	Telegraph Probationer..	2/6 per week	
16 "	O'Hara, Edith . . . . .	Gatekeeper	7/- per week	Vice J. Smith
17 "	Coombs, Lucy . . . . .	Gatekeeper	7/- per week	Vice M. Coote.
17 "	Connolly, James . . . . .	Junior porter . . . . .	4/2 per day	Vice W. Davis.
17 "	George, Mary . . . . .	Gatekeeper	7/- per week	Vice M. Rea.
17 "	O'Brien, Charles . . . . .	Junior porter . . . . .	2/6 per day . . .	Transferred from Extra Staff
22 "	Godfrey, Minnie . . . . .	Caretaker . . . . .	5/- per week	Vice E. Seivers
24 "	Bedford, Mabelle . . . . .	Gatekeeper	7/- per week	Vice E. Taylor.
29 "	Daley, Stanley . . . . .	Telegraph Probationer.	2 6 per week	Vice J. Willbow.
SIGNAL AND INTERLOCKING ENGINEER'S BRANCH.				
Jan.	Baillie, William . . . . .	Blacksmith	10 6 per day	Transferred from Extra Staff
Mar.	Shendan, James . . . . .	3rd Frazer . . . . .	2/3 per day	Transferred from Extra Staff.
ELECTRICAL ENGINEER'S BRANCH.				
16 Feb.	Harding, Allen R. . . . .	Probationer . . . . .	2/6 per week . . .	Vice T. Douglas
13 Mar.	Dean, Edwin . . . . .	Messenger . . . . .	10/- per week	
15 "	Cornor, William S. . . . .	Improver . . . . .	5/- per day . . .	
15 "	Blair, Hubert . . . . .	Improver . . . . .	5/- per day . . .	
27 "	Watson, James S. . . . .	Messenger . . . . .	10/- per week	Vice A. Paton.
COMPTROLLER OF STORES BRANCH.				
20 Feb.	Free, Arthur G. . . . .	Messenger . . . . .	10/- per week . . .	Vice J. Kneeshaw.
3 Mar.	Rutledge, Frank L. . . . .	Messenger . . . . .	10/- per week . . .	Vice A. Fice.
16 "	Patterson, Sidney C . . . . .	Messenger . . . . .	10/- per week . . .	Vice F. Rutledge.
TRAMWAYS—LOCOMOTIVE BRANCH.				
6 Jan.	Paul, George H. . . . .	Apprentice . . . . .	10d. per day	
13 "	Lamont, Robert . . . . .	Cleaner . . . . .	5/6 per day	Transferred from Extra Staff
4 Mar.	Jones, Oscar S. . . . .	Boy labourer . . . . .	2/6 per day . . .	Vice J. Day.
16 "	Cone, William C. . . . .	Boy labourer . . . . .	4/- per day . . .	Vice R. Hocking.
17 "	Barclay, Michael . . . . .	Cleaner . . . . .	5/- per day . . .	Vice F. Wythes.
17 "	O'Connor, Michael . . . . .	Cleaner . . . . .	5/- per day . . .	Vice C. Turner.
22 "	O'Connor, Thomas J. . . . .	Shop boy . . . . .	3/- per day . . .	Vice A. Crawford.
30 "	Harding, Thomas W . . . . .	Cleaner . . . . .	5/6 per day . . .	Vice J. Barnes.
TRAMWAYS—TRAFFIC BRANCH				
5 Jan.	Hudson, Henry . . . . .	Car-cleaner . . . . .	5/- per day	
5 "	Innes, Peter C. . . . .	Junior conductor . . . . .	6/- per day . . .	
5 "	Fraser, George R. . . . .	Junior conductor . . . . .	6/- per day . . .	
5 "	Hill, David T. . . . .	Junior conductor . . . . .	6/- per day . . .	
5 "	Stiff, Frederick . . . . .	Junior conductor . . . . .	6/- per day . . .	
13 "	McDonald, Allan J. . . . .	Junior conductor . . . . .	6/- per day . . .	
13 "	Townsend, Arthur . . . . .	Conductor . . . . .	6/6 per day . . .	Transferred from Extra Staff
27 "	Lucas, Alfred . . . . .	Junior conductor . . . . .	6/- per day . . .	
27 "	Nolan, John . . . . .	Junior conductor . . . . .	6/- per day . . .	
27 "	Slavin, James A. . . . .	Junior conductor . . . . .	6/- per day . . .	
27 "	Thomas, Reuben . . . . .	Junior conductor . . . . .	6/- per day . . .	
27 "	Cook, Charles F. . . . .	Conductor . . . . .	6/6 per day . . .	
27 "	Webster, Henry . . . . .	Conductor . . . . .	6/6 per day . . .	
30 "	Williams, Robert . . . . .	Conductor . . . . .	6/6 per day . . .	Vice J. Hargrove.
1 Feb.	Nevin, Paul . . . . .	Junior conductor . . . . .	6/- per day . . .	Vice J. Hayhow.
21 "	Geatrey, Joseph . . . . .	Junior conductor . . . . .	6/- per day . . .	
24 "	Burke, Thomas . . . . .	Junior conductor . . . . .	6/- per day . . .	Transferred from Extra Staff.
24 "	Hunter, Ernest . . . . .	Junior conductor . . . . .	6/- per day . . .	
24 "	Badham, Harold . . . . .	Junior conductor . . . . .	6/6 per day . . .	
24 "	Griffin, Lionel H. . . . .	Junior conductor . . . . .	6/- per day . . .	
9 Mar.	Davies, John E. . . . .	Junior conductor . . . . .	6/- per day . . .	Vice T. R. Smith.
13 "	Robinson, George T. . . . .	Junior conductor . . . . .	6/- per day . . .	Vice A. Breeze.
17 "	Pendergast, David H. . . . .	Junior car-cleaner . . . . .	2/6 per day . . .	Vice H. Chapman.
23 "	Hewitt, John W. . . . .	Junior conductor . . . . .	6/6 per day . . .	Vice W. Hansell.
24 "	Gwyder, John T. . . . .	Junior conductor . . . . .	6/- per day . . .	
24 "	Bedford, William H. . . . .	Junior conductor . . . . .	6/- per day . . .	
24 "	Grant, Joseph . . . . .	Junior conductor . . . . .	6/- per day . . .	Transferred from Extra Staff.
24 "	Douglas, Albert P. . . . .	Junior conductor . . . . .	6/6 per day . . .	
24 "	Vaughan, George A. . . . .	Conductor . . . . .	6/6 per day . . .	
TRAMWAYS—MAINTENANCE BRANCH.				
13 Mar.	Tooker, Percy . . . . .	Messenger . . . . .	10/- per week	Vice J. Devlin.

## APPENDIX IV.

## NEW SOUTH WALES GOVERNMENT RAILWAYS AND TRAMWAYS.

RETURN, in accordance with clause No. 44 of the Railway Act, showing the Removals of Employees from the 1st January to the 31st March, 1899.

Date.	Name.	Position.	Rate.	Remarks.
1899. ENGINEER-IN-CHIEF FOR EXISTING LINES BRANCH.				
19 Jan..	Sweeney, John . . . . .	Fettler . . . . .	7/6 per day . . .	Written off books.
21 "	McFadden, Patrick . . . . .	Fettler . . . . .	7/6 per day . . .	Written off books.
30 "	Brennan, John . . . . .	Labourer . . . . .	7/6 per day . . .	Deceased.
1 Feb..	Hepper, William . . . . .	Ganger . . . . .	9/- per day . . .	Deceased.
25 "	Ford, Robert . . . . .	Ganger . . . . .	9/- per day . . .	Resigned.
3 Mar.	Colley, Benjamin . . . . .	Fettler . . . . .	7/6 per day . . .	Retired.
7 "	Stace, Henry . . . . .	Flagman . . . . .	7/- per day . . .	Retired.
7 "	Moran, Adolph . . . . .	Fettler . . . . .	7/6 per day . . .	Retired.
7 "	Knight, William . . . . .	Fettler . . . . .	7/6 per day . . .	Retired.
11 "	Howe, John . . . . .	Labourer . . . . .	7/6 per day . . .	Retired.
11 "	Worboys, Thomas . . . . .	Fettler . . . . .	7/6 per day . . .	Retired.
30 "	Coyle, Andrew . . . . .	Ganger . . . . .	9/- per day . . .	Retired.

## APPENDIX IV—continued.

Date.	Name.	Position.	Rate.	Remarks.
1898				
CHIEF MECHANICAL ENGINEER'S BRANCH.				
19 Dec.	Carter, William	Machinist	8/- per day	Written off books.
29 "	Kennedy, William	Carriage builder	8/- per day	Retired.
1899.				
5 Jan.	Macdonald, John	Brassfinisher	10/6 per day	Resigned.
5 "	Gladng, Edward	Fitter	10/8 per day	Discharged.
9 "	Brown, William	Pumper	8/6 per day	Retired.
19 "	Shields, John	Labourer	7/6 per day	Retired.
26 "	Horsfield, Albert	Cleaner	5/- per day	Discharged.
30 "	Stewart, David	Driver	15/- per day	Resigned.
7 Feb.	Fiddes, Frederick	Striker	7/- per day	Resigned.
11 "	Yates, William	Fitter	10/8 per day	Resigned.
19 "	Matthew, Henry W.	Carriage and wagon examiner.	8/- per day	Deceased
24 "	Dubos, Louis	Boilermakers' assistant	7/- per day	Retired.
3 Mar.	Donald, James	Fuelman	7/- per day	Discharged.
11 "	Fernley, Samuel	Boilermaker	10/6 per day	Deceased.
16 "	Young, William	Driver	14/- per day	Resigned.
30 "	M'Kenzie, George	Fireman	10/- per day	Resigned.
CHIEF TRAFFIC MANAGER'S BRANCH.				
1 Jan.	Bellingham, Frank	Night officer	£120 per annum	Transferred to Joint Staff at Wallangara, Queensland.
6 "	Steel, Mary	Gatekeeper	Free house	Resigned.
6 "	Perry, John	Guard	10/6 per day	Resigned.
10 "	Cole, Elizabeth	Gatekeeper	Free house	Resigned.
10 "	Plumb, William	Porter	7/- per day	Discharged.
11 "	Cantwell, Michael	Junior porter	2/6 per day	Discharged.
17 "	Morris, Thomas	Junior porter	5/- per day	Deceased.
21 "	Murray, Helena	Gatekeeper	Free house	Resigned
21 "	Topham, Cecil	Telegraph probationer.	2/6 per week	Deceased.
26 "	Norris, Henry	Porter	7/- per day	Discharged.
28 "	Wilbow, James	Officer-in-charge	£150 per annum	Discharged.
30 "	Furbanks, Emily	Gatekeeper	Free house	Resigned.
31 "	Ferris, George	Station-master	£310 per annum	Retired.
4 Feb.	Mills, William	Porter	7/- per day	Discharged.
10 "	Rea, Sarah	Gatekeeper	7/- per week	Resigned
13 "	Killeen, Mary	Gatekeeper	7/- per week	Resigned.
21 "	Ryan, Mary	Gatekeeper	Free house	Resigned.
23 "	Moriarty, Ellen	Gatekeeper	Free house	Resigned.
23 "	Henley, Robert	Porter	6/6 per day	Discharged.
24 "	Lord, John	Shunter	7/6 per day	Resigned.
26 "	Cootie, Mary	Gatekeeper	10/- per week	Deceased.
1 Mar.	Levien, Alfred	Station-master	£200 per annum	Resigned.
3 "	Krempin, Mrs.	Gatekeeper	Free house	Resigned
3 "	Lord, Joseph	Signalmen	11/- per day	Resigned
6 "	Riley, Sarah	Gatekeeper	10/- per week	Resigned.
9 "	Clark, Martha	Gatekeeper	Free house	Resigned.
9 "	Blinco, William	Porter	7/6 per day	Discharged.
12 "	Price, Mary	Gatekeeper	7/- per week	Resigned.
16 "	Rea, Mary	Gatekeeper	10/- per week	Resigned.
16 "	Doyle, John	Porter	7/6 per day	Discharged.
17 "	Smith, Jane	Gatekeeper	7/- per week	Resigned.
18 "	Moran, Margaret	Gatekeeper	7/- per week	Resigned.
21 "	Hargrave, John	Night officer	£130 per annum	Resigned.
21 "	Savers, Elizabeth	Caretaker	5/- per week	Resigned.
22 "	Davidson, Francis	Officer-in charge	£196 per annum	Retired.
24 "	Taylor, Elizabeth	Gatekeeper	7/- per week	Resigned.
27 "	Gambell, Frank	Porter	6/6 per day	Deceased
27 "	Miller, John	Shunter	7/6 per day	Discharged.
30 "	Sherwin, Mary	Gatekeeper	7/- per week	Resigned.
TRAMWAYS—LOCOMOTIVE BRANCH.				
14 Feb.	Tyrer, Thomas	Stationary engine fire man.	7/6 per day	Resigned.
8 Mar.	Barnes, James V.	Cleaner	6/- per day	Discharged.
10 "	Betts, George V.	Cleaner	6/- per day	Discharged.
TRAMWAYS—TRAFFIC BRANCH.				
26 Jan.	Hayhow, John	Junior conductor	7/- per day	Discharged.
10 Mar.	Gamgee, George	Foreman	12/- per day	Retired
14 "	Dawes, William C.	Groupman	8/- per day	Discharged.
TRAMWAYS—MAINTENANCE BRANCH.				
17 Feb.	McNamara, Daniel	Labourer	7/6 per day	Discharged



1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## RAILWAYS AND TRAMWAYS.

(REPORT OF RAILWAY COMMISSIONERS, QUARTER ENDED 30 JUNE, 1899.)

*Printed under No. 2 Report from Printing Committee, 10 August, 1899.*

Offices of the Railway Commissioners of New South Wales,  
Sydney, 28th July, 1899.

TO THE HONORABLE THE MINISTER OF RAILWAYS,—

Sir,

In accordance with the provisions of the 44th clause of the Railway Act of 1888, 51 Vic. No. 35, we have the honor to submit, for the information of Parliament, our Report for the quarter ended 30th June, 1899, upon the subjects specified, viz. :—

## I.—STATE OF THE TRAFFIC.

RAILWAYS.						Quarter ended 30th June, 1898.	Quarter ended 30th June, 1899.
Miles open	...	...	...	...	...	2,691½	2,706½
Revenue	...	1898.	1899.	...	...	£714,867	£690,114
	{	Passenger ...	£283,221	£278,312	...		
	{	Merchandise ...	£431,646	£411,802	...		
Expenditure	...	...	...	...	...	£399,528	£399,459
Train miles run	...	...	...	...	...	2,131,035	2,170,063
Earnings per train mile	...	...	...	...	...	6s. 8½d.	6s. 4½d.
Expenditure per train mile	...	...	...	...	...	3s. 9d.	3s. 8½d.
Percentage—Expenditure to earnings	...	...	...	...	...	55·89	57·88
Number of passengers	...	...	...	...	...	5,913,045	6,310,896
Tonnage of goods traffic	...	...	...	...	...	1,146,283	1,231,136
Tonnage of live stock traffic	...	...	...	...	...	52,217	54,643

TRAMWAYS.						Quarter ended 30th June, 1898.	Quarter ended 30th June, 1899.
Miles open	...	...	...	...	...	65	66½
Revenue	...	...	...	...	...	£81,535	£90,067
Expenditure	...	...	...	...	...	£67,236	£76,469
Tram miles run	...	...	...	...	...	820,076	887,617
Earnings per tram mile	...	...	...	...	...	1s. 11½d.	2s. 0½d.
Expenditure per tram mile	...	...	...	...	...	1s. 7½d.	1s. 8½d.
Percentage—Expenditure to earnings	...	...	...	...	...	82·46	84·90
Number of fares collected	...	...	...	...	...	19,167,438	21,124,905

## II.—CONDITION OF THE LINES.

A report as to the condition of the lines will be found as an Appendix, page 4.

## III.—SPECIAL RATES.

A statement of the special rates, and the reasons for making the same, will be found attached, page 4.

## IV.—STAFF.

These returns are given as an Appendix, pages 5 to 7.

## RAILWAYS.

### GENERAL REMARKS.

The Earnings for the quarter show a decrease of £24,753, as compared with the corresponding quarter last year. With few exceptions, all classes of traffic, including that of passenger, have contributed to the decrease. However, the number of passenger journeys made and tonnage of goods and live-stock hauled have increased by 397,851 journeys and 87,279 tons respectively. This is in consequence of an increase in the short and a decrease in the long distance passenger traffic, an increase in the tonnage of goods traffic at the lower rates, and the reductions made in rates for Starving Stock carried during the drought. Although more stock has been dealt with the earnings show a decrease of £15,428.

The train miles run have increased 39,028.

The expenditure per train mile compares favourably with the corresponding quarter of last year, but not so the percentage of expenses to earnings which unavoidably follows on the incidents of traffic mentioned. The return on the years' working as a whole is satisfactory.

### CONDITION OF THE LINES AND ACCOMMODATION FOR THE TRAFFIC.

The Permanent Way and Works have been efficiently maintained. Relaying, reballasting, and resleepering have been continued on all divisions.

Many of the Grade Improvements on the Northern Line have been completed, and satisfactory progress has been made with others. The work in connection with the improvements between Harden and Cootamundra on the Southern Line has been commenced.

Steady progress has been made with the work of renewing the Wagga Wagga viaduct in steel.

## TRAMWAYS.

## TRAMWAYS.

The Earnings show an increase of £8,532, but owing to special provision having to be made for relaying and car renewals the Expenditure is in excess of that for the corresponding period of last year.

We have the honor to be,

Sir,

Your most obedient servants,

CHARLES OLIVER,  
Chief Commissioner.

W. M. FEHON,  
Commissioner.

DAVID KIRKCALDIE,  
Commissioner.

## APPENDIX I.

## NEW SOUTH WALES GOVERNMENT RAILWAYS.

Report on the Condition of Permanent Way and Works for the Quarter ending  
30th June, 1899.

Sir,

Office of Engineer-in-Chief for Existing Lines, 4 July, 1899.

I have to report, for the information of the Commissioners, that the Permanent Way and Works have been efficiently maintained during the past quarter.

Relaying, reballasting, and resleepering operations have been steadily continued on all divisions.

The grade improvements on the Northern Line, between Willow Tree and Werris Creek, and between Ravensworth and Liddell, and also those in the vicinity of Point Clare and Thornleigh, have been completed, and satisfactory progress has been made with those between Muswellbrook and Scone, and near Carlingford, Berowra, and Woy Woy. Those between Harden and Cootamundra have just been started.

Steady progress has been made with the work of renewing the Wagga Wagga viaducts in steel.

I have, &amp;c.,

THOMAS R. FIRTH,

Engineer-in-Chief for Existing Lines.

The Secretary to the Railway Commissioners.

## APPENDIX II.

## NEW SOUTH WALES GOVERNMENT RAILWAYS.

STATEMENT, in accordance with clause No. 44 of the Railway Act, showing the Special Rates which have been made, and the reasons for making such rates, quarter ended 30th June, 1899.

Article.	Rate.	Reason for rate.
Returned drapery and 3rd class goods.	Three tons Goulburn to Sydney or Bathurst 20 per cent. rebate to be allowed.	To secure traffic.
Rabbit poisoning machines, with shafts.	To be carried at the same rate as cultivators, harvesters, reapers and binders, &c.; referred to under agricultural implements, as shown on page 6 of the rate-book.	To encourage traffic.
Water pipes .....	About 23 tons, Darling Harbour to Nowra, "A." class rate if sent in full truck loads.	To secure traffic.
Wheat .....	Darling Harbour and Sydney Goods to Newtown 1s. 9d. per ton .....	do
Timber .....	Quantity of timber from Darling Harbour to Cobar, to be treated as girders and charged at "M" rates.	do
Do .....	About 20 tons of rough and dressed timber, Narrandera to Darling Harbour, "A." rates and conditions.	do
Bicycles .....	Bicycles, accompanied by owners, from Sydney to Melbourne via the Western line, to be charged 5s. each.	Additional facilities.
Do .....	Bicycles, accompanied by owners, from Albury to Wodonga, 6d. each .....	do
Bulls .....	Bulls conveyed in horse boxes to be charged the same as for stallions .....	New rate.



## APPENDIX III.

## NEW SOUTH WALES GOVERNMENT RAILWAYS AND TRAMWAYS.

RETURN, in accordance with Clause No 44 of the Railway Act, showing the Appointments of Employees from the 1st April to the 30th June, 1899

Date	Name	Position	Rate	Remarks
1899				
ENGINEER IN CHIEF FOR EXISTING LINES BRANCH				
4 April	Kelly, James	Office boy	2 - per day	Vice C Osmond
11 "	Sladen, Robert	Labourer	6/6 per day	Vice B Colley
17 "	Bath, Thomas	Labourer	6/6 per day	Vice H Stace
18 "	O'Donnell, James	Fettler	7/6 per day	
26 "	McMullen, John	Labourer	6/6 per day	Vice A Moran
28 "	Bentley, Joseph	Labourer	6/6 per day	Vice C Vose
2 May	Nelson, Robert	Labourer	6/6 per day	Vice W King
8 "	Smith, Robert	Labourer	6/6 per day	
10 "	Tambree, John	Labourer	6/6 per day	Vice J Howe
15 "	Betts, Charles	Labourer	6/6 per day	Vice T Worboys
16 "	Brown, James	Labourer	6/6 per day	Vice A Morris
16 "	Channell, Walter	Labourer	6/6 per day	Vice W Hepper
19 "	Fratt, Henry	Labourer	6/6 per day	Vice M Maloney
22 "	Vine, William	Labourer	6/6 per day	Vice D Jenkins
18 June	Clancey, William	Labourer	7/- per day	Vice M Groves
23 "	Watts, John	Labourer	6/6 per day	Vice J Walker
CHIEF MECHANICAL ENGINEERS BRANCH				
4 April	Holder, Edmund	Shop boy	3/ per day	Vice J Shields
4 "	Carroll, William	Shop boy	4/ per day	
5 "	Grant, Samuel	Cleaner	5/ per day	
6 "	Perkins, William	Shop boy	4/ per day	
6 "	Eckersley, John	Cleaner	5/ per day	
7 "	Lehmann, John Victor	Cleaner	4/ per day	
7 "	Spike, Alfred	Fuelman	6/6 per day	
7 "	Roberts, David	Fuelman	6/6 per day	
7 "	Hales, William	Fitter	9/6 per day	Transferred from Extra Staff
7 "	Gimbert, Edmund	Fuelman	6/6 per day	
10 "	Lee, John E	Labourer	6/6 per day	
10 "	Hyslop, Charles	Cleaner	3/3 per day	
14 "	Walsh, John T	Cleaner	5/ per day	
14 "	Templeton, William	Fuelman	6/6 per day	
14 "	Crawford, John	Fuelman	6/6 per day	
14 "	Costello, John	Fuelman	6/6 per day	Transferred from Extra Staff
14 "	Hansell, William	Lighter up	6/6 per day	
14 "	Hamilton, John R	Washer-out	7/ per day	
17 "	Dickey, Joseph	Call boy	3/3 per day	
19 "	Wilson, Alfred	Boilermaker's assistant	6/8 per day	Vice L Dubos
22 "	Ryan, William	Cleaner	2/6 per day	
22 "	Bell, Thomas J	Fuelman	6/6 per day	Transferred from Extra Staff
24 "	Crowe, Arthur	Call boy	2/6 per day	
24 "	McKinnon, John	Cleaner	5/ per day	
27 "	Swan, William	Boilermaker	9/4 per day	Vice S Fernley
27 "	Spinks, Walter	Labourer	6/6 per day	Vice W Muir
28 "	Larkin, Thomas	Labourer	6/6 per day	Transferred from Extra Staff
3 May	Baker, William	Fuelman	7/ per day	Vice J Donald
5 "	Ireland, John	Cleaner	2/6 per day	
12 "	Bryden, John	Cleaner	3/3 per day	
15 "	McCluckie, Thomas	Cleaner	3/3 per day	
18 "	Kenny, Robert	Apprentice	-10 per day	
18 "	Smith, John H D	Carriage and waggon examiner	7/ per day	Vice H Matthew
25 "	Lock, Charles	Telephone boy	2/6 per day	
26 "	Lewis, Daniel	Fuelman	6/6 per day	
26 "	Clark, Henry	Labourer	6/6 per day	Transferred from Extra Staff
2 June	Young, Arthur	Call boy	3/3 per day	
2 "	Bruderlin Percival	Fuelman	6/6 per day	Vice C Hansell
9 "	Williams, David	Striker	6/8 per day	Vice A Brown
9 "	Goad, George	Turner	9/6 per day	
9 "	Comyns, Joseph	Boilermaker's assistant	6/8 per day	
10 "	Tillman, Samuel	Waggon builder	9/6 per day	Transferred from Extra Staff
10 "	Houston, George	Labourer	6/6 per day	
10 "	Heathcote, Allan	Labourer	6/6 per day	Vice J Blackburn
25 "	Eyre, Stephen	Caretaker fire appliances	7/6 per day	
23 "	Plant, Arthur E	Lighter up	6/6 per day	
23 "	Clelland, Hugh	Boilermaker	9/4 per day	Transferred from Extra Staff
23 "	Marshall, Peter	Carriage builder	10/ per day	
26 "	Williams, Francis	Apprentice	-10 per day	Vice S Pendleton
29 "	Mansfield, Talbot	Office boy	10/ per week	Vice H Hattersley
30 "	Carruthers, Henry	Striker	6/8 per day	Vice W Dewick
30 "	Darling, Henry	Oiler	7/ per day	Transferred from extra staff
30 "	Martin, Frederick	Cleaner	5/ per day	
30 "	Dobson, Thomas	Cleaner	5/ per day	
CHIEF TRAFFIC MANAGER'S BRANCH				
6 Mar	Manewell, Alice	Attendant and Post Mistress	15/- per week	
24 "	Pike, Mary Jane	Gatekeeper	7/ per week	Vice J Pike
28 "	Lawrence, Theresa	Gatekeeper	Free house	Vice C Sheehan
1 April	Quinlan, Norah	Gatekeeper	7/ per week	Vice A Fox
5 "	Crabtree, Agnes	Gatekeeper	7/ per week and house	Vice M Price
7 "	Davison, Mary	Gatekeeper	15/- per week	Vice S Sweeney
8 "	Nugent, Hannah	Gatekeeper	Free house	Vice M Sherwin
12 "	Ward, Mrs Francis	Gatekeeper	7/ per week	Vice M Moran
14 "	Stewart, Herbert	Junior porter	2/6 per day	Vice R Henley
14 "	Doyle, John	Porter	7/6 per day	Reinstated
14 "	Irwin, Mrs Ellen	Gatekeeper	7/ per week	Vice E Bunt
14 "	Rea, Sarah	Gatekeeper	Free house	Vice A Nicholls
15 "	Bailey, Catherine	Gatekeeper	10/- per week and house	Vice M Cox
19 "	Fry, Reginald	Probationer	2/6 per week	
20 "	Ayling, Harriet	Gatekeeper	5/ per week	
20 "	Fraser, Susan	Gatekeeper	Free house	Vice M Frew
20 "	Everett, Arthur	Probationer	2/6 per week	
21 "	Horne, Maria	Gatekeeper	7/ per week	Vice K Moran
22 "	Sharp, Ann	Gatekeeper	10/- per week and house	Vice S Richens
22 "	Little, Rachael	Gatekeeper	Free house	Vice A Pryor
23 "	Conway, Thomas	Gatekeeper	15/- per week	
24 "	West, Julia	Gatekeeper	7/ per week	
26 "	Maher, James	Gatekeeper	15/- per week	
1 May	Mutton, Ivo	Apprentice clerk	4.30 per annum	Vice F Jackson
2 "	Bannon, Charles	Probationer	2/6 per week	Vice F Gambell
5 "	Ogden, Cecil	Gatekeeper	10/ per week	Vice G Rothwell
5 "	McGill, John	Gatekeeper	15/- per week	Vice J Lord

## APPENDIX III—continued.

Date	Name	Position	Rate	Remarks
1839				
CHIEF TRAFFIC MANAGER'S BRANCH—continued				
12 May	Fleming, John	Office boy	10/ per week	Vice W Ellis
15 "	Bennett, Mrs Hannah	Gatekeeper	7/ per week	Vice S Bennett
18 "	Shugg Leslie	Probationer	2/6 per week	Vice A Levien
19 "	Clarke Priscilla	Gatekeeper	7/ per week	Vice K Williams
26 "	Donnelly, John	Telephone boy	10/ per week	
28 "	Carpenter Mary	Gatekeeper	Free house	Vice M O Sullivan
29 "	Parker, Hannah	Gatekeeper	7/ per week	Vice M Sherack
1 June	Murray Mary Ann	Gatekeeper	Free house	Vice L Walder
1 "	O Sullivan Washington	Probationer	2/6 per week	Vice H Jolly
7 "	Herring, Mary	Gatekeeper	7/ per week	Vice C Breen
12 "	Davoren, Stanley	Gatekeeper	15/ per week	Vice J Miller
14 "	Neale, Lucy Mabel	Gatekeeper	7/ per week	Vice M White
17 "	Saunders, Joseph	Probationer	2/6 per week	Vice G Bland
19 "	Gould, Albert	Porter	6/ per day	
19 "	Tranor, Hugh	Gatekeeper	15/ per week	
23 "	Hedges, Elizabeth	Gatekeeper	Free house	Vice A Nicholls
26 "	Nve Laura	Gatekeeper	Free house	Vice E Nesbitt
26 "	Ward William	Probationer	2/6 per week	
30 "	Strachen, Annie	Gatekeeper	7/ per week	Vice H Ward
SIGNAL AND INTERLOCKING ENGINEER'S BRANCH				
14 "	Lewis, Ernest	Shop boy	2/ per day	} Transferred from Extra Staff
14 "	Clarke, Charles	2nd spike maker	7/ per day	
12 May	Jones, William G	Shop boy	2/3 per day	
ELECTRICAL ENGINEER'S BRANCH				
4 April	Gordon William J	Electrical cadet	10/ per week	
5 "	Swain, Herbert J	Electrical cadet	10/ per week	
5 "	Jackson Harold U	Electrical cadet	10/ per week	
10 "	Diamond, Austin	Draftsman	£140 per annum	
9 May	Gordon, Hubert K	Electrical cadet	10/ per week	
12 "	Peek, Albert	Probationer	2/6 per week	Vice W Clark
CONTROLLER OF STORES BRANCH				
29 May	McClelland, Harry L	Office lad	10/ per week	Vice F Meagher
14 June	McKenzie, James	Office lad	10/ per week	Vice E Gibbins
TRAMWAYS—LOCOMOTIVE BRANCH				
5 April	Moses, George V	Cleaner	5/6 per day	Vice G Betts
12 "	Braithwaite, Henry	Boy labourer	2/3 per day	Vice J Walton
8 May	Leary, John	Stationary engine fire man	7/6 per day	Vice T Tyrer
26 June	Clarke, Daniel	Fuelman	6/6 per day	Vice J Cox
TRAMWAYS—TRAFFIC BRANCH				
4 April	Colless George	Conductor	6/6 per day	Vice W Muir
12 "	Clingan Herbert	Junior car cleaner	2/6 per day	Vice W Brvant.
13 "	Cowdroy, Hubert	Car cleaner	6/ per day	Vice H Hampson
13 "	Morris, Patrick	Junior conductor	6/ per day	Vice H Badham
20 "	Molloy, John T	Junior conductor	6/ per day	Vice A Clappison
4 May	Goodrick, Albert W	Junior conductor	6/ per day	Vice E Brownlow
5 "	Wilson, Alexander W	Conductor	6/6 per day	} Transferred from Extra Staff
5 "	Mills, George H	Conductor	6/6 per day	
5 "	Nupier, Henry W	Junior conductor	6/ per day	
5 "	Hargrove, John	Junior conductor	6/ per day	
19 "	Madgwick, Richard	Conductor	6/6 per day	
20 "	Manuell, William E	Junior conductor	6/ per day	Vice A Millar
18 June	Dick, Donald E	Junior conductor	6/ per day	Vice W Pendleton
27 "	Tranter, Charles R	Car cleaner	6/ per day	Vice W McAllister
TRAMWAYS—MAINTENANCE BRANCH				
6 April	Blake, William	Labourer	6/6 per day	} Transferred from Extra Staff
"	Harris, William	Labourer	6/6 per day	
May	Messer, Robert	Labourer	6/6 per day	

## APPENDIX IV.

## NEW SOUTH WALES GOVERNMENT RAILWAYS AND TRAMWAYS

RETURN, in accordance with Clause No. 44 of the Railway Act, showing the Removals of Employees from the 1st April to the 30th June, 1899.

Date	Name	Position	Rate	Remarks
1899				
ENGINEER IN CHIEF FOR EXISTING LINES BRANCH				
4 April	Cool Richard	Fettler	7/ per day	Deceased
5 "	Vose Charles	Labourer	7/6 per day	Resigned
6 "	Jenkins Daniel	Labourer	7/ per day	Written off books
6 "	Wamsley Robert	Ganger	9/ per day	Retired
6 "	Day, William	Ganger	9/ per day	Resigned
7 "	Morris Arthur	Fettler	7/6 per day	Written off books
16 "	Maloney, Michael	Fettler	7/ per day	Deceased
27 "	Laycock Thomas	Labourer	7/6 per day	Discharged
8 May	Chambers, George	Night watchman	7/ per day	Retired
11 "	McGill, Patrick	Fettler	7/6 per day	Retired
1 June	Breen, John	Fettler	7/6 per day	Resigned
6 "	Walker, John	Ganger	8/6 per day	Resigned
8 "	Groves, Mark	Labourer	7/6 per day	Resigned
17 "	Hayler, Frederick	Ganger	9/ per day	Retired
15 "	Letts, William	Ganger	9/ per day	Retired
15 "	Hastie James	Fettler	7/6 per day	Retired
27 "	Ryder, Benjamin	Ganger	9/ per day	Deceased
30 "	Heap, Henry	Fettler	7/6 per day	Retired
20 "	Collins, Charles	Fettler	7/6 per day	Retired
30 "	Duggan, John	Fettler	7/6 per day	Retired

## APPENDIX IV—continued.

Date.	Name.	Position.	Rate.	Remarks.
1899. CHIEF MECHANICAL ENGINEER'S BRANCH.				
30 Mar.	Muir, William	Labourer	6/6 per day	Written off books.
27 April	Hattersley, Herbert	Clerk	£150 per annum	Retired.
28 "	Brown, Alfred	Striker	7/6 per day	Left the Service.
28 "	Dewick, William	Striker	7/- per day	Resigned.
2 May	Hansell, Henry	Labourer	7/6 per day	Deceased.
6 "	Edwards, Henry C.	Fitter	10/4 per day	Left the Service
6 "	Pendleton, Simeon	Apprentice	1/- per day	Resigned.
10 "	Walker, Frederick	Fireman	10/- per day	Resigned.
7 "	Pennycook, James	Fitter	10/- per day	Deceased.
15 "	Grimes, Thomas	Boilermaker's assistant.	7/6 per day	Resigned.
18 "	Yates, Samuel	Cleaner	4/6 per day	Resigned.
16 "	Summers, William	Fireman	9/- per day	Resigned.
20 "	Garratt, George	Call boy	3/3 per day	Discharged.
27 "	Miller, John	Messenger	7/6 per day	Deceased.
29 "	Blackburn, Joseph	Storeman	8/- per day	Deceased.
1 June	Bushell, William	Fuelman	8/- per day	Resigned.
8 "	Morris, Thomas	Fireman	10/- per day	Deceased.
15 "	Baker, William	Carriage builder	10/6 per day	Written off books.
21 "	Hodgson, Charles	Caretaker	50/- per week	Discharged.
22 "	Ashworth, John	Labourer	6/6 per day	Discharged.
23 "	Band, Henry	Litter	9/2 per day	Deceased.
26 "	Reid, Frederick	Clerk	£145 per annum	Written off books.
29 "	Dennett, William	Oiler	7/6 per day	Resigned.
29 "	Carroll, John	Fireman	9/- per day	Retired.
CHIEF TRAFFIC MANAGER'S BRANCH.				
24 Mar.	Pike, Janet	Gatekeeper	7/- per week	Deceased.
28 "	Sheehan, Catherine	Gatekeeper	Free house	Resigned.
1 April	Colgan, Patrick	Guard	11/- per day	Retired.
1 "	Fox, Alice	Gatekeeper	7/- per week	Resigned.
7 "	Sweeney, Sarah	Gatekeeper	15/- per week	Discharged.
8 "	Rothwell, George	Porter	7/- per day	Resigned.
13 "	Bunt, Bridget	Gatekeeper	7/- per week	Resigned.
14 "	Nicholls, Annie	Gatekeeper	Free house	Resigned.
15 "	Jackson, Frederick	Apprentice clerk	£50 per annum	Resigned.
15 "	Cox, Margaret	Gatekeeper	2/6 per week and house.	Discharged.
19 "	Frew, Margaret	Gatekeeper	Free house	Resigned.
20 "	Morgan, Kate	Gatekeeper	7/- per week	Resigned.
21 "	Richens, Sophia	Gatekeeper	10/- per week & house.	Resigned.
22 "	Pryor, Alice	Gatekeeper	Free house	Resigned.
30 "	Ward, Thomas	Station-master	£240 per annum and house.	Retired.
5 May	Harris Martha	Gatekeeper	7/- per week	Position abolished.
8 "	Jolly, Henry	Porter	6/6 per day	Discharged.
15 "	Bennett, Mrs. Sidney	Gatekeeper	7/- per week	Resigned.
17 "	Baylis, Alice	Gatekeeper	7/- per week	Position abolished.
18 "	Williams, Kate	Gatekeeper	7/- per week	Discharged.
22 "	Murray, Thomas	Gatekeeper	30/- per week & house	Resigned.
23 "	Drew, Hylton	Junior porter	3/4 per day	Resigned.
25 "	O'Sullivan, Mary	Gatekeeper	Free house	Resigned.
28 "	Sherack, Mabel	Gatekeeper	7/- per week	Discharged.
29 "	Bland, George	Junior porter	4/2 per day	Discharged.
6 June	Breen, Catherine	Gatekeeper	7/- per week	Resigned.
6 "	Wood, George P.	Junior Clerk	£120 per annum	Written off books.
8 "	Walter, Lily	Gatekeeper	Free house	Resigned.
13 "	White, Mary	Gatekeeper	7/- per week	Resigned.
15 "	Knight, William	Porter	8/- per day	Deceased.
23 "	Nicholls, Amelia	Gatekeeper	Free house	Resigned.
24 "	McDermott, Annie	Gatekeeper	7/- per week	Resigned.
26 "	Nesbitt, Elizabeth	Gatekeeper	Free house	Resigned.
26 "	Parker, Duncan	Junior porter	2/6 per day	Resigned.
30 "	Ward, Harriet	Gatekeeper	7/- per week	Resigned.
SIGNAL AND INTERLOCKING ENGINEER'S BRANCH.				
4 May	Faskins, John	Rough carpenter	8/- per day	Retired.
CONTROLLER OF STORES BRANCH.				
31 May	Gibbins, Edwin	Junior clerk	£90 per annum	Left the Service
TRAMWAYS—LOCOMOTIVE BRANCH.				
4 May	Wood, James A.	Junior clerk	£110 per annum	Discharged.
19 "	Fletcher, John H.	Cleaner	6/- per day	Discharged.
28 "	Cox, James	Fuelman	7/- per day	Deceased.
7 June	Graham, Thomas	Fireman	9/- per day	Discharged.
TRAMWAYS—TRAFFIC BRANCH				
6 April	Badham, Harold	Conductor	6/6 per day	Resigned.
17 May	Pendleton, William	Flagman	7/- per day	Deceased.
20 "	Millar, Andrew	Conductor	7/- per day	Retired.
14 June	McAllister, William	Car cleaner	7/- per day	Retired.
TRAMWAYS—MAINTENANCE BRANCH.				
12 April	Welsh, William	Labourer	7/6 per day	Discharged.
17 May	Denison, Henry	Ganger	9/- per day	Discharged.
15 June	Hourigan, Michael	Labourer	7/6 per day	Retired.



1899.  
(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## RAILWAYS AND TRAMWAYS.

(REPORT OF RAILWAY COMMISSIONERS, QUARTER ENDED 30TH SEPTEMBER, 1899.)

*Printed under No. 8 Report from Printing Committee, 2 November, 1899.*

Offices of the Railway Commissioners of New South Wales,  
23rd October, 1899.

To THE HONORABLE THE MINISTER OF RAILWAYS,—

Sir,

In accordance with the provisions of the 44th clause of the Railway Act of 1888, 51 Vic. No. 35, we have the honor to submit, for the information of Parliament, our Report, for the quarter ended 30th September, 1899, upon the subjects specified, viz. :—

### I.—STATE OF THE TRAFFIC.

RAILWAYS.								Quarter ended 30th September, 1898.	Quarter ended 30th September, 1899.
Miles open	...	...	...	...	...	...	...	2,705½	2,736
Revenue	...	Passenger	1898.	1899.	...	...	...	£766,589	£724,867
			£260,344	£274,659					
		Merchandise	£506,245.	£450,208					
Expenditure	...	...	...	...	...	...	...	£436,498	£430,425
Train miles run	...	...	...	...	...	...	...	2,092,857	2,109,762
Earnings per train mile	...	...	...	...	...	...	...	7s. 4d.	6s. 10½d.
Expenditure per train mile	...	...	...	...	...	...	...	4s. 2d.	4s. 1d.
Percentage—Expenditure to earnings	...	...	...	...	...	...	...	56·94	59·38
Number of passengers	...	...	...	...	...	...	...	5,768,724	6,304,724
Tonnage of goods traffic	...	...	...	...	...	...	...	1,294,452	1,287,334
Tonnage of live stock traffic	...	...	...	...	...	...	...	44,173	39,196

TRAMWAYS.								Quarter ended 30th September, 1898.	Quarter ended 30th September, 1899.
Miles open	...	...	...	...	...	...	...	65	66½
Revenue	...	...	...	...	...	...	...	£79,476	£89,336
Expenditure	...	...	...	...	...	...	...	£66,428	£72,162
Tram miles run	...	...	...	...	...	...	...	852,019	892,729
Earnings per tram mile	...	...	...	...	...	...	...	1s. 10½d.	2s. 0d.
Expenditure per tram mile	...	...	...	...	...	...	...	1s. 6¾d.	1s. 7½d.
Percentage—Expenditure to earnings	...	...	...	...	...	...	...	83·58	80·78
Number of fares collected	...	...	...	...	...	...	...	18,758,468	21,087,748

## RAILWAYS.

## II.—CONDITION OF THE LINES.

A report as to the condition of the lines will be found as an Appendix, page 4.

## III.—SPECIAL RATES.

A statement of the special rates, and the reasons for making the same, will be found attached. [Appendix, page 4.]

## IV.—STAFF.

These returns are given as an Appendix, pages 5 to 8.

## GENERAL REMARKS.

The Earnings for the quarter, as compared with the corresponding period last year, show a falling off of £41,722; the Expenditure shows a reduction of £6,073; the net result being a decrease of £35,649.

Wool, Live Stock, and General Merchandise show an aggregate decrease of £66,010, but increases in other traffic reduced this amount by £24,288, viz:— Passenger and other Coaching Earnings, £14,315; Grain and Flour, £5,116; Coal and Coke, £2,064; and other minerals, £2,793.

The Passenger traffic shows an increase of 536,000 journeys.

The Pioneer line from Tamworth to Manilla, a distance of 29 miles 42 chains, was opened for traffic on the 15th of September.

CONDITION OF LINES AND ACCOMMODATION FOR THE TRAFFIC.

The Permanent-way and works generally have been efficiently maintained. The grade improvements near Berowra and Woy Woy have been completed; those near Carlingford are nearing completion. The deviations between Harden and Cootamundra have made good progress, and others between Blayney and Gresham have been started.

A large portion of the earthwork in connection with the duplication of the North Shore Line, St. Leonards and Lindfield, has been completed, and satisfactory progress has been made with the renewal of the Wagga Wagga Viaduct and other works.

TRAMWAYS.

The Earnings show an increase of £9,860, and the Expenditure £5,734, the net improvement being £4,126.

The number of fares collected increased by 2,329,280.

We have the honor to be,

Sir,

Your most obedient servants,

CHARLES OLIVER,  
Chief Commissioner.

W. M. FEHON,  
Commissioner.

DAVID KIRKCALDIE,  
Commissioner.

## APPENDIX I.

## NEW SOUTH WALES GOVERNMENT RAILWAYS.

## REPORT on Condition of Way and Works for the quarter ended 30th September, 1899.

Sir, Office of Engineer-in-Chief for Existing Lines, 7th October, 1899.

I have to report, for the information of the Commissioners, that the permanent-way and works have been efficiently maintained during the past quarter.

Steady progress has been made with reballasting, resleepering, and rerailing.

The grade improvements in the vicinity of Berowra and Woy Woy have been completed. Heavy rains have delayed the works near Carlingford, which are nearing completion. Good progress has been made with the deviations between Harden and Cootamundra, and others between Blayney and Gresham have been started.

The work of duplicating the North Shore line, between St. Leonards and Lindfield, was started in August, and a large portion of the earthwork has been completed.

The extension from Tamworth to Manilla, 29 miles 42 chains, pioneer type, was opened for traffic on the 15th ultimo.

Satisfactory progress has been made with the renewal of the Wagga Wagga viaduct.

I have, &c.,

THOMAS R. FIRTH,  
Engineer-in-Chief for Existing Lines.

The Secretary to the Railway Commissioners.

## APPENDIX II.

## NEW SOUTH WALES GOVERNMENT RAILWAYS.

## LIST of Special Rates for quarter ended 30th September, 1899.

Article.	Rate or Particulars.	Reason for alteration.
Sewing machine stands.....	Sewing machine stands by passenger train double parcels rates .....	New rate.
Jadoo fibre and liquid .....	The rate for jadoo fibre and liquid same as artificial manures instead of "B" class.	To encourage traffic.
Malt .....	Mittagong to Sydney, "A" rates in 4-wheeled truck loads of not less than 6 tons.	do
Maize and peas .....	To country for feeding stock, to be treated same as oats used for a similar purpose.	To equalise rates.
Mill offal.....	Mill offal (bran and pollard), Cootamundra to Bourke, to be charged same rate as flour.	To encourage traffic.
Mineral water .....	Dubbo to Darling Harbour, "A" rates conditionally upon its being sent in 4-wheeled truck loads of not less than 6 tons.	do
Coal.....	1½d. per ton, Mt. Kembla to Mt. Keira, when previously hauled from Corrimal.	To meet exceptional traffic.
Flour and mill offal .....	"A" rates when sent from stations Junee to Harden to stations between Narrandera and Hay, inclusive, in 8-ton loads per 4-wheeled wagon.	To equalise rates.
Shunting charge .....	To "B" siding at Darling Harbour, 1s. 6d. per 4-wheeled wagon .....	do
Greasy wool .....	7s. per ton, minimum 5 tons per 4-wheeled wagon from Darling Harbor to Camden.	do
Ale and beer .....	West Maitland and Newcastle to Bourke in 6-ton truck loads, £5 15s. per truck.	do
"A" and "B" class traffic ..	When "A" and "B" class traffic form part of a 6-ton truck load mixed goods and is hauled over a branch line where local rates ordinarily apply the freight is to be based on the through mileage.	do
Handles (dressed) .....	1-ton lots Morisset to Newcastle and Darling Harbour "B" class rates ...	To secure traffic.
Manilla line .....	Through rate to be charged on all traffic between Tamworth and stations on the Manilla line.	New rate.
Preserved fruit, &c. ....	Sydney to Gundagai, sugar in 6-ton lots for jam making, 66s. 5d. per ton; glass jars, bottles, tin-plates, and ingot tin, minimum 2 tons, 23s. 6d. per ton.	To equalise rates.
	Gundagai to Sydney, canned fruit and jam, in 6-ton lots for export, also dried fruit in 6-ton lots for export, 23s. 6d. per ton.	do
Spokes (dressed) .....	"A" rate Morisset to Darling Harbor in 6-ton loads per 4-wheeled wagon	To secure traffic.



## APPENDIX III.

## NEW SOUTH WALES GOVERNMENT RAILWAYS AND TRAMWAYS.

RETURN, in accordance with clause No. 44 of the Railway Act, showing the Appointments of Employees from the 1st July to the 30th September, 1899.

Date	Name	Position	Rate	Remarks
1899				
ENGINEER IN CHIEF FOR EXISTING LINES BRANCH				
2 July	Piggott, Charles	Labourer	6/6 per day	Vice J Walsh
3 "	Bendall, Frederick	Fettler	6/6 per day	Vice F Hayler
5 "	Woodbury, John	Labourer	6/6 per day	Vice P McGill
5 "	Thorncroft, Henry	Fettler	6/6 per day	Vice J Duggan
7 "	Ward, George	Labourer	6/6 per day	Vice C Collins
11 "	Dalley, Thomas	Fettler	6/6 per day	Vice H Sawkins
14 "	Doughan, Hugh	Labourer	6/6 per day	Vice E Doughan
19 "	Beddoe, Francis	Labourer	6/6 per day	Vice H Heap
22 "	Moore, Luke	Labourer	6/6 per day	Vice J Hastie
24 "	Twyford, Ernest	Labourer	6/6 per day	Vice W Betts
31 "	Wight, Cecil	Messenger	10/ per week	
2 Aug	Edsir, Jonathan	Labourer	6/6 per day	Vice W Smith
21 "	Graham, Frederick	Labourer	6/6 per day	Vice J Breen
29 "	Thomas, John	Fettler	6/6 per day	Vice H Hunting
2 Sept	Riley, James	Labourer	6/6 per day	Vice J Leahy
4 "	M'Kenzie, David	Fettler	6/6 per day	Vice J Guilfoyle
11 "	Peacock, George	Labourer	6/6 per day	Vice J Robinson
11 "	Mencary, Albert	Labourer	6/6 per day	Vice G Webster
18 "	Abrahams, Robert	Labourer	6/6 per day	Vice J Leape
CHIEF MECHANICAL ENGINEER'S BRANCH				
1 July	Auton, Frederick	Cleaner	5/ per day	
1 "	Fleck, Edwin	Cleaner	5/ per day	
3 "	McNeil, George	Cleaner	3/3 per day	
4 "	McArthur, George	Electric light attendant	8/ per day	Vice W Marrant
14 "	Pulham, James	Fuelman	7/ per day	Transferred from Extra Staff
14 "	Gibbins, Martin	Messenger	10/6 per week	Vice J Miller
18 "	Tideswell, Morris	Carriage builder	10/ per day	Vice W Baker
19 "	Butcher, Edwin	Boilermakers' assistant	6/8 per day	Vice T Grimes
19 "	Brennand, James	Fitter	9/6 per day	Vice H C Edwards
20 "	McShane, William	Cleaner	5/ per day	
21 "	Peasley, Charles H	Call boy	2/6 per day	Vice G Garratt
24 "	Beveridge, William	Apprentice	10d per day	
25 "	Lynch, John L	Apprentice	10d per day	
25 "	Norris, Frederick	Apprentice	10d per day	
26 "	Northcott, Julian	Apprentice	10d per day	
26 "	Koch, Heinrich	Apprentice	10d per day	
26 "	Cosgrove, John	Apprentice	10d per day	
26 "	Dean, Charles	Apprentice	10d per day	
26 "	Maxwell, Robert	Apprentice	10d per day	
26 "	Bathgate, William	Apprentice	10d per day	
26 "	Cobb, John	Apprentice	10d per day	
27 "	Simmonds, Herbert	Shop boy	1/9 per day	
27 "	Maloney, Mrs	Office cleaner	4/1 per week	Vice J Miller.
27 "	Vernon, Alexis	Apprentice	10d per day	
27 "	Eckersley, John	Cleaner	5/ per day	
1 Aug	Keggen, James	Apprentice	1/3 per day	
1 "	Morrison, David	Apprentice	10d per day	Transferred from Extra Staff
1 "	Hinds, Charles	Apprentice	10d per day	
3 "	Brown, Frederick	Apprentice	10d per day	
3 "	Russell, Alexander	Fitter	9/6 per day	Vice J Dickson
4 "	Hackett, Alfred	Labourer	6/6 per day	Vice F Reid
7 "	Hood, Walter B	Shop boy	3/ per day	Vice J Ashworth
8 "	Higgs, Samuel	Apprentice	10d per day	
8 "	Davison, David	Apprentice	10d per day	
8 "	McAnally, John G	Apprentice	10d per day	
8 "	Hanks, Stewart	Apprentice	10d per day	
8 "	Walsh, William	Apprentice	10d per day	
14 "	Kelton, George H	Cleaner	5/ per day	
10 "	Gleeson, William	Apprentice	10d per day	
10 "	Howe, George P	Apprentice	10d per day	
11 "	Lloyd, Edward	Fuelman	7/ per day	
11 "	Boyd, Henry	Boilermaker	9/4 per day	Transferred from Extra Staff
18 "	Carroll, John	Shop boy	2/3 per day	
19 "	Lovering, Joseph	Cleaner	5/ per day	
21 "	Edwards, Hercules	Apprentice	10d per day	
21 "	Tinckam, Arthur	Apprentice	10d per day	
24 "	Haycox, William	Fuelman	6/6 per day	Vice W Bushell
25 "	Keav, David	Fitter	9/6 per day	Transferred from Extra Staff
31 "	Sotheren, William	Apprentice	10d per day	
1 Sept	Blatchford, Richard	Labourer	6/6 per day	Vice H Band
1 "	Barnes, Michael	Labourer	6/6 per day	
1 "	Huges, Thomas	Boilermakers Assistant	6/8 per day	Transferred from Extra Staff
4 "	James, Reginald	Apprentice	10d per day	
6 "	Walker, Frederick	Fireman	10/ per day	Re employed
14 "	Johnson, Samuel	Shop Boy	2/ per day	
15 "	Martin, Walter	Apprentice	10d per day	
20 "	Ferrario, Herbert	Labourer	6/6 per day	Vice J Mortimer
22 "	Hughes, Alexander	Cleaner	5/ per day	
23 "	McFayden, Henry	Fuelman	6/6 per day	Vice W Munro
26 "	McKenzie, George	Fireman	10/ per day	Re employed
26 "	Woods, Harris	Messenger	10/6 per week	Vice J Fitzpatrick
26 "	Burns, James	Shop Boy	2/6 per day	
26 "	Baxter, Alfred C	Apprentice	10d per day	
26 "	Lyons, Frederick	Apprentice	10d per day	
28 "	Barnes, Albert	Fitter	9/6 per day	
28 "	Mortimer, James	Washer out	7/ per day	Transferred from Extra Staff
28 "	Wilson, Albert	Machinist	8/ per day	
CHIEF TRAFFIC MANAGERS BRANCH				
5 July	Barber, Johanna	Gatekeeper	Free house	Vice R Little
7 "	O'Brien, Sidney	Probationer	2/6 per week	Vice W Blinco
12 "	Hamilton, James	Junior porter	3/4 per day	Vice M O Loughlin
14 "	Norris, Henry	Porter	7/ per day	Vice W Knight
14 "	Lowe, Annie	Gatekeeper	7/ per week	Vice A McDermott
20 "	Maloney, Sarah	Gatekeeper	Free house	Vice E Hoare
24 "	Swift, Ruth	Barrack attendant	5s per week	
24 "	Gibbons, William	Probationer	2/6 per week	
25 "	Stuckey, Hubert	Probationer	2/6 per week	
27 "	Peacock, Clara	Gatekeeper	7/ per week	Vice A Kirkland
27 "	Bullock, Annie	Gatekeeper	7/ per week	Vice W Bullock
30 "	Findlay, Isabella	Barrack attendant	Free house	

## APPENDIX III—continued.

Date	Name	Position	Rate	Remarks
1899				
CHIEF TRAFFIC MANAGERS BRANCH—continued				
1 Aug	Coomer, Mrs	Gatekeeper	7/ per week	Vice M Latimer
1 "	Woods, Ellen	Gatekeeper	Free house	Vice B Lewis
2 "	Cousins, Ellen	Gatekeeper	7/ per week	Vice M Cousins
4 "	Burt, Alexander	Telephone boy	10/ per week	Vice T Murray
5 "	Ashford, Sarah	Gatekeeper and Plat form attendant	7/ per week	Vice S Shepherd
7 "	Hindley, Arthur	Probationer	2 6 per week	
8 "	Thomson, Charles	Junior porter	2/6 per day	Vice P O Donnell
15 "	Taylor, Annie	Gatekeeper	Free house	Vice M Martin
19 "	O Neile, Clarence	Probationer	2/6 per week	
23 "	Lloyd, Lillie	Gatekeeper	7/ per week	Vice C Hansen
25 "	Atkinson, Leshe	Probationer	2/6 per week	Vice F Wilkins
25 "	Hansen, Clara	Gatekeeper	7/ per week	Vice M Strophair
28 "	Gospe, David	Probationer	2 6 per week	
1 Sept	Tynan, Mrs	Gatekeeper	7/ per week	Vice A Foster
1 "	Haydon, William	Probationer	2 6 per week	Vice D Reid
4 "	M Kenzie, Annie	Gatekeeper	Free house	Vice H Nugent
8 "	Kirkland, Annie	Platform attendant	7/6 per week	
15 "	Finn, John	Postal assistant	10/ per week	
16 "	Petit, Claude	Probationer	2 6 per week	
18 "	Miller, Frederick	Probationer	2 6 per week	
15 "	Giddy, James	Probationer	2/6 per week	Vice M Summersgreene
15 "	Taylor, Charles	Gatekeeper	Free house	Vice A Knight
21 "	Pellatt, Bertie	Probationer	2 6 per week	
22 "	Avis, Arthur	Junior porter	3/4 per day	
29 "	McCaskill, Annie	Gatekeeper	7/ per week	Vice J Dries
29 "	O Sullivan, Mary	Gatekeeper	Free house	Vice M Kelleher
29 "	Watson, Marv Ann	Gatekeeper	10/ per week	Vice H Norberry
30 "	Humby, Cecil	Gatekeeper	15/ per week	Vice J Lyon
ELECTRICAL ENGINEERS BRANCH				
27 July	Joyce, Thomas	Improver	5/ per day	
27 "	Haydon, Henry A	Electrical Cadet	10/ per week	
28 "	Laws, Ernest	Improver	5/ per day	
28 "	Hayward, Ernest T	Improver	5/ per day	
31 "	Ford, Albert E	Improver	5/ per day	
2 Aug	Kneeshaw, Frederick	Electrical Cadet	10/ per week	
4 "	Hughes, Bernard T	Probationer	2/6 per week	Transferred from Extra aff
30 "	Wilson, John H	1st Engineer	14/ per day	George and Harris Streets Electric Tramway
11 Sept	Hutchinson, James P	2nd Engineer	12/6 per day	
11 "	Arnott, James	3rd Engineer	12/ per day	
CONTROLLER OF STORES BRANCH				
11 Sept	Reid, Harold	Apprentice Clerk	£30 per annum	Vice A Tankard
14 "	Shields, Richard	Office lad	10/ per week	
13 "	Lewis, Archer	Office lad	10/ per week	
TRAMWAYS—LOCOMOTIVE BRANCH				
8 July	Lavender, Frederick	Cleaner	5/6 per day	Vice T Graham
11 "	Bradley, William R	Cleaner	4 6 per day	Vice J Fletcher
22 Aug	Rawlings, Francis	Apprentice	10d per day	
28 "	Hill, Thomas C	Pully oiler	2 6 per day	Vice T Searle
30 "	Tyler, Thomas	Fuelman	6 6 per day	Vice E Eagleton
11 Sept	Smallman, Edward	Cleaner	5 6 per day	Vice H Fletcher
11 "	Smith, Henry	Cleaner	5/6 per day	Vice E McLaughlin
11 "	Masters, Ernest	Cleaner	5 6 per day	Vice J Morrison
11 "	Stott, James	Cleaner	5 6 per day	Vice G Thomas
11 "	Gillies, Peter	Cleaner	5/6 per day	Vice A Coleman
11 "	McRoberts, Oswald	Cleaner	5/6 per day	Vice F Dodd
11 "	Manning, William	Cleaner	5/6 per day	Vice A Grumble
11 "	Haddrell, Jonas	Cleaner	5/6 per day	Vice A Hinton
11 "	Payne, Arthur E	Cleaner	5/6 per day	Vice R Evans
11 "	Nelmes, Frederick G	Cleaner	5/6 per day	Vice J Montgomery
11 "	Draper, Arthur E	Cleaner	5/6 per day	Vice G Swan
11 "	Long, Richard H	Cleaner	5/6 per day	Vice H Kyle
11 "	Lathlaen, John R	Cleaner	5/6 per day	Vice S Harrison
11 "	Atkinson, John	Cleaner	5/6 per day	Vice P Mitchell
12 "	Barratt, David	Cleaner	5/6 per day	Vice C Fletcher
12 "	Hemsworth, Edward	Cleaner	5/6 per day	Vice J Meiklejohn
12 "	Jackson, Edward	Cleaner	4/6 per day	Vice J Hardge
12 "	Inman, James	Cleaner	5/6 per day	Vice C Catford
12 "	Humphries, William	Cleaner	5/6 per day	Vice W Power
12 "	Gumbert, Alfred G	Cleaner	5/6 per day	Vice W Waters
13 "	Long, George	Cleaner	4/6 per day	Vice P Austin
14 "	Mills, Robert J	Cleaner	5/6 per day	Vice E Baker
14 "	Burns, James	Cleaner	5/6 per day	Vice C Boxall
TRAMWAYS—TRAFFIC BRANCH				
1 July	Yates, William F	Conductor	6/ per day	Vice J Claridge
25 "	Mitchell, William	Board Attendant	6/ per day	Transferred from Extra Staff
11 Aug	Anderson, William B	Conductor	6/ per day	Balmain and Leichhardt Lines.
17 "	Watson, Daniel	Conductor	6/ per day	
17 "	Lenehan, Francis P	Conductor	6/ per day	Vice H Bradney
4 Sept	Terney, Michael	Telephone lad	10/ per week	
4 "	Rogers, William	Conductor	6/ per day	
4 "	Read, John W	Conductor	6/ per day	
4 "	Truine, George R	Conductor	6/ per day	
4 "	Gant, Richard	Conductor	6/ per day	
4 "	Prideaux, Matthew	Conductor	6/ per day	
4 "	Salkeld, William	Conductor	6/ per day	
4 "	Wilson, Henry R	Conductor	6/ per day	
4 "	Sheldon, William	Conductor	6/ per day	
4 "	Ranger, Alfred W	Conductor	6/ per day	
4 "	Perkins, Albert	Conductor	6/ per day	
4 "	Parker, James H	Conductor	6/ per day	
4 "	Comer, Archibald W	Conductor	6/ per day	
4 "	Ross, James M	Conductor	6/ per day	George and Harris Streets Electric Tramway
4 "	Bremner, John	Conductor	6/ per day	
4 "	Palmer, James W	Conductor	6/ per day	
4 "	Oakes, William J	Conductor	6/ per day	
4 "	O'Brien, Walter S	Conductor	6/ per day	
4 "	Hutchinson, George E	Conductor	6/ per day	
4 "	Cronin, Mark	Conductor	6/ per day	
4 "	Wynne, Wilfrid P	Conductor	6/ per day	
4 "	Parsons, Sydney H	Conductor	6/ per day	
4 "	O Keefe, Thomas J	Conductor	6/ per day	
4 "	Black, George J	Conductor	6/ per day	
4 "	Burgis, William G	Conductor	6/ per day	
4 "	Dale, Benjamin A	Conductor	6/ per day	

## APPENDIX III—continued.

Date.	Name	Position	Rate	Remarks
1899				
TRAMWAYS—TRAFFIC BRANCH—continued				
4 Sept	Atkinson, George C	Conductor	6/ per day	George and Harris Streets Electric Tramway
1 "	Lees, Edward J	Conductor	6/ per day	
4 "	Jenkins, Francis J	Conductor	6/ per day	
4 "	Freckleton, Albert J	Conductor	6/ per day	
4 "	Cooper, Charles L	Conductor	6/ per day	
4 "	Charker, George E	Conductor	6/ per day	
4 "	Charker, Albert E	Conductor	6/ per day	
4 "	Mongan, Michael	Conductor	6/ per day	
4 "	McGrath, John C	Conductor	6/ per day	
6 "	Pidding, Percy	Conductor	6/ per day	
6 "	Pollack, Robert W	Conductor	6/ per day	
6 "	Payne, William C	Conductor	6/ per day	
6 "	Quinn Patrick	Conductor	6/ per day	
6 "	Read, Edward A	Conductor	6/ per day	
6 "	Roberts, Henry T	Conductor	6/ per day	
6 "	Creed, Alfred	Conductor	6/ per day	
6 "	Anderson, Norman C	Conductor	6/ per day	
6 "	Lackey, Andrew	Conductor	6/ per day	
7 "	Chadwick, John W	Conductor	6/ per day	
7 "	Porter, Leshe	Conductor	6/ per day	
7 "	Coady, Edward J	Conductor	6/ per day	
7 "	Colgan, John J	Conductor	6/ per day	
7 "	Coxhead, Albert D	Conductor	6/ per day	
7 "	Johnson, John W	Conductor	6/ per day	
7 "	Paine, Edward	Conductor	6/ per day	
7 "	Burne, Lawford W	Conductor	6/ per day	
7 "	Watkins, William R	Conductor	6/ per day	
7 "	Warton, George M	Conductor	6/ per day	
7 "	Watt, Julius T	Conductor	6/ per day	
7 "	Wiggins, Thomas W	Conductor	6/ per day	
7 "	Heazlett, John H	Conductor	6/ per day	
7 "	Hickey, James	Conductor	6/ per day	
7 "	Reynolds, Edward J	Conductor	6/ per day	
7 "	Hornunan, Frank G	Conductor	6/ per day	
7 "	Scott, Albert	Conductor	6/ per day	
7 "	Pike, Valentine	Conductor	6/ per day	
7 "	James, Samuel H	Conductor	6/ per day	
7 "	Murray, Milton R	Conductor	6/ per day	
8 "	Reardon, William T	Conductor	6/ per day	
8 "	Wilson, Albert H	Conductor	6/ per day	
8 "	Kennedy, Frederick A	Conductor	6/ per day	
8 "	Vaughan, Thomas	Conductor	6/ per day	
8 "	Johnstone, Edward M	Conductor	6/ per day	
8 "	Murphy, Michael	Conductor	6/ per day	
8 "	Naylor, Alexander	Conductor	6/ per day	
8 "	Smith, Norman J	Conductor	6/ per day	
8 "	Love, Charles J	Conductor	6/ per day	
8 "	Kavanagh, Michael	Conductor	6/ per day	
8 "	Napier, Robert E	Conductor	6/ per day	
8 "	Holler, Herbert S	Conductor	6/ per day	
8 "	Rodgers, Oliver	Conductor	6/ per day	
9 "	Viles, Edward E	Conductor	6/ per day	
9 "	Kelly, Myles A	Conductor	6/ per day	
9 "	McCarthy, James F	Conductor	6/ per day	
9 "	Martin, Samuel	Conductor	6/ per day	
9 "	Clarke, Ernest	Conductor	6/ per day	
9 "	Sutton, George T	Conductor	6/ per day	
9 "	Lucker, Jesse	Conductor	6/ per day	
9 "	Lund, Soren C	Conductor	6/ per day	
11 "	Drewe, Leshe E	Telephone lad	10/ per week	
12 "	Lewis, Walter	Conductor	6/ per day	
18 "	Gamey, John	Conductor	6/ per day	
18 "	McDonogh, Charles B	Conductor	6/ per day	
18 "	Aikman, John C	Conductor	6/ per day	
18 "	Blake, John	Conductor	6/ per day	
18 "	Walters, Henry H	Conductor	6/ per day	
18 "	Rorison, William G	Conductor	6/ per day	
18 "	Bernic, Adam	Conductor	6/ per day	
18 "	Hodges, George	Conductor	6/ per day	
18 "	Swindlehurst Harold	Conductor	6/ per day	
30 "	Hill, Ernest W	Conductor	6/ per day	
30 "	Casey, William T	Conductor	6/ per day	
TRAMWAYS—MAINTENANCE BRANCH				
1 July	Brennan, James	Labourer	6/6 per day	Vice H Denmison
1 "	Mullally, William	Labourer	6/6 per day	Vice M Hourigan
14 Aug	Stephens, Theodore	Messenger	10/ per week	Vice P Tooker

## APPENDIX IV.

## NEW SOUTH WALES GOVERNMENT RAILWAYS AND TRAMWAYS

RETURN, in accordance with clause No 44 of the Railway Act, showing the Removal of Employees from the 1st July to the 30th September, 1899

Date	Name	Position	Rate	Remarks
1899				
TRAFFIC AUDITOR'S BRANCH				
1 July	Dent, Frederick	Apprentice clerk	£20 per annum	Resigned
ENGINEERS IN CHIEF FOR EXISTING LINES BRANCH				
30 June	Smith, William	Striker	7/6 per day	Retired
5 July	Doughan, Edward	Fettler	7/6 per day	Retired
21 "	Leape, James	Ganger	9/ per day	Retired
29 "	Robinson, John	Fettler	7/6 per day	Retired
17 Aug	Webster, George	Fettler	7/6 per day	Resigned
24 "	Hunting, Henry	Fettler	7/6 per day	Retired
24 "	Sawkins, Henry	Fettler	7/6 per day	Retired
31 "	Daley, Richard	Ganger	9/ per day	Retired
31 "	Leahev, Thomas	Ganger	9/ per day	Retired
31 "	Marshall, James	Fettler	7/6 per day	Retired
2 Sept	Goddard, William	Fettler	7/6 per day	Retired
20 "	Jameson, James	Fettler	7/6 per day	Deceased
24 "	Long, John	Fettler	7/6 per day	Deceased
26 "	Acheson, Joseph	Fettler	7/6 per day	Retired
29 "	Spears, George	Ganger	9/ per day	Retired
30 "	Haines, William	Fettler	7/6 per day	Resigned

## APPENDIX IV—continued.

Date.	Name.	Position.	Rate.	Remarks
1899.				
CHIEF MECHANICAL ENGINEER'S BRANCH.				
4 July	Dickson, James .....	Fitter .....	10/2 per day	Deceased.
6 "	Bracewell, Charles ..	Fitter .....	9/6 per day	Deceased.
15 "	Scott, William ..	Fuelman .....	7/- per day	Deceased.
20 "	Smith, John H. D ..	Examiner .....	7/- per day	Resigned.
11 Aug	Mortimer, James ..	Labourer .....	7/6 per day	Retired.
14 "	Doyle, Richard .....	Wagon builder .....	10/- per day	Resigned.
19 "	Love, Andrew ..	Labourer ..	7/- per day	Retired.
19 "	Fitzpatrick, James ..	Labourer ..	7/6 per day	Retired.
21 "	Roach, George ..	Cleaner ..	4/- per day	Discharged.
30 "	Lewis, John ..	Fitter ..	8/- per day	Resigned.
8 Sept.	Boag, Henry ..	Turner ..	11/- per day	Deceased.
19 "	Polglase, Alfred ..	Oiler ..	7/- per day	Resigned.
25 "	Clingan, Robert ..	Gasmaker ..	8/6 per day	Resigned.
28 "	Spence, Horace ..	Fireman ..	9/- per day	Resigned.
CHIEF TRAFFIC MANAGER'S BRANCH.				
24 June	Latimer, Mary J. ....	Gatekeeper ..	7/- per week	Resigned.
5 July	Little, Rachael ..	Gatekeeper ..	Free house	Resigned.
12 "	O'Donnell, Patrick ..	Porter ..	7/- per day	Discharged.
17 "	Hoare, Emma ....	Platform attendant	15/- per week and house.	Discharged.
21 "	Stewart, Bruce ..	Assistant berthing master.	9/6 per day ...	Discharged.
22 "	Reid, Duncan ..	Gatekeeper ..	30/- per week and house	Deceased.
23 "	McDonald, Mary ..	Gatekeeper ..	7/ per week	Resigned.
24 "	Nugent, Hannah ..	Gatekeeper ..	Free house	Resigned.
26 "	Kirkland, Annie ..	Gatekeeper ..	7/- per week	Resigned.
27 "	Bullock, William ..	Gatekeeper ..	7/ per week	Resigned.
31 "	Delaney, Robert ..	Guard ..	11/- per day	Retired.
31 "	Lewis, Betsy ..	Gatekeeper ..	Free house	Resigned.
2 Aug	Cousins, Mrs Mary ..	Gatekeeper ..	7/- per week	Deceased.
3 "	Forde, Isabella ..	Platform attendant	10/- per week and house.	Discharged.
4 "	Shepherd, Selina ..	Gatekeeper and plat form attendant.	7/- per week	Resigned.
5 "	Stuyck, George ..	Porter ..	7/- per day	Discharged.
7 "	Parker, Thomas ..	Porter ..	7/6 per day	Discharged.
7 "	Hanus, Charles ..	Junior porter	5/- per day	Discharged.
12 "	Hawes, Charles ..	Porter ..	7/ per day	Discharged.
15 "	Martin, Mary ..	Gatekeeper ..	Free house	Resigned.
18 "	Foster, Annie ..	Gatekeeper ..	7 per week	Resigned.
16 "	Chin, Benjamin ..	Porter ..	7/ per day	Deceased.
23 "	Dies, Jane ..	Gatekeeper ..	7/- per week	Resigned.
23 "	Hansen, Clara ..	Gatekeeper ..	7/6 per week	Resigned.
24 "	Greathod, Joseph ..	Porter ..	7/- per day	Discharged.
25 "	Cavers, Walter ..	Porter ..	7/6 per day	Deceased.
25 "	Strophair, Margaret ..	Gatekeeper ..	7/ per week	Resigned.
31 "	Playe, Thomas ..	Guard ..	9/6 per day	Resigned.
2 Sept	Howe, Frederick ..	Officer in charge	£160 per annum	Retired.
4 "	Miles, Henry ..	Signalman ..	9/ per day	Discharged.
13 "	Ward, William ..	Probationer ..	2/6 per week	Resigned.
15 "	Knight, Alice ..	Gatekeeper ..	Free house	Resigned.
16 "	Hogan, Michael ..	Junior porter	5/ per day	Discharged.
16 "	Westlake, Thomas ..	Porter ..	7/6 per day	Resigned.
16 "	Outred, Francis ..	Junior porter	2/6 per day	Discharged.
19 "	Keane, Arthur ..	Porter ..	7/- per day	Resigned.
21 "	Allen, Thomas ..	Porter ..	6/- per day	Resigned.
22 "	Summergreene, Mary ..	Gatekeeper ..	7/- per week	Resigned.
28 "	Notberry, Hannah ..	Gatekeeper ..	10/ per week	Resigned.
29 "	Kelleher, Margaret ..	Gatekeeper ..	Free house	Resigned.
30 "	Lyon, John ..	Gatekeeper ..	7/ per day	Retired.
SIGNAL AND INTERLOCKING ENGINEER'S BRANCH.				
10 Aug	Kitchener, Horace ..	Driller ..	8/2 per day	Resigned.
23 sept	Buchanan, William ..	Labourer ..	7/6 per day	Resigned.
ELECTRICAL ENGINEER'S BRANCH				
19 Aug	Bartlett, Alfred P. ..	Fitter ..	10 - per day	Resigned.
10 Sept	Elwell, Paul B ..	Electrical engineer ..	£900 per annum	Deceased.
COMPTROLLER OF STORPS BRANCH.				
23 Sept	Ferguson, Alexander ..	Foreman ..	10/ per day	Retired.
TRAMWAYS—LOCOMOTIVE BRANCH				
5 July	Vaughan, John ..	Car lifter ..	8/6 per day	Discharged.
2 Aug	Searle, Thomas ..	Driver ..	12/ per day	Resigned.
18 "	Hodgson, Harold ..	Apprentice ..	/10 per day	Discharged.
11 Sept	Dash, David ..	Fireman ..	7/6 per day	Deceased.
22 "	Harris, James C ..	Fireman ..	8/ per day	Discharged.
23 "	Marr, Thomas D ..	Shop boy ..	3/ per day	Discharged.
TRAMWAYS—TRAFFIC BRANCH				
31 July	Clement, William E ..	Senior conductor	9/ per day	Retired.
3 Aug	Bradney, Herbert ..	Junior conductor	6/6 per day	Discharged.
TRAMWAYS—MAINTENANCE BRANCH.				
26 July	Flynn, Patrick ..	Labourer ..	7/6 per day	Discharged.
17 Aug	James, William ..	Striker ..	7/6 per day	Retired.
7 Sept	Heath, Samuel ..	Labourer ..	7/6 per day	Resigned.

1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

## RAILWAY REVENUE AND EXPENDITURE.

(RETURN RESPECTING, FROM 1890 TO 1898.)

*Printed under No. 7 Report from Printing Committee, 26 October, 1899.*

RETURN to an *Order* of the Honorable the Legislative Assembly of New South Wales, That there be laid upon the Table of this House,—

“ (1.) The Revenue from Railways for the years 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, and 1898. .

“ (2.) The expenditure for the same periods.”

(*Mr. Fegan.*)

RETURN showing Railway Revenue and Expenditure for the years ending 30th June, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, and 1898.

Year ending 30th June.	Revenue.			Expenditure.		
	Railways.	Tramways.	Total.	Railways.	Tramways.	Total.
	£	£	£	£	£	£
1890 ... ..	2,633,086	268,962	2,902,048	1,665,835	224,073	1,889,908
1891 ... ..	2,974,421	292,850	3,267,271	1,831,371	239,679	2,071,050
1892 ... ..	3,107,296	305,090	3,412,386	1,914,252	248,591	2,162,843
1893 ... ..	2,927,056	295,367	3,222,423	1,738,516	233,808	1,972,324
1894 ... ..	2,813,541	278,194	3,091,735	1,591,842	229,283	1,821,125
1895 ... ..	2,878,204	282,316	3,160,520	1,567,589	230,993	1,798,582
1896 ... ..	2,820,417	289,181	3,109,598	1,551,888	236,283	1,788,171
1897 ... ..	3,014,742	306,695	3,321,437	1,601,218	248,881	1,850,099
1898 ... ..	3,026,748	313,871	3,340,619	1,614,605	259,141	1,873,746

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1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## RAILWAY BETWEEN SYDNEY AND BELMORE.

(RETURN RESPECTING.)

*Printed under No. 13 Report from Printing Committee, 12 December, 1899.*

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 21st November, 1899, That there be laid upon the Table of this House, a Return showing,—

- “ (1.) The revenue obtained from the Sydney-Belmore Railway for the  
 “ last two years, inclusive of all fares and freight between Sydney and  
 “ Belmore, and all intermediate stations.  
 “ (2.) The total cost of working the line during that period.”

*(Mr. Parkes.)*

(1.) £8,559.

(2.) £9,829.

The cost of working the line does not include the interest on the capital outlay, which amounts to £11,658 for the two years.





1899.  
(THIRD SESSION.)

—  
LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

—  
PARLIAMENTARY STANDING COMMITTEE ON  
PUBLIC WORKS.

—  
REPORT

TOGETHER WITH

MINUTES OF EVIDENCE, APPENDIX, AND PLANS,

RELATING TO THE

PROPOSED RAILWAY

FROM

COBAR TO WILCANNIA.

—  
Presented to Parliament in accordance with the provisions of the Public Works Act,  
51 Vic. No. 37.

—  
*Printed under No. 14 Report from Printing Committee, 19 December, 1899.*

SYDNEY: WILLIAM APPLIGATE GULLICK, GOVERNMENT PRINTER.



## MEMBERS OF THE COMMITTEE.

## LEGISLATIVE COUNCIL.

- \* The Honorable WILLIAM JOSEPH TRICKETT, Chairman.  
 The Honorable PATRICK LINDESAY CRAWFORD SHEPHERD.  
 The Honorable ANDREW GARRAN, LL.D.

## LEGISLATIVE ASSEMBLY.

- \* WILLIAM THOMAS DICK, Esquire, Vice-Chairman.  
 \* JOHN PERRY, Esquire.  
 JOHN CHRISTIAN WATSON, Esquire.  
 ROBERT HENRY LEVIEN, Esquire.

[\* On 18th September, 1899, Mr. JOHN PERRY, having accepted the office of Minister of Public Instruction and Minister for Labour and Industry, retired from the position of Chairman and a Member of the Committee. The Honorable WILLIAM JOSEPH TRICKETT, Vice-Chairman, was elected Chairman in the place of Mr. PERRY, and Mr. DICK was chosen as Vice-Chairman.]

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PLANS.

Plan showing proposed Railway.

Map of area within the Railway's sphere of influence, with particulars of land revenue obtained therefrom.

# PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

## RAILWAY FROM COBAR TO WILCANNIA.

### REPORT.

THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS, appointed during the first Session of the present Parliament, under the Public Works Act of 1888, 51 Vic. No. 37, the Public Works Act Amendment Act of 1889, 52 Vic. No. 26, the Public Works (Committees' Remuneration) Act of 1889, 53 Vic. No. 11, and the Public Works Acts Further Amendment Act of 1897, 61 Vic. No. 6, to whom was referred the duty of considering and reporting upon "the expediency of constructing a line of Railway from Cobar to Wilcannia," have, after due inquiry, resolved that it is expedient the proposed railway be constructed to a point on the east side of the Darling River, 619½ miles from Sydney, and suggest that the railway revenue should be subsidised to some substantial and suitable extent from the land revenue derived from the district benefited by the line; and, in accordance with the provision of sub-section IV, of clause 13, of the Public Works Act, report their resolution to the Legislative Assembly:—

#### DEPARTMENTAL STATEMENT.

1. The first action with regard to this proposal, according to the Departmental statement placed before the Committee by the Under Secretary for Public Works, was taken in 1884, when, in response to a petition to the Legislative Assembly from residents of Cobar and the surrounding district, asking for the construction of a railway from Nyngan to Wilcannia, *via* Cobar, the Minister for Works approved of a survey being made. This was completed in 1885. In 1889 it was suggested that Wilcannia should be connected with the railway system of the Colony from Forbes, but this was disposed of by a report from the Engineer-in-Chief for Railways who had no hesitation in stating that if it were considered desirable to construct a railway to connect with Wilcannia, and which might eventually be extended to Silverton, the best route would be from Nyngan to Cobar, and thence to Wilcannia and Silverton. The following year it was proposed that a railway should be constructed from Nyngan to Cobar, and this having been inquired into by the Public Works Committee, was recommended by them as part of a line eventually to extend to Wilcannia and Broken Hill; the circumstances at the time being such as, in their opinion, justified this recommendation. In 1892 an amended survey was made between Cobar and Wilcannia, and on that survey was based the proposal now before the Committee. Another route which bears on the question is that from Condobolin to Broken Hill, *via* Menindie, which originated in 1895, and during that year was before the Public Works Committee. It was regarded by the Railway Commissioners as preferable to the route from Cobar, but on several grounds was not approved by the Committee.

#### DESCRIPTION

## DESCRIPTION OF THE RAILWAY.

2. The railway, as now proposed,  $165\frac{1}{2}$  miles in length, would leave the present terminus of the Nyngan to Cobar line at about 459 miles 36 chains from Sydney, and, proceeding in a westerly direction, follow the main road to Wilcannia through the counties of Robinson and part of Booroondena to 501 miles 50 chains. Thence it would run in a slightly south-westerly direction past Brokmetta Lake up to 533 miles, and after bearing north-westerly as far as 538 miles go due west through the county of Rankine to Lake Poopelloe, crossing and recrossing the main road at 569 and 572 miles. From that point it would bear south-westerly through the county of Werunda to 587 miles, and thence north-westerly to Wilcannia, where it would cross the Darling River at about 619 miles 60 chains; and, passing through the town of Wilcannia, running between, and parallel to, Murray and Brougham Streets, it would terminate at about 621 miles 36 chains. The ruling grade on the line would be 1 in 100, and the curves 14 chains radius. As originally surveyed, the length of the line was 162 miles. Three and a half miles have been added to obtain a favourable grade. Only a very small portion of alienated land would be passed through.

## ESTIMATED COST.

3. The estimated total cost is £497,000, or £3,003 per mile, of which amount £401,808 is the estimate in relation to the length from Cobar to the east side of the Darling River, 156 miles, and £95,192 that for the remaining  $9\frac{1}{2}$  miles. The last portion of the line is very expensive owing to its liability to flood and the number of creeks to be crossed. Two and a half miles of this section are quite dry, but the remaining 7 are more or less subject to flood, and in that distance there will be  $5\frac{1}{2}$  miles of embankments and viaducts.

## RAILWAY COMMISSIONERS' REPORT.

4. The Railway Commissioners' report upon the line shows, in a comparison between expenses and receipts, an annual loss of £20,510, and they do not recommend that the railway be constructed. The estimated annual cost amounts to £27,310, which is made up of £14,910 interest at 3 per cent. on the capital expenditure, and £12,400 cost of maintaining permanent-way and for traffic and locomotive expenses; the traffic estimate is £6,800, comprising merchandise, wool, and live stock, £2,800, and passenger traffic, mails, parcels, &c., £4,000. When the project of a railway to Broken Hill was under consideration some years ago, the prospects in relation to Broken Hill, the Commissioners point out, were exceptionally good, and quite different from what they are to-day. Then, a very large trade in coke, fuel, and ores was anticipated, but this cannot now be hoped for, as the ores are not now locally treated. In their opinion there is little prospect of the proposed line to Wilcannia proving other than a large burden on the railway system of the Colony.

## THE COMMITTEE'S INQUIRY.

5. In making their inquiry the Committee have taken evidence in Sydney, Wilcannia, and Cobar, and at some of the pastoral stations in the Wilcannia and Cobar districts, and travelling from Wilcannia to Cobar they, as far as possible, inspected the railway route and the country in its vicinity. A journey down the Darling from Bourke to Menindie, in relation to the proposed locking of the river, also afforded them a valuable opportunity for informing themselves as to the manner in which the railway might serve the district, and the extent to which it was likely to secure traffic.

## NATURE OF THE COUNTRY.

6. The country traversed by the Committee when travelling between Wilcannia and Cobar consisted throughout of large pastoral holdings, and, for the most part, in consequence of the severe drought from which the district is suffering, was exceedingly dry and destitute of grass. There was, however, even in the driest parts

parts some little herbage and more or less edible scrub. Previous to the Committee leaving Wilcannia for Cobar, two of its members proceeded from Wilcannia along the Ivanhoe-road, in the vicinity of the surveyed railway route, to Talyawalka Creek, in order to inspect the land between the Talyawalka and Wilcannia subject to flood. They found that the first high land on the eastern side of the river Darling, which the railway route touches, is a sand ridge within a quarter of a mile of the river bank, and some distance higher up stream than the present road bridge. It is large in area and exceptionally high, and if the terminus of the railway should be located on the eastern bank of the river offers an excellent site for the railway station. Further on for some miles the land was found to be generally low-lying, with occasional sandy rises which seemed to have been taken advantage of to the fullest extent in connection with the railway survey, in order to save expense in the construction of viaducts or high embankments. Approaching the main channel of the Talyawalka Creek the land became more depressed, and evidently would require rather expensive works to overcome its exposure to flood. Where the creek beds are, and over the low-lying country generally, the soil is so soft and friable that the piles of the road bridges constructed are continually sinking, thus necessitating frequent readjustment. A good deal of the country seen during this inspection was covered with old-man salt-bush and some blue-bush. From Wilcannia towards Cobar the railway makes a lengthy detour to the southward in order to avoid as far as possible the flooded country, which for a considerable distance extends to the north-east of Wilcannia. Owing to there being no track by the railway route the Committee, in journeying from Wilcannia to Cobar, followed the coach road, which for the first 50 miles of the distance—as far as Petyuna, an out-station on Murtee holding—passes mainly through country subject to flood and gradually bears away from the influence of the Darling River. This tract of land consists mainly of dark grey soil, with sandy ridges and stony rises, and on it the effects of the drought were only too apparent, as there was no grass to be seen and little herbage. The Committee, however, were informed that in good seasons the low-lying land is excellent fattening country. Between Petyuna and Bulla Tank higher country was reached, of an undulating nature with occasional hills, and for the most part of good quality. Feed was scarce except mulga, leopard wood, and other edible scrub, and occasionally a little wild spinach. Bulla Tank, 92 miles east of Wilcannia, is the first Government water supply met with. From Bulla Tank towards Cobar the country along the route was found to be largely a red loamy soil of excellent quality, carrying at present a considerable quantity of edible and other scrub. The resumed areas now open are very extensive, and, with the construction of the railway, should be largely availed of for closer pastoral settlement; but the evidence tendered to the Committee was to the effect that the present maximum area of 10,000 acres for homestead leases is rather small, and that if, say, double that area were allowed much of the country for some distance on each side of the proposed line would be taken up by pastoralists to the advantage of the public revenue.

Between Wilcannia and Cobar no minerals of importance have been discovered, and there are no indications on the surface of their existence; but the Government Geologist expresses the opinion that valuable mineral deposits may yet be found there. West and north-west of Wilcannia the country is of a pastoral nature with extensive tracts of mineral-bearing land within it. At White Cliffs, and for 40 miles north, and about half that distance to the north-west, beyond White Cliffs, an opal-bearing country exists, having upon it a considerable population, who, up to the present, have been doing very well. To the north-west of White Cliffs, at Nuntherungie, there are what are believed to be valuable deposits of copper and silver ore, and on the way from White Cliffs to Mount Browne the country is, in several places, auriferous. At Mount Browne, Milparinka, Tibooburra, and some intervening places there are alluvial and quartz gold-fields, which would be extensively worked if cheaper means existed for obtaining machinery and supplies, and if water were more plentiful.

At the present time Wilcannia is suffering from depression, occasioned chiefly by drought. The population has decreased considerably, and business is dull. Many of the people, however, have gone temporarily to White Cliffs, and when the prolonged drought from which the district has been suffering is at an end it is believed the former prosperity of the town will return.

## LAND OCCUPATION AND REVENUE.

7. From information supplied by the Department of Lands, it appears that the land, within 20 miles of the railway route on either side, consists of 51,000 acres of alienated land, 381,000 acres of settlement and homestead leases, 476,000 acres of reserves, and 3,453,000 acres of Crown land. Of the last-mentioned, 1,995,000 acres are held under leases which expire in the year 1918, 1,433,000 are held under occupation license, and 25,000 acres are practically untenanted. The rents received from the pastoral holdings, going westward from Cobar, are one penny an acre; 77-100ths of a penny; 75-100ths of a penny; 89-100ths of a penny; one penny and 5-100ths of a penny; 80-100ths of a penny; 70-100ths of a penny; 36-100ths of a penny; and, immediately north of Wilcannia, 88-100ths of a penny.

In relation to this subject of rents, the Committee thought it well to obtain the annual revenue received by the Crown from land within an area described as starting from Cobar, and going in a north-westerly direction to Wanaaring; thence in a south-westerly direction towards White Cliffs, and about 50 miles to the west of that township; thence coming down in a southerly and easterly direction to the Darling River, about 40 miles south of Wilcannia; and thence in a north-easterly direction back to Cobar. From this area, most if not all of which would be more or less within the railway's sphere of influence, the annual revenue received, exclusive of that from mining occupation and land tax, is £35,260, made up of £739 from conditional purchases, £172 from converted pre-leases, £4,520 from homestead, improvement, artesian well, and settlement leases, £23,854 from leasehold areas, and £5,975 from land held under occupation license.

## POPULATION.

8. The population of the districts likely to be served by the railway is variously stated by some of the witnesses examined, but the figures supplied to the Committee from the office of the Government Statistician, representing the population within an area of 25 miles on each side of the railway line, and at and in the immediate vicinity of the townships to the north-west of Wilcannia as far as Yalpunga, are as follows:—

Cobar	...	...	...	...	...	...	...	...	2,450
Wilcannia	...	...	...	...	...	...	...	...	1,050
Around and between Cobar and Wilcannia	...	...	...	...	...	...	...	...	2,060
White Cliffs	...	...	...	...	...	...	...	...	1,700
Mount Browne	...	...	...	...	...	...	...	...	330
Milparinka	...	...	...	...	...	...	...	...	360
Tibooburra	}	...	...	...	...	...	...	...	710
Yalpunga									
									8,660

If the mining population between White Cliffs and the South Australian border, and White Cliffs and Mount Browne, and those engaged in pastoral pursuits along the banks of the Darling and within the influence of the proposed railway, were added, the figures would be larger. There are 2,716 names on the electoral roll for the Wilcannia electorate, and that number should represent a population for the electorate of about 11,000.

The lot of the people in these districts is not one to be envied, for with the absence of railway communication, the frequently unnavigable state of the river Darling, and the impossibility, except at an unjustifiable expense, of providing the district with good roads, they are practically cut off from the rest of the Colony, and subjected to conditions of existence which at times are most trying.

Those who have taken up land for pastoral purposes are, in periods of drought like the present, when their holdings are little better than sandy deserts, forced to see their stock dying by thousands, removal to country where feed and water could be obtained being impossible. At least 2,000,000 sheep are said to have died in the sheep district of Wilcannia, through the drought, during the last five years, and so great have been the losses to pastoralists, and so little prospect does there seem to be of an improvement in their circumstances, that, in the continued absence of improved communication, the abandonment of many of the runs is seriously talked of. The mining populations in the far north-west frequently suffer much hardship through the difficulty and expense of obtaining supplies, and this, together with a scarcity



scarcity of water, interferes seriously with the development of the mining industry in that part of the Colony. At Wilcannia the people are never actually in want of water, but the river is frequently very low, and during the last seventeen years has been closed to navigation for half that period. Communication with other places is consequently often interrupted, with the result that, though whenever the opportunity offers, abnormally large stocks are imported, commodities often become scarce and prices rise. Just before the last improvement in the river flour was selling at Wilcannia at £20 a ton. Supplies are obtained chiefly by river from Adelaide and Melbourne, but goods placed on board river steamers have been known to occupy twelve months in reaching Wilcannia. The difficulties connected with travelling are also very great. Rather than undertake the coach journey between Wilcannia and Cobar, some travellers to Sydney go by way of Adelaide.

#### CULTIVATION.

9. The statistics of cultivation in the area likely to be served by the railway show that in 1898 there were 1,678 acres under cultivation, and in 1899, 1,834, at Cobar, Wilcannia, White Cliffs, Mount Browne, Milparinka, Tibooburra, and Yalpunga. These figures indicate, of course, that the district is not an agricultural one.

#### MINERAL PRODUCTION.

10. The mineral production from the different mining centres for the last two years—1897 and 1898—is shown in the following return from the Statistician's Office:—

District.	Year.	Gold.		Silver.		Copper.		Opals.
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Value.
		oz.	£	oz.	£	tons	£	£
Cobar .....	1897	26,211	105,067	120,860	9,765	2,461½	108,306	.....
	1898	22,254	78,808	170,704	14,556	3,514	178,900	.....
Wilcannia .....	1897	.....	.....	.....	.....	.....	.....	.....
	1898	.....	.....	.....	.....	.....	.....	.....
White Cliffs .....	1897	.....	.....	.....	.....	.....	.....	75,000
	1898	.....	.....	.....	.....	.....	.....	95,000
Mount Browne .....	1897	540	2,163	.....	.....	.....	.....	.....
Milparinka .....	1898	389	1,556	.....	.....	.....	.....	.....
Tibooburra .....	1897	815	3,314	.....	.....	.....	.....	.....
Yalpunga .....	1898	831	3,323	.....	.....	.....	.....	.....

Just now opal mining is somewhat depressed, owing, it is said, to the opal market in Europe being flat. Similar depressions have been experienced before. They lessen the output, it is explained, for the time being, but this strengthens the European market, with the result that the mines are all the more prosperous afterwards. The Police Magistrate and Mining Warden, giving evidence at Wilcannia, expressed the opinion that for the first nine months of the present year the value of the opal output would prove to be very nearly £150,000.

#### TRAFFIC PROSPECTS—RAILWAY COMMISSIONERS' ESTIMATE.

11. The traffic prospects of the railway, as put before the Committee by the Chief Traffic Manager of the Department of Railways, differ very much from those that appear from the evidence of witnesses examined in the country. The former show that the traffic would be very limited, and such as to subject the line to considerable loss; the latter, that it would be much greater than the estimate of the railway officer indicates, and such as to fully justify the construction of the line. The Chief Traffic Manager's figures, summarised, are:—

Goods, 1,390 tons	...	...	...	...	...	£1,000 16 8
Wool, 1,756 tons	...	...	...	...	...	810 0 0
Stock, 800 trucks	...	...	...	...	...	1,000 0 0
Passengers	...	...	...	...	...	2,000 0 0
Miscellaneous coaching	...	...	...	...	...	130 0 0
Mails	...	...	...	...	...	1,872 0 0
						£6,812 16 8

TRAFFIC

## TRAFFIC PROSPECTS—LOCAL ESTIMATE.

12. According to the evidence representing the local traffic estimate, the annual imports of two business firms at Wilcannia, now amalgamated, amount to 4,000 tons, and their exports in wool, skins, tallow, &c., to 6,500. All this might not be carried by the railway, but the line, it is considered, would have a very good chance of competing successfully with the river, and would be certain to secure a large portion of the trade of the district. Produce, it is pointed out, should be obtainable from Orange or Dubbo at a rate much below that at which it is carried by the river steamers, and to deprive the steamers of this produce trade would be to take away their uploading, and so render them unable to carry wool at present rates. It is admitted that it would take time to alter the present drift of the wool traffic; but with such rates upon the railway as would make the cost of sending wool to Sydney about the same as that of forwarding it elsewhere, there is no reason, it is considered, why the line should not obtain most of the wool. Fully one-half of the outwards goods trade of the district, it is believed, could be secured, even with a full river, and with a closed river, it would be possible to obtain the whole, for then despatch by railway would mean an important saving in interest and insurance, two very large items which have to be considered in connection with river traffic. One great advantage to Wilcannia from the railway, would be that tradespeople would find it unnecessary to keep large stocks on hand. Half the capital now employed, it is said, would be sufficient to carry on trade, with the result that small tradesmen would be able to make a living where, under existing circumstances, it requires something like a limited company to enter into business of any kind.

An important feature in connection with the traffic question, pressed locally but not taken into account by the railway authorities, is the additional new trade which the line would bring to the main Western Railway. It is admitted that the main line would benefit by any new traffic finding its way upon it, but the Committee were unable to ascertain to what extent. The Chief Traffic Manager's estimate is confined to the sectional earnings of the proposed railway. If due allowance were made for the additional earnings on the main line, the estimated annual loss of £20,510, shown by the Railway Commissioners' report, would be appreciably reduced.

## EFFORTS TO CHEAPEN THE CONSTRUCTION OF THE RAILWAY.

13. With a view to seeing whether the cost of the railway as estimated could be reduced in any way the Committee endeavoured to ascertain—

- (1) Whether the line could, with advantage, be constructed in the nature of a tramway.
- (2) Whether the district could be served and traffic attracted to the railway, if the line terminate for the present where the expensive section of it commences,  $9\frac{1}{2}$  miles from Wilcannia.
- (3) Whether the railway, if it should terminate on the east side, and close to the Darling River, would meet requirements.

To construct the line in something of the form of a tramway should mean the adoption of lighter rails, cheaper sleepers, perhaps fewer or cheaper culverts, and less timber viaduct work over country liable to flood, a saving of distance and of earthworks by increasing the grade, and the running of light engines with moderate loads at a low rate of speed. In considering this aspect of the matter it seemed to the Committee that if a cheaply constructed tramway could be worked satisfactorily in connection with the Nyngan-Cobar railway, traffic requirements would be met, the district adequately served, and the principal objection to the proposed line—a heavy initial expenditure—removed; and to ascertain what could be done in this direction the Railway Commissioners were waited upon immediately after the return of the Committee from their inspection of the railway route, and two of their officers and the Engineer-in-Chief for Railway Construction examined on the subject.

The Commissioners were not favourable to any alteration of the original proposal, and the Engineer-in-Chief could not see any advantage from making the line a tramway instead of a railway. It was pointed out by the Commissioners that some  
years

years ago they advocated the construction of light railways at a cost, in easy country, of £1,750 per mile, and they appeared to think that something approaching that estimate should be the cost of all such railways now; but, whatever the cost, the line constructed, they contended, must be a railway, as a tramway could not be worked satisfactorily. Their estimate of cost, which is £1,253 below that in connection with the proposed line, could not be examined closely, as the details of it were not obtainable, and any importance which might attach to it was further discounted by the explanation that it was made when the price of rails was much below what it is at the present time. The Engineer-in-Chief, when questioned, could not see how any saving was possible in rails or sleepers, and everything else, he urged, had been kept down to the lowest limit. By steepening the grades the earthworks could be lessened, but even the hope of a little saving in that direction was dispelled, for it was found on further inquiry that the advantages from the alteration would be inappreciable, and the saving hardly worth considering.

Stopping  $9\frac{1}{2}$  miles short of Wilcannia, and so saving for the present £95,192, the cost of the more expensive portion of the railway, was also found to be unadvisable, for on carefully inquiring into the matter it was evident that, so constructed, the railway would be practically useless in attracting wool from the pastoral holdings on and beyond the Darling River, and would fail in meeting traffic requirements in other respects.

The third method by which it seemed possible to reduce the cost of the line was to make the terminus on the east side of the Darling River, which would represent a reduction of £30,200, the details being:—

Saving through stoppage on east side of river—						
Bridging main channel ...	...	...	...	...	...	£18,000
3,000-foot viaduct, at £3	...	...	...	...	...	9,000
$1\frac{1}{2}$ mile formation, at £2,400	...	...	...	...	...	3,200
						£30,200

It would then be possible, though perhaps not advisable, to save £11,700 by not ballasting any part of the line, and this additional amount, together with £8,750, the saving through altering the grade, added to the £30,200, would make a total reduction of £50,650. Further inquiry, however, elicited the fact that since the estimate of the cost of the railway was prepared the price of rails has gone up from £5 5s. to £7 10s., or at the rate of £270 per mile. So that the estimated total cost of the line should be £541,685, or £3,273 per mile instead of £497,000 or £3,003 a mile, and while it is possible to reduce the original estimate of total cost by £50,650, the addition of the sum representing the increased rail price, £44,685, makes the actual saving or difference, based upon the original figures, only £5,965. In the event of the price of rails falling the cost per mile would be proportionately less.

#### RESULT OF THE INQUIRY.

14. The Committee have decided to recommend the construction of the railway as far as the Darling River, and they do this because they are of opinion that the condition of Wilcannia and the surrounding districts is such as to call for the establishment of some means of communication between that part of New South Wales and Sydney in the nature of a railway or tramway. Under ordinary circumstances the anticipated loss from the construction of the line would cause the Committee to negative the proposal, but, in the present case, the circumstances are peculiar and pressing, and lead to the conclusion that the railway should be constructed in some form, even if the difference between cost and earnings should for a time be considerable.

The districts to be served by the line form an important part of New South Wales, where pastoral pursuits have for many years been carried on extensively, and gold and opal mining have developed into what seem to be permanent and profitable industries. The possibility of copper mining also is indicated by the existence in the locality of rich copper deposits which are now being prospected. The population is considerable, and Wilcannia, the chief town, is the headquarters of large trading operations connected with the Darling River and the country to the west and north-west. This town, by way of the Great Western Railway and the Nyngan to Cobar line,

line, is 621 miles from Sydney, 165 miles of which distance is through country almost waterless in dry seasons, and, in wet, much of it subject to flood, rendering the construction of good roads impossible, except at enormous expense. It is, therefore, practically cut off from communication with the metropolis of the Colony of which it forms a part, and, whether it desire to do so or not, is compelled to carry on trade relations with South Australia or Victoria. White Cliffs, the opal-mining centre, being 65 miles to the north-west of Wilcannia, and Tibbooburra, Milparinka, and Mount Browne gold-fields still further away, are in a worse position. The Darling River is a means of communication with other places, and for obtaining supplies, but it is not always navigable, and the Committee have already reported that it is not advisable to make the river permanently navigable at the cost solely of New South Wales.

While, however, it seems but simple justice to give these districts railway communication with Sydney, it is clear to the Committee from the weight of evidence, and from what they saw during their visit of inspection, that if the line should be constructed it cannot for a considerable period be expected to pay interest and working expenses. Between Cobar and Wilcannia there is very little prospect of traffic other than wool from a few stations, some of which at the present time finds its way to the railway at Cobar. Closer settlement than at present exists in that part of the country would probably follow the construction of a railway by land in the resumed areas being taken up in smaller blocks than those now held by pastoralists, and if it did wool production in the district would increase proportionately, and there would be an increase in rental. Farming is very unlikely. The land, in places, is in itself suitable for cultivation, but the rainfall is too scanty and uncertain to attract farmers, and it must not be overlooked that in other parts of the Colony, much more suitable for agriculture, there are large tracts of land not yet under the plough. From Wilcannia and places beyond there would be a goods and passenger traffic which, doubtless, in the course of time, would increase; but for many years it would probably be far below what, on purely commercial grounds, would justify the railway.

It was thought the principal difficulty in the way of recommending the line—the heavy initial cost—might be removed by carrying out a cheaper scheme, but that, as far as the evidence goes, does not seem practicable. If the railway be constructed it must be done at the originally estimated cost with the addition of the sum representing the increased price of rails, the only saving being that effected by not taking the line across the river into Wilcannia. But against this it is only fair to place the impetus the railway will impart to the development of the district, which is not only in good seasons splendid pastoral country, but is undoubtedly rich in minerals, and, with easy means of communication, should support a much larger population than it now contains. Further, it must not be forgotten, that, so bad is the state of the country in this part of the Colony, unless relief in some form be afforded much of the land now taken up will probably go out of occupation.

The people of the district are of opinion that they are entitled to the line not only on traffic grounds, but also because of the large revenue obtained from that part of the country by the State in general taxation as well as land rentals, the insignificant sum spent on the roads, which are merely bush-tracks, and the climatic and other trying conditions under which the population live.

By clause 12 of the Public Works Act the Committee, in considering and reporting on any work referred to them, are enjoined to “have regard to the amount of revenue which such work may reasonably be expected to produce, and to the present and prospective value of such work,” and while sensible of the loss which will follow the construction of this railway for some time, they believe that in addition to the reasons already stated the prospective or ultimate value of the work may reasonably be expected to compensate for the expenditure. In the meantime they think that the deficiency in the railway earnings should be met in some degree from the land revenue obtained from the district benefited by the line, and to effect this they suggest that the railway revenue should be subsidised to some substantial and suitable extent from this source.

RESOLUTION

## RESOLUTION PASSED.

15. The resolution passed by the Committee is shown in the following extract from their Minutes of Proceedings :—

Mr. Watson moved :—“ That, in the opinion of the Committee, it is expedient the proposed Railway from Cobar to Wilcannia, as referred to the Committee by the Legislative Assembly, be carried out to a point on the east side of the Darling River, 619½ miles from Sydney.”

Mr. Dick seconded the motion.

Mr. Trickett moved :—“ That the motion be amended by the addition of the following words— ‘ The Committee, however, having “ regard to the amount of revenue which such work may reasonably be expected to produce,” recognise that, at present, the direct revenue will fall far short of the amount required to pay interest and working expenses ; but looking at “ the present and prospective value of such work ” they regard the proposed railway as a means of much needed relief to the settlers in the north-western part of the Colony, and an aid to the greater development of the country, and they therefore suggest that the railway revenue should be subsidised to some substantial and suitable extent from the land revenue derived from the district benefited by the line.’ ”

The amendment was passed, and the motion, as amended, was then agreed to.

W. J. TRICKETT,  
Chairman.

Office of the Parliamentary Standing Committee on Public Works,  
Sydney, 12 December, 1899.

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# PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

## MINUTES OF EVIDENCE.

### RAILWAY FROM COBAR TO WILCANNIA.

WEDNESDAY, 15 MARCH, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee proceeded to consider the expediency of constructing a line of Railway from Cobar to Wilcannia.

Robert R. P. Hickson, Under Secretary and Commissioner for Roads, Department of Public Works, sworn, and examined:—

1. *Chairman.*] Have you prepared a statement with reference to the proposal under the consideration of the Committee? Yes; it is as follows:—

R. R. P.  
Hickson.

THE first action with regard to this proposal was taken during the year 1884, when a petition from residents of Cobar and district was presented to the Legislative Assembly, asking for the construction of a railway from Nyngan-Wilcannia via Cobar. Mr. Secretary Wright approved of the survey being made, and it was completed in 1885. Length 156 miles 45 chains.

15 Mar., 1899.

Another route, namely, that from Forbes, has been suggested for railway communication with Wilcannia, but in February, 1889, when the late Engineer-in-Chief (Mr. Whitton) was asked to report on the matter, he had no hesitation in stating that if it were considered desirable to construct a railway to connect with Wilcannia, and which might eventually be extended to Silverton, the best route to adopt would be from Nyngan to Cobar, thence to Wilcannia and Silverton.

When the Public Works Committee were inquiring into the proposed railway from Nyngan to Cobar, they did not confine themselves to the question of the expediency, or otherwise, of constructing a railway as far as Cobar, but directed their attention also to the larger question of opening up communication by railway with the extreme north-western portion of the Colony, and they recommended the construction of the railway to Cobar as part of the line eventually to extend to Wilcannia and Broken Hill.

The Engineer-in-Chief for Railway Construction in July, 1889, submitted to the Minister an estimate furnished from very rough data, viz., £497,000, for the length from Cobar-Wilcannia.

An amended survey was made in 1892, the length to the east end of the Darling River flood area being 152½ miles, and to which 9½ miles must be added to cover the flooded area and the crossing of the Darling into Wilcannia. Total length 162 miles, for which the estimate of £497,000 stands good.

This surveyed line leaves the end of the present terminus, Nyngan to Cobar Railway, at about 459 miles 36 chains, and proceeding in a westerly direction, follows the main road to Wilcannia through the counties of Robinson and part of Booroondena to 501 miles 50 chains; thence in a slightly south-westerly direction past Brokmetta Lake up to 533 miles; thence it bears north-westerly to 538 miles; thence due west through the county of Rankine to Lake Poopelloe crossing, and recrossing the main road at 569 and 572 miles; thence bearing south-westerly through the county of Werunda to 537 miles; thence north-westerly to Wilcannia, crossing the Darling River at about 619 miles 60 chains; thence through the town of Wilcannia, running between and parallel to Murray and Brougham Streets, and terminating at about 621 miles 36 chains.

This line is laid out with 1 in 75 grades, to get rid of which, by contouring, an extra length of line of 3½ miles is considered necessary, making 165½ miles. The estimated cost, £497,000, covers this additional distance, and includes the cost of altering the grades to 1 in 100. Sharpest curve 14 chains radius.

Wilcannia, which is to be served by this line, is the centre of a very large district, and from evidence given before the Public Works Committee, it was ascertained that the annual freight earned inwards and outwards at this town was at least £80,000.

Another route which bears on this proposal is that from Condobolin to Broken Hill, via Menindie, which originated in May, 1895, the Works Committee having at that time presented a report to Parliament recommending the construction of the extension from Parkes to Condobolin, and in clause 10 of this report the question of extending the line on to Menindie is referred to.

R. R. P.  
Hickson.  
15 Mar., 1899.

The Railway Commissioners also, when reporting on the line from Parkes-Condobolin, under date 19th February, 1895, stated that this line should be looked upon to a great extent as part of a national line ultimately being extended to serve the Lachlan district as far as Hillston, and later on by a further extension to Menindie on the Darling.

Further, the Railway Commissioners, when reporting on the Condobolin to Broken Hill, via Menindie line (8th May, 1896), assumed that the Government would proceed with the extension of the Cobar line to Broken Hill, via Wilcannia, and in their opinion it would be a long time before two new routes to the Darling would be necessary, but as the construction of the Parkes line to Condobolin had been authorised, they were of opinion that if the Government decided to construct a line to Broken Hill the Lachlan River and Menindie route should be adopted, as it not only afforded the through connection intended to be given to Broken Hill, but also gives it by means of the shortest route, and would enable the New South Wales Railway system to conserve to itself a great deal of the traffic from the centre of New South Wales, which is now obtained by adjoining colonies.

The Public Works Committee could not see their way clear to recommend the construction of the line from Condobolin to Broken Hill.

The latest report of the Railway Commissioners on this proposal was received on 13th December last, in response to a request from the Minister, and is as follows :—

Proposed line of Railway from Cobar to Wilcannia—162 miles.

In accordance with the provisions of the Public Works Act of 1888, section 13, we beg to report as under :—

Cost of Construction—

The Engineer-in-Chief for Construction estimates the cost of construction of a single line of light railway, exclusive of land and compensation at about..... £497,000

Annual Cost—

Capital expenditure, at 3 per cent, .....	£14,910
Estimated cost of maintaining permanent-way, and for traffic and locomotive expenses .....	12,400
<b>Total annual cost .....</b>	<b>£27,310</b>

Traffic Estimate—

Merchandise, wool, and live stock .. .. .	}	£1,000
Passenger traffic, mails, parcels, &c. ....		800
		1,000
		4,000
<b>Total annual traffic.....</b>		<b>£6,800</b>

In connection with the above railway proposal, we desire to say that, having on previous occasions traversed the districts through which the proposed railway line would pass, and being acquainted with their resources, we have not deemed it necessary to make another visit of inspection.

It is not our usual practice, when dealing with extensions referred to us by the Government, to enter into the merits of alternate routes, but the circumstances surrounding the proposal under review are exceptional, and necessitate some reference being made to other proposals for dealing with the traffic of the Darling River district.

We have already reported on proposals for railway extension from Cobar to Wilcannia and Silverton, and from Condobolin to Menindie and Broken Hill.

The one recommendation in favour of the line Cobar to Wilcannia, as against one from Condobolin to Menindie or Wilcannia, is the fact that it will require the construction of considerably less new line, and consequently, in the first instance, involve less capital outlay. It will, however, be the longest in length from the Metropolis.

From a traffic point of view it is, however, not so desirable as the route via Condobolin. The latter route would better bisect the country lying between the Western and South-western lines. It would open up for development a better class of country, and would enable New South Wales to conserve a great deal of traffic from the centre of the Colony which is now drawn to the adjoining Colonies.

It is presumed that if the extension to Wilcannia is made, the line would eventually be taken on to Broken Hill. When this project was under consideration some years ago, the prospects of Broken Hill were exceptionally good, and quite different to what they are to-day. Then a very large trade in coke, fuel, and ores was anticipated, which cannot now be hoped for, as the ores are not now locally treated.

In view of the very small prospect of the line to Wilcannia proving other than a large burden on the railway system, the Commissioners cannot recommend its construction.

CHARLES OLIVER,  
Chief Commissioner.

W. M. FEHON,  
Commissioner.

DAVID KIRCALDIE,  
Commissioner.

The Lands Department has supplied me with the following information with regard to the tenure of land within 20 miles of each side of the proposed line.

Alienated land.....	51,000 acres	
Settlement and homestead leases .....	387,000	„
Reserves .....	476,000	} 3,929,000 acres.
Crown lands.....	3,453,000	

The final action was taken on the 22nd December last, in the Legislative Assembly, when Mr. Secretary Young's motion to refer the proposal to the Public Works Committee was passed.

2. *Mr. Watson.*] Do you know whether the estimate of the cost of construction per mile has been brought up to date? Yes.

3. Does not the estimate of £3,000 per mile appear to be rather heavy compared with some of the lines we have been making? Yes; but it must be remembered that there are 9 or 10 miles of the line near to Wilcannia which will be very costly indeed, owing to the crossing of the river and the necessity for passing a considerable length of flooded country. This was not contemplated in the original proposal.

4. Is the country between Cobar and the river easy for the purposes of railway construction? Fairly easy.

5. Is there not a large area of Crown lands in the vicinity of the proposed line? Yes.

6. Do you know whether any, or a large portion of it, is good land? I can only say that all the land I went through was bad.

7. And not likely to assist to make the railway pay? I think not.

8. Do you think, if the railway were constructed, we should be able to compete with the river in the carriage of goods towards the seaboard? That is an extremely difficult question to answer, because there is no certainty as to when the river is trafficable. If we erect locks, as is proposed, it will alter the circumstances of the case entirely. That scheme has yet to come before the Committee.



9. But that scheme does not contemplate the erection of locks all the way down? As far as Menindie.
10. So that that would not assist the carrying of produce towards the sea in the lower reaches? I do not think so.
11. Do you think the river would be sufficiently improved by the construction of locks to increase the probability of any great amount of traffic from Wilcannia, or towards Wilcannia, going by river? I think the effect of locking the river, as proposed, would undoubtedly be to increase the traffic on the river.
12. Consequently, detracting from the probabilities of traffic on the railway? I think so.
13. Do you think it necessary to provide for the fencing of the line as proposed in the estimate? I think some of it ought to be fenced, but a good deal of it might be left unfenced.
14. According to the estimate, in the previous inquiry—Cobar to Cockburn—£36,000 will be added to the cost of construction if the line is fenced;—if the trains travel at a low rate of speed, would it not be possible to do without fencing? I think it would.
15. On the Moree line there is no fencing, nevertheless, the trains travel at night with a good head-light. If it is possible to do that on the Moree line, would it not be possible to do it on the proposed line? I think it would.
16. *Dr. Garran.*] Have you been over the route of the proposed line? Yes.
17. It is not an absolutely straight line? No; it deviates a little.
18. What is the nature of the obstructions—swamps or hills? They are little rises, which it is advisable to get round.
19. Nothing more than that? No.
20. And it is to keep the gradients down that you go round them? Yes; near the river you get into swampy country for the last 10 miles.
21. The Commissioners speak of another route—from the Lachlan direct to Menindie? Yes.
22. Have you been along that route? No.
23. Have you been to Menindie? No.
24. Do you know whether the approach to the river there would be as difficult and expensive as the approach to Wilcannia? I think not; but I should not like to say for certain.
25. The lakes at Menindie are on the western side of the river? Yes; below the railway.
26. Then we should escape that expensive part, if we chose Menindie as the point of construction? To whatever extent the difference exists; but I would not like to say myself what it is.
27. Is Menindie as good a trade centre as Wilcannia? I think not.
28. I suppose more stock cross at Wilcannia than at Menindie? I think so.
29. There is a project before the country to get to Hillston, and in that case, if a line to Menindie were constructed, it would start from Hillston? Yes; a proposal will come before the Committee to extend the Koorawatha-Grenfell line to Wyalong, and, if that is done, it will eventually go on to Hillston.
30. Then the starting-point to the Lachlan would be Hillston? Yes.
31. But the route to Menindie would be very much the same? Yes.
32. The difference would be simply on the south side of the Lachlan? Yes.
33. *Chairman.*] Have you been over both routes? No; only between Cobar and Broken Hill, via Wilcannia.
34. Is there any good pastoral country there? The part I went through was very poor country for any purpose.
35. What would be the principal traffic if the railway were constructed? The principal traffic would be from the river. There would be very little local traffic. There would also be the traffic which centres in Wilcannia.
36. Do you not think that, instead of people using the line east towards Sydney, the tendency would be to take the traffic down the river, having got it so far? Of course, if they had a river, it could, I believe, compete with the railway, but the difficulty there is that they cannot depend on having a river.
37. Do you know anything of the country between Condobolin and Broken Hill, via Menindie, or from Wyalong to the same point? No. I have been as far as Condobolin, but not further west.
38. *Mr. Trickett.*] The statement you have handed in shows that the estimated annual cost of the line is £27,310, and the estimated revenue is £6,800, showing a loss of £20,510? That is so. The Commissioners follow that up by saying:

In view of the very small prospect of the line to Wilcannia proving other than a large burden on the railway system, the Committee cannot recommend its construction.

39. Do you endorse that opinion? I think that is hardly for me to say.
40. The Commissioners also state:

It would open up for development a better class of country, and would enable New South Wales to conserve a great deal of traffic from the centre of the Colony which is now drawn to the adjoining colonies.

How is it drawn there? By river traffic—by the Darling and the Murray.

41. Is not this proposal in one way closely connected with the question we have to consider of treating the river Darling by means of locks and weirs? Very closely, I think.

42. It would seem, too, that if we were to improve the navigable properties of these rivers, and also to construct a railway, the rivers would still maintain the trade? I think so; I do not think a railway could compete with the river.

43. I believe that river transit, where fairly regular, generally beats railway transit? Certainly.

44. *Chairman.*] Do you mean that the traffic likely to be obtained from a district like this is more likely to take the cheaper method of transit? Naturally.

45. The experience in America is that the railways can beat the rivers? I do not think you can lay down any hard-and-fast rule. There are certain circumstances to be taken into account. Markets have to be taken into account. The class of merchandise to be carried has also to be taken into account. If you have a traffic which has to be brought expeditiously and quickly to a market, of course it must come by railway; it cannot stand the time on the river.

46. Do you think that, with the class of traffic which is likely to come down, the rivers will compete with the railway? I do.

47. *Mr. Levis.*] If you were to construct a railway on your own account, would you go from Cobar to Wilcannia, or from Condobolin to Wilcannia? I think I would go from Cobar, because there would be so much less length of line to make.

R. R. P.  
Hickson.

15 Mar., 1899.

R. R. P.  
Hickson.  
15 Mar., 1899.

48. What is the distance from Condobolin to Wilcannia? 270 miles. The following is a table of distances by different routes from Sydney and Brisbane to Broken Hill and Adelaide:—

## COBAR TO WILCANNIA.

TABLE of distances by different routes from Sydney and Brisbane to Broken Hill and Adelaide.

	Miles.		Miles.
Sydney to Cobar .....	459	Sydney to Broken Hill, via Condobolin and Wilcannia .....	718
Cobar to Wilcannia .....	165½	Broken Hill to Adelaide .....	334
Wilcannia to Broken Hill .....	118½		
Sydney to Broken Hill.....	743	Sydney to Adelaide .....	1,052
Sydney to Condobolin .....	329½	Sydney to Broken Hill, via Menindie .....	696
Condobolin to Wilcannia.....	270	Broken Hill to Adelaide .....	334
Wilcannia to Broken Hill .....	118½		1,030
Sydney to Broken Hill.....	718	Brisbane to Broken Hill, via Sydney and Melbourne.....	2,116
Sydney to Condobolin .....	329½	Brisbane to Broken Hill, via Werris Creek, Dubbo, Cobar, and Wilcannia .....	1,094
Condobolin to Menindie .....	300¼		
Menindie to Broken Hill.....	66	Brisbane to Broken Hill, via Werris Creek, Dubbo, Parkes, Condobolin, and Wilcannia.....	1,159
Sydney to Broken Hill.....	696	Brisbane to Broken Hill, via Werris Creek, Dubbo, Parkes, Condobolin, and Menindie .....	1,134
Broken Hill to Cockburn .....	35	Brisbane to Adelaide, via Sydney and Melbourne.....	1,781
Cockburn to Adelaide .....	299	Brisbane to Adelaide, via Werris Creek, Dubbo, Cobar, Wilcannia, and Broken Hill .....	1,428
Broken Hill to Adelaide .....	334	Brisbane to Adelaide, via Werris Creek, Dubbo, Parkes, Wilcannia, and Broken Hill .....	1,493
Sydney to Adelaide, via Melbourne .....	1,059	Brisbane to Adelaide, via Werris Creek, Dubbo, Parkes, Menindie, and Broken Hill .....	1,468
Adelaide to Broken Hill .....	334		
Sydney to Broken Hill .....	1,393		
Sydney to Broken Hill, via Cobar.....	743		
Broken Hill to Adelaide .....	334		
	1,077		

49. Is not the whole of that western country of the same character? I do not think so.

50. What kind of country would there be from Orange to Condobolin? Good agricultural country, and I believe it extends from there well on to Hillston along the river. What it is like from there onwards I cannot tell you.

51. Have you been from Cobar to Wilcannia? Yes.

52. What class of country have we along there? Poor.

53. *Mr. Shepherd.*] Is the line, as surveyed, supposed to follow the best route which can be obtained from Condobolin to Wilcannia; it seems to follow a round-about course? I think the idea of that was to follow, as much as possible, the valley of the Lachlan, where the best land is to be found. It would also get fairly close to Hillston. A straight line across from Condobolin to Menindie would go a long way from Hillston, and would not accommodate it.

54. Would it not be better in these cases to take the most direct line possible if the advantages are equal? Of course, if the advantages are equal.

55. Is the country much poorer more to the north? Yes; you will find there is a great difference between the country in the valley of the Lachlan and 50 or 60 miles north.

56. Is the country between Cobar and Wilcannia well watered? No.

57. Is it proposed that the line should intercept much of the traffic carried by the river Darling? I think that is what the Commissioners thought when they made their report.

58. Is there anything in the shape of cultivation being carried on between Cobar and Wilcannia? Not as far as I saw.

59. I suppose that the country chiefly carries sheep? Chiefly rabbits, when I was there.

60. *Mr. Trickett.*] Is not railway construction cheaper now than it was ten years ago? Yes.

61. I asked the question, because I see that the estimate in 1889 was £497,000, and that is the estimate now? I think that Mr. Deane will tell you that that estimate includes crossing the Darling, which it did not include before.

62. *Mr. Levien.*] Which is the better timbered country—from Cobar to Wilcannia, or from Condobolin to Wilcannia? I think there is very little difference. It is all very poor. As a matter of fact, between Cobar and Wilcannia there is very little timber.

63. *Chairman.*] Is it intended ultimately to continue the line to Silverton? I presume so.

64. It was anticipated at one time that there would be a large traffic in coke? Yes.

65. Has anything occurred to alter that anticipation? Yes; the smelters have been taken from Broken Hill to Port Pirie.

66. Then no traffic of that kind is anticipated now? I think not.

67. *Mr. Watson.*] Although the smelters have been taken to Port Pirie, is it not a fact that all the refined ore has to come to Sydney in the mail-boats? A great deal of it.

68. The steamers which take the ore to Port Pirie for the use of the smelters there bring back the refined material? I think so.

69. Do they not practically bring it all here? I could not say to what extent.

70.

70. Is it not worthy of consideration whether it would not pay to bring the ore to Lithgow, and take the refined metal to Sydney for shipment? That is a traffic matter, upon which I could not give an opinion. It is just a question whether the rates on a railway would be low enough to compete with the rates of carriage by water.

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71. If we could get the rates down sufficiently to make it pay the companies to send their ore to Lithgow at practically the same cost as they send it to Port Pirie, it would probably be a saving to them in sending the refined metal into Sydney? We may be sure that the companies will send their goods by the cheapest route.

THURSDAY, 30 MARCH, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.

The Hon. ANDREW GARRAN, LL.D.

The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.

ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Hugh McLachlan, Secretary to the Railway Commissioners, sworn, and examined:—

72. *Chairman.*] I believe you were examined on a former occasion in connection with the proposal to construct a railway from Cobar to Cockburn? Yes, in 1891.

73. Is the present proposal a portion of that scheme? Yes.

74. Were the Railway Commissioners in favour of the line from Cobar to Cockburn? Yes; their report was favourable.

75. Are they still of that opinion? They have altered their opinion.

76. Can you give us the reasons why they have altered their opinion? Yes, to a large extent. When the Commissioners made their report in 1889 the circumstances were very different from what they are now. They were asked to report on a line from Cobar to Cockburn, and they went to a great deal of trouble to obtain information as to the merits of the scheme. They went over the route, and to Broken Hill, and obtained the best evidence they could as to the probable traffic. At that time Broken Hill was commencing to boom. The population was commencing to grow very fast, and they were working a rich class of ore. The Commissioners were assured on the best authority that Broken Hill was going to be a permanent field, and that, if a line were constructed, there was a big prospect of obtaining a large traffic in ore one way, and coal, coke, and timber the other. In view of that, the Commissioners thought the line was one they could recommend. There was another consideration upon which they dwelt to some extent, and that was that it would be a line which it might be wise to construct as a matter of State policy. At that time they did not say that the line would pay. They said it would be very difficult to get an estimate of traffic, but that they thought the traffic circumstances were rather favourable. Since that time Broken Hill, instead of increasing, has gone down, and the circumstances in connection with the ore have altogether altered. At that time no smelting-works were established in this Colony outside Broken Hill. The understanding was that if a line were made we should see smelting-works at Lithgow, the ore carried there, and a back loading. Since then the richer class of ores has been to a large extent worked out, and, according to present circumstances, the traffic would be in ores from the mines to the seaboard. If a line were made to Broken Hill the present position seems to indicate that there would be very little prospect of getting mineral traffic over it. Of course, if we had that traffic it would give us the advantage of being able to compete very much more favourably for intermediate business. We should have trucks working backwards and forwards, and that would place us in the position of picking up intermediate business. As the Commissioners pointed out, there were national considerations to be thought of, such as the giving of outlying districts the benefits of railway communication, the carriage of stock to market, and their removal in times of drought. One thing which has caused them to somewhat alter their opinion has reference to Cobar as a starting-point. They reported on the merits of the line directly before them. At that time we had no line stretching towards the Menindie country from any other point. At the present time, however, we have a railway from Molong to Parkes and Condobolin on the one side. A railway to Grenfell is also about to be constructed, and there is a proposal before the Committee for an extension to Wyalong. Thus, circumstances are altering considerably in regard to the different routes. The Commissioners, looking over the different routes, say that, as the best means of reaching that country, they are in favour of a line which would go to Menindie, as it would better bisect the country, and, as a matter of strategy, it would be a far better line for us to intercept that traffic which now drifts to the other colonies. We want a line going south instead of north. The traffic comes to the southward, and if a line were made from Cobar to Wilcannia the traffic lying between Condobolin, Euabalong, and Menindie would still follow the course it has been following to the other colonies; but we should be in a better position to compete for that business if the country were intersected, as it would be, by a line running from Hillston to Menindie. I think those are some of the considerations which have influenced the Commissioners in altering their opinion.

77. Wilcannia depends greatly, at present, on water-carriage? Yes.

78. And that is very unsatisfactory? It is uncertain.

79. Supposing the water-way is made permanent, would the traffic be likely to come on the railway? I hardly think so. It would, I think, make it more difficult to compete for the business.

80. Wilcannia has been reported as being the centre of a very large district;—would the Committee be justified in considering it the centre of a large area of land, or the centre of a large producing district? The centre of a very large area, which is productive to a limited extent, compared with an equal area in the eastern part of the country. If you look at the Commissioners' report you will find that they estimate the traffic as being a comparatively small one. It is estimated that the traffic from merchandise, wool, live stock, mails, parcels, and passengers will be £6,800 per annum.

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McLachlan.  
30 Mar., 1899.

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McLachlan.  
30 Mar., 1899.
81. Is the traffic likely to increase? I do not think so immediately. It is a country where population does not grow very quickly.
82. Federation being nearer than the completion of any line out there, is it not more than likely that pretty well the whole of the district will be served by a line to another colony? Yes. I think the position is also altered by Federation. In 1889 we had not the same competition to face with the other colonies, and we would have been more at liberty to quote differential rates; but if you had Federation the outside towns on the borders of the other colony would most likely obtain more of the geographical advantages of their position—that is to say, that a town 200 or 300 miles from Adelaide is more likely to do business with Adelaide than with Sydney, which is 750 miles away.
83. I suppose we may consider that the Commissioners are against the proposal being carried out on account of its saddling them with a loss? Yes; they do not recommend it.
84. *Mr. Watson.*] What do you think the distance is between lines which would be profitable—not competing against each other, but working practically in unison—in pastoral country? Pastoral country differs very much, but I should say not less than 100 miles.
85. What will be the distance between Menindie and Hillston? I should say it would be about 100 miles.
86. Primarily, if it were not on account of the altered circumstances on account of the river traffic, there would be a sufficient distance between those two lines to justify the construction of both? I should say the distance should not be less than 100 miles in pastoral country.
87. You say that the Commissioners think that a line to Wilcannia will not pay;—is that alteration of their opinion due only to the fact that the conditions of Broken Hill are different, or to the possible increase of the facilities for water-carriage? No; originally they did not say that the line from Cobar to Broken Hill would pay; but they thought there were so many considerations in favour of it that the Government might undertake it. Their opinions have been altered by the different set of circumstances which now prevail at Broken Hill, and also to some extent by the appearance of a better route made possible by the extension of the railway westward from Orange. Then there is another factor which must be considered, and that is the extension of the line from Grenfell to Wyalong. Another advantage in reaching Sydney is that you have much the shorter route of the two.
88. What is the difference in distance by the Condobolin route compared with the other? About 50 miles in favour of the Condobolin-Menindie-Broken Hill route.
89. Would 50 miles be of great importance in a run of some hundreds of miles? It must be. It is 7 or 8 per cent., which is a fairly big percentage of the whole.
90. Has the output of ore at Broken Hill been lessened, or has the grade of the ore only been reduced? A different grade of ore has been produced, and smelting at Broken Hill has been done away with.
91. I understand that the ore is now conveyed to Port Pirie? Yes; or sent to Newcastle for Cockle Creek and Dapto.
92. What is the cost of carriage between Broken Hill and Port Pirie? About 12s. 6d. per ton.
93. Including the rate over the private line from Silverton to Broken Hill? Yes.
94. What is the distance from Broken Hill to Port Pirie? 253 miles.
95. What is the steamer freight from Port Pirie to our ports? About 5s. a ton.
96. I understand that the lowest price at which the Commissioners, in 1891, estimated they could carry ore from Broken Hill to Lithgow was £1 6s. 4d.? Yes; one halfpenny per ton per mile. Of course when the Commissioners made their report in 1889, the big smelting-works on the seaports were not established.
97. Do you think one halfpenny per ton per mile is the lowest rate at which the Commissioners could profitably carry ore that distance? It depends upon return loading. If you have to take full loads one way and return empty, it discounts your rate very much, and in view of the uncertainty, one halfpenny per ton per mile would be as low as they could quote with any probability of profit. It is very low, and there is no other rate in the Colony like it.
98. I understand that ore is carried on the railways at that price now;—if it can be carried for that over 200 or 300 miles, surely it can be carried for a little less over 700 miles? Yes; if the circumstances are the same in both cases. One of the present conditions with regard to the low rate is that the traffic has to wait to be carried at our convenience.
99. Would there be back loading if ore were taken to Lithgow? Not now; they are not smelting at Broken Hill.
100. I should imagine that there is a fair demand for coal at Broken Hill for mining and household purposes, independent of smelting? There would be nothing to balance the traffic.
101. You think, then, that there is no probability of the proposed line, if carried to Broken Hill, competing with the steamer and railway carriage to Newcastle? No; the Commissioners think there is no prospect of competing for the business.
102. Do you think the construction of locks, if carried right through to Wentworth, would have the effect of dragging the traffic away from any railway which would tap the Darling? That is a new question, and the Commissioners have not considered it.
103. Do you think the construction of locks between Bourke and Menindie, ceasing at Menindie, would help to drag traffic towards a railway which would tap the river there? I am a little bit doubtful as far south as Menindie. You are not a great distance from navigable waters all the year round. In ordinary seasons it would not affect business, because, to a large extent, it would still go up the river, locked or unlocked. Generally speaking, you can get a good river to Menindie, for at least half the year.
104. Do you think that would be sufficient to carry the trade? I think so.
105. I understand that the character of the country between Cobar and Wilcannia and beyond is pastoral? Yes.
106. Do you think, if irrigation were entered upon largely, it would have an appreciable effect on the traffic? I hardly think so. It would be very difficult to irrigate that country, because there are no waterways, and the rainfall is uncertain. If you irrigated it to some extent, and cultivated a comparatively small portion, it would rather prejudice the chances of the line in this way—that the local requirements would be met instead of being carried by railway.
107. You do not think there would be a sufficiently large development of local traffic to render export to Sydney or along the river necessary? I do not think it would be wise to count on business of that kind in connection with this extension.
- 108.

108. You are aware that the line would pass through nearly all Crown lands? Yes; that is one of the national advantages which the Commissioners referred to originally.
109. It was mentioned in connection with the former investigation that the Commissioners anticipated a fair amount of traffic from the removal of stock during times of drought;—do you think that traffic would be of importance, so far as volume is concerned? It would be in times of drought, and it would be an economic advantage to the State. Our experience, however, shows that, compared with the stock in the country, not a very large number are moved in times of drought. People hold on too long. Then there is the difficulty of getting suitable country to which to send them. Generally speaking, we find the movement of starving stock is hardly so great as many people would imagine.
110. Is it not a fact that in some places they have run a very light line, in the nature of a tramway, with the view of dealing with the light traffic? Yes.
111. Do you think it would be possible to construct anything of that character for dealing with this country? I do not think the light tramways have been run over a long area of country, such as this. Of course, you would not run the trains every day. The estimate of working expenses is based on three days' running per week. There would be fair loads occasionally, when stock and wool were coming down. The proposed line is what we call a cheap line, and will cost about £3,000 per mile.
112. That seems high for that class of country? There is a good deal of expense in getting into Wilcannia. There are a good many waterways, and 10 miles of flooded country.
113. Is there any idea in the minds of the Commissioners to utilise the motors which are going to be discarded in Sydney? No; not for a long length like this. They would not carry sufficient water.
114. *Dr. Garran.*] Judging from what you have said, it appears that the Commissioners are looking towards pushing a railway to Hillston? Yes; if a railway is necessary they favour that direction rather than to the north.
115. They think they would sweep a certain area of traffic from Hillston, and they want to get to where the traffic concentrates? Yes.
116. If Hillston were made a terminus, the traffic they now miss would probably go there? Yes.
117. Therefore, altogether apart from the question of reaching the Darling, the Commissioners have a desire to get to Hillston? Yes; they have already expressed that opinion with reference to a railway to Euabalong. The Commissioners generally, other things being fairly equal, recommend the construction of the line which necessitates the least expenditure.
118. When the line to Condobolin was sanctioned, this idea of a more southern line was not then to the front? No.
119. That line would not have been made if the line from Koorawatha to Grenfell had been developed? That alters the position a good deal.
120. Now that the line has gone as far as Condobolin, would the Commissioners favour going from there to Hillston, or from Grenfell to Hillston? They have never been directly asked to report, but originally their opinion seemed rather in favour of going from Condobolin to Euabalong, and then to Hillston.
121. One advantage of going to Grenfell is that you strike the cross-country line between Blayney and Murwillumbah, which would give you the opportunity of bringing the traffic to Sydney by the Southern or Western line? Yes; that is an advantage, and it bisects the two lines better.
122. Is Koorawatha as near to Sydney by the Southern as by the Western line? No.
123. Are the gradients on the Southern line better? Generally. Of course we have the same heavy grades on both lines.
124. You propose to improve a good many of the heavy grades on the Southern line? Yes.
125. Especially between Sydney and Mittagong? You will always have a big trade there; but so far as traffic there is concerned, it would be with the grade.
126. Is the traffic heavier on the Western than on the Southern line, at certain times of the year? Yes.
127. Is it generally more heavy? Yes.
128. It would be a relief for the Western line if some of the Hillston traffic could be thrown on to the Southern line? It would be an advantage to be able to work it either way. Of course we are not overcrowded.
129. But it would give you the choice? Yes.
130. And the extra mileage would be compensated for by somewhat better gradients? Yes; and the convenience of working.
131. And it would also tend to bring that cross-country line more into use? Yes.
132. That is at present one of our unprofitable lines? Yes.
133. Is any quantity of cattle from the north brought along that line to go to Melbourne? We get some from Bourke from the west.
134. Do you take it straight away from Bourke to Albury? Yes.
135. You supply the Melbourne market to some extent from the western country? Yes.
136. If we made a line from Cobar to Wilcannia, would there be any risk of our taking some of the traffic we already get to the river, instead of bringing it down? I do not think so.
137. When you get within 50 miles of Wilcannia, and you have made a railway to the wharf there, would there not be some risk of the wool going to the river? We do not get that traffic now.
138. How long has the Cobar line been opened? Since 1891.
139. Is it paying expenses and interest? Close to it. Although it does not directly pay, the assistance it must give to the parent line makes it financial.
140. How long has that been the case? For the last three or four years. In 1896-7 the loss, after providing for working expenses and interest, was only £1,390. In the previous year it was £2,800.
141. Is the improvement due to pastoral or mining traffic? To a large extent to mining traffic.
142. If mining had not looked up the line would not have paid? I think not.
143. Then a purely pastoral line is not a very paying speculation? No.
144. If any other mineral districts were opened up in the neighbourhood of Cobar, it might pay you to extend the line to them? Yes.
145. Mineral districts are paying districts? Yes; they generally have a big population. Ore and coke may not pay so well, but the general goods and passenger business helps to pay.

H.  
McLachlan.  
30 Mar., 1899.

- H. McLachlan.  
30 Mar., 1899.
146. If we could see that a mining district would be opened up within easy distance of Cobar, it would be wise to extend the line to suit the population there? It would be worth while considering.
147. Is there any such district at present? Not to my knowledge.
148. It would be safer for a railway to wait until the mining district develops itself first? Yes; to get some reasonable idea that it is going to be permanent.
149. Have you any hope of a mining development on the Southern line from Koorawatha westward? It is a grain-growing district. We expect to get the traffic of a big agricultural district. We know that west of Grenfell there is a mining district already established.
150. Is there any object in going to Hillston, excepting the Willandra Billabong? The line would run alongside the Willandra Billabong. In running to Hillston you would follow the valley of the Lachlan, where you are more likely to touch population and traffic, and it is a reasonable thing, if you can do so, to go to an established traffic.
151. Is the line to Condobolin paying? We have not had sufficient experience of it yet.
152. Do you consider the line from Molong to Parkes and Forbes is paying? There is a slight loss upon it, but looking upon it in the same way as we look upon the Cobar branch, we consider it as practically paying.
153. You do not wish you were without it? No; it is a good line, and there is always business upon it.
154. And it will not deteriorate? We think not.
155. Is the Cootamundra to Temora line likely to improve? I believe there is a revival there, but there is no striking growth.
156. A cockspur line will not pay as a rule? Not unless it has a good district behind it.
157. Under the circumstances, then, you think that unless there are national reasons for it, it would be a mistake to construct the line from Cobar to Wilcannia? That is what the Commissioners feel at the present time.
158. Only national reasons would justify its construction just now? Yes.
159. Is the line from Nevertire to Warren a promising one? Yes; but it is comparatively new.
160. You think, then, that the question of pushing to the west is, as yet, an unsettled problem, and that there is no need to be in a great hurry about it? Yes; the Commissioners' idea is to go rather to the southward than from Cobar.
161. The more southerly you make your line to the west, the more you command your traffic northward? That is an important consideration.
162. If you make a line to the west, you are pretty sure of the traffic on the north side? Yes. The point is to go as far south as you can reasonably go to the Border.
163. And yet, on the line to Hay you do not get it? We get a good deal of the Hay traffic.
164. Is not the river freight from Hay to Echuca cheaper than you can carry it? Yes; but a great deal of business comes in.
165. You have to cut low to get it? Yes; but still at rates we consider remunerative.
166. Looking at the matter from a traffic point of view, you would rather reach the Darling by the more southerly route? Yes.
167. Although it will take longer to do it? Yes; at the same time if the objective point is Broken Hill, you bring Broken Hill 50 miles nearer to Sydney.
168. If the Government buys the line from Broken Hill to Tarrawingie, we shall have a railway of our own? The Government has purchased that already. Still it bears very little on this question, because it does not run in the proper direction.
169. As between the Western line and the Southern line competing for our western traffic, do you think the cost of haulage is greater on the Western than on the Southern line? We do not reckon it is. You have heavy ruling grades on the Southern as well as on the Western line, although, perhaps, not so many.
170. You could run as big a train on the Western as on the Southern line? Yes.
171. The same engine would take the same number of trucks on either line? Yes; you have the same maximum ruling grade.

TUESDAY, 4 APRIL, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Henry Deane, Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and examined:—

H. Deane.  
4 April, 1899.

172. *Chairman.*] Will you explain to the Committee the details of the proposed line? Yes; the Under Secretary has read a statement describing the route, and I will furnish the estimate in detail. I have divided the estimate into two parts.

COBAR TO WILCANNIA.—Part 1.

Cobar, 459 m. 36 chs. to east end of Darling River flood area, at 611 m. 76 chs.

Amended mileage .....	m. chs.
Add for easing grades = .....	152 40
	3 40
Total .....	156 00

*Estimate.*

## Estimate.

H. Deane.

4 April, 1899.

Description.	Per mile.	Cost.
Earthworks.....	£ s. d. 400 0 0	£ s. d. 62,400 0 0
Culverts.....	200 0 0	31,200 0 0
Road—Rails, &c., including freight by rail to Cobar, or by river to Wilcannia.....	£812 18 0	
Sleepers—2,464 at 4s.....	492 16 0	
Ballast—300 at 5s.....	75 0 0	
*Laying—1,760 at 1s. 6d.....	132 0 0	
Miscellaneous.....	1,512 14 0	235,981 0 0
Stations and sidings.....	30 0 0	4,680 0 0
Water supply.....	40 0 0	6,240 0 0
Telegraph gradient and mileage posts.....	70 0 0	10,920 0 0
	30 0 0	4,680 0 0
Contingencies, 7½ per cent. (nearly).....	£ 2,282 14 0	356,101 0 0
	171 0 0	26,676 0 0
Engineering, 5 per cent. (nearly).....	£ 2,453 14 0	382,777 0 0
	122 0 0	19,031 0 0
156 miles at £2,575 14s.—cost, £401,808.	£ 2,575 14 0	401,808 0 0

\* Includes cost of running over line under construction.

## COBAR TO WILCANNIA—Part 2—Crossing of the Darling River.

From \*611 m. 76 chs. to west end of Wilcannia Station ground at \*621 m. 36 chs., amended mileage = 9½ miles. 2½ miles clear of floods. 7 miles below flood-level; say 3 miles bank and 4 miles opening.

2½ miles, at £2,400.....	£6,000
Station, Wilcannia.....	6,000
3 miles embankment.....	9,000
Bridging main channel, 600 ft., at £30.....	18,000
Viaduct—20,500 ft., at 50s.....	51,250

Add increased cost of permanent-way materials, 9½ miles, at £13..... £90,250  
 ,, telegraph, gradient and mileage posts, 9½ miles, at £30..... 124  
 ,, .. 285

Engineering and supervision, 5 per cent. .... £90,659  
 4,533

\* These do not include the extra ¾ miles allowed in estimate for casing grades.

£95,192

## COBAR TO WILCANNIA—Summary.

Cobar to east side of Darling River, 156 miles.....	£ s. d. 401,808 0 0
East side of Darling River to Wilcannia, 9½ miles.....	95,192 0 0

Total, 165½ miles..... 497,000 0 0

Not including fencing. Grades, 1 in 100. Curves, 14 chains radius.

173. Have you any other statement to make? Yes; I have another statement showing that the length of Crown lands traversed is 160¾ miles, and the alienated land 1¼ mile only. There is only a small portion of alienated land traversed by the line, and it consists of three blocks in the immediate vicinity of North Cobar. I put in the plans. I hand in a compilation of county maps, the plan of the line in two parts, 10 chains to 1 inch, the longitudinal section to a horizontal scale 10 chains to 1 inch, and vertical 100 feet, and the Book of Reference.

174. There was a line submitted to a former Public Works Committee from Cobar to Broken Hill? Yes, from Cobar to Cockburn.

175. Is this identical with the same portion submitted before? It is practically the same route.

176. Have you been over that country yourself? No; I have been at Cobar and I have been at Broken Hill, but I have not been over the intermediate line.

177. Has there been any fresh survey since this line was submitted, I think in 1891? The original survey has been amended, but I think that that was before the previous submission. Messrs. Wickham and Hixson did the original survey. That was a line with pretty bad grades, because the country is by no means flat throughout. After leaving Cobar a series of ridges has to be crossed. Then Mr. Marshall was instructed to improve the line, and alter the grades to 1 in 75 to agree with the Nyngan to Cobar line, which was laid out with grades of 1 in 75. During the construction of the Nyngan to Cobar line, the Railway Commissioners requested that the ruling grade should be altered from 1 in 75 to 1 in 100, and that was done. I have, therefore, in the present proposal, assumed that the grades on this line will be altered to 1 in 100. But no survey has been made for that purpose. I have satisfied myself, from an inspection of the plans and reports, that it can be done without any difficulty with a probable additional length of 3½ miles.

178. By lengthening the route by 3½ miles, you could get a ruling grade of 1 in 100? Yes.

179. What is the ruling grade coming towards Sydney (say) from Nyngan to Cobar? 1 in 100 both ways.

180. And further on in this way coming east—if the line were constructed from Wilcannia, how far would that ruling grade carry you? I believe it would carry you to Narromine. I would not say exactly how far east. Between Narromine and Dubbo the grades begin to steepen, but many alterations have been made including those near Dubbo, with the object of altering the ruling grade in the direction of Sydney to 1 in 70.

181. Right into Sydney? No. Eventually, no doubt, they would be 1 in 70 right into Sydney, but it is not so at present. At Eskbank there is a rise of 1 in 42, and there is a rise of 1 in 40 higher up. But

- H. Deane: with the exception of that, eventually the grades will all be altered to 1 in 70. I believe there are a good many left still that are steeper, but the intention is to get rid of them all in time—for instance, the Locksley Deviation where there was a grade of 1 in 40 against Sydney, and 1 in 33 in the other direction has been cut out, giving a better grade.
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182. It is not intended to ballast this line right through? No. I have put down a small portion only to be ballasted.
183. At £75 per mile? Yes. That, of course, is the average amount. If this line comes to be constructed, a great many miles of it will have no ballast on it at all. The average would not be exceeded.
184. Is there not a good length of that line going through country which is absolutely rotten, hardly any bottom to be found? I do not think so. I do not think you can look upon any as impassable without ballast. On the Parkes and Condobolin line there were one or two tracts that were very soft in wet weather, but the moment you drain the country by putting in side cutting and throwing up banks, you get rid of the bogginess.
185. I notice that there is no provision made for fencing? No.
186. I presume that the intention is to run day trains there? I suppose so.
187. *Mr. Trickett.*] I notice in your present estimate of the cost of this proposed line, £2,575 14s. per mile, you are somewhat below the former estimate? You are referring to the Cobar to Cockburn line.
188. Yes? The Cobar to Cockburn line included a much heavier length at the further end between Broken Hill and Cobar which is very rough.
189. The length of the line from Cobar to Wilcannia is 158 miles, and the cost £3,050 per mile (page 2 of the Cobar to Cockburn report);—now we seem to have got down to £2,575 per mile, a difference of over £400 per mile? I have knocked out the ballasting, and altered the construction to the extent of making the formation lower. The present experience shows that it is better to do so to make the line cheaper, and it is easy to maintain. Then again I have reckoned that the prices are less now than they were then. That estimate made in 1891 was a very rough estimate.
190. Yes, I do not think that even Mr. Firth had been over the line then? No.
191. I see that you put down in your memorandum £100 per mile for earthworks;—does not that seem rather a low estimate? No, it is not a low estimate. The more recent lines have cost a good deal less than that—lines over easy country.
192. How much would the formation of this line be above the surface? From 6 inches to 1 foot as a rule. But, as I mentioned before, there is a good deal of low ridgy country to pass through, which will involve cuttings and embankments—small ones in nearly all cases, but still sufficiently large to make me put the earthwork at £400 per mile.
193. Why I asked the question is that this question of surface railways seems to me a very indefinite kind of thing. In your own report, when you came back from America (page 3), you state that the height of the formation above the surface on the plains is 18 inches at least. These are looked upon as pretty important lines, and cost £150 per mile for earthworks, and your memorandum seems to indicate that as soon as they can, they go on and make the permanent-way better, the inference being that the laying of these surface lines is merely a kind of initiatory stage? It is so as a rule, but it is not always the case. I traversed several lines where probably that condition is a permanent one. It depends very much upon the circumstances of the case. If it is a dry country, such as you get in California, and the west generally, it is quite safe to leave out the ballast; but if, on the other hand, there is a lot of heavy traffic, it is better to put on the ballast afterwards.
194. Does not that strike you as likely to be the case in a country of this kind, where you have a large tract of flat country that sooner or later will have very large quantities of water flowing over it;—do you not think that, in all probability, this primitive kind of road would have to be improved? No; I do not think it would have to be improved on that account. If the traffic should largely increase, of course the line can be ballasted, and it can be ballasted then at quite as little cost, if not less, than in the first instance. Then as regards the danger of floods, the lower the embankment the less the damage that is done. So it is a measure of precaution. If the country is unknown, and with that large extent of flat land it is very difficult to tell where the water will come, it is really safer to put the embankments lower down; they can be raised afterwards, if necessary. These floods come at very long intervals.
195. The experience, so far, has been that there is no chance at all on these light lines of the rolling-stock taking a dive into the earth? Not the slightest.
196. Although you have had a pretty good experience of the Narrabri to Moree line, there has been nothing of that kind? Nothing of the kind. As I mentioned, in some parts of the Parkes to Condobolin line, reputed to be very soft, we had to cope with that difficulty. I remember that Mr. Edols, of Burra-wang Station, was certain that it was useless to make the line in the way that we were making it, and that the engines and tenders would disappear; but he was quite satisfied when he saw how effectual the drainage was, due to the side cuttings and the throwing up of embankments.
197. *Mr. Watson.*] We have had dry seasons since then? We have had enough wet to make the ground boggy.
198. *Mr. Trickett.*] Although you are not in charge of the permanent-way after it is once established, you have been made aware of it if anything of that kind occurs? Yes; I know the Commissioners would inform me at once if there were anything of the sort; and, besides that, I make inquiries.
199. I notice too in your account of your American trip that there the cost of earthworks on surface railways comes up to £450 per mile, but here you only put down the cost at £400; I should have thought that the cost would be quite as much here as in America? I have found it possible to reduce the cost of earthworks generally in flat country to about £200 a mile. It is to be noticed that there is this difference between this country and America, that they are subject to very hard winters, with snow and ice, and the great trouble they have to contend with is the breaking up of the winter frost. During the winter they can do nothing. The formation gets frozen perfectly hard. At the approaching spring, the formation gets soft and rotten, and they have to send out large gangs to put it in order. Of course higher embankments are an advantage in that case. In our case, I am sure that they are quite unnecessary. The lower the embankment, the easier it is to maintain, so long as you have a sufficient height to throw the water off.
200. In your description handed in to-day you put down sleepers at 1s. each;—is not that very high? They have to be carried a long way.
201. Are they not procurable locally? I think there will be some red gum on the Darling; but for half the line, they will have to be carried from some point east of Parkes.



202. The price is high, compared with the price on the Narrabri to Moree, and on the Dubbo to Coonamble lines, which is 2s. on the former and 2s. 6d. on the latter? Yes; but that is ironbark country with forests in the neighbourhood. On this line, there is no timber which could be used, until you come to the Darling, and even on the Darling it may be necessary to carry the sleepers a considerable distance by water. H. Deane.  
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203. Will you tell us what you have allowed for waterways? For culverts, £200 per mile.
204. That is a heavy item;—apparently that includes box drains as well? Yes; that includes everything.
205. Is that an unusual amount? No; that is a very fair amount.
206. Based upon experience? Each of these lines is considered on its merits. I have here the estimate of the Narrabri to Pilliga line, which was considered last year, and in that estimate the timber bridges and small timber openings are put down at £209 per mile. That line would give a good deal more trouble, probably, in regard to water than this would, but here the carriage would be costly.
207. I do not see any item in this estimate of yours for land? No; I never put down land; but the land will be a trifle, as there is only  $1\frac{1}{4}$  mile of alienated land traversed by the line.
208. It is mostly leasehold? Yes.
209. The route has been increased apparently, by diversions, by  $3\frac{1}{2}$  miles;—where are those diversions? In various parts.
210. Is there any particular part? No, there are several places. The land after leaving Cobar is undulating; then you get an easy bit.
211. What is it after you leave Cobar—1 in 70? We have 1 in 75 at present.
212. It chiefly occurs shortly after leaving Cobar? For some considerable distance there are various low ranges.
213. How would the cost of going through that cutting compare with the cost of going round? Very likely it would be four times the amount.
214. Four times the cost of going round that slight distance of  $3\frac{1}{2}$  miles? Yes.
215. Does crossing the Talyawalka Creek cause a heavy item? I have included Talyawalka Creek in the flooded country of the Darling.
216. How far is Talyawalka Creek from Wilcannia? About 8 miles.
217. Is that included in the item for viaducts? Yes.
218. The cost for viaducts is £20,500;—does that include that last 8 or 9 miles on this side of Wilcannia? Yes; the amount is £51,250.
219. So that you may say that the last 9 miles of the line from this side to Wilcannia is a very expensive portion, owing to the low character of the country and the number of creeks to be crossed? Yes.
220. Would the whole of that country be traversed by embankments and viaducts? The whole length is  $9\frac{1}{2}$  miles. There are  $5\frac{1}{2}$  miles of embankments. Two-and-a-half miles of the route is absolutely dry, and 7 miles more or less flooded. For about 3 miles of the distance there is so little current in the water that I have proposed to carry an embankment. That would leave various openings aggregating 4 miles.
221. How would the part on which you do not make embankments be constructed? On timber piles, girders, and driven piles.
222. Piles with decks? With girders and transoms and open work.
223. The water would run underneath the rails? Yes.
224. How high would that be? It will vary.
225. Would it be 5 or 6 feet? I daresay that, on the average, it would be something like that.
226. The flood there is of a character that spreads itself very largely over the country, and does not rise to any very great height? No; except in certain well-marked flood-channels.
227. Such as this creek? Yes.
228. *Mr. Levien.*] What would be the length of the longest viaduct? About 2 miles.
229. *Mr. Trickett.*] I suppose that in that country the rush of water is not very great, except in the waterways? No.
230. Owing to the height of these piles, the works would be of a costly character? No; they are not costly; I only put them down as a general average at 50s., but that amounts up to £51,000.
231. Have you any lines in existence to compare with this with regard to raised viaducts on piles? I have plenty of low bridges of that kind, but nothing extensive. The more extensive one, crossing the Murrumbidgee River, is very much higher.
232. Have you not one or two places on the Parkes to Condobolin line of a similar character? Yes, the Yarrabundi. There is a creek just a little beyond Burrawang. I think those are 14-foot openings. That is about the cheapest effectual waterway that you can have.
233. That is not so high as this would be? No; but that would be the class of viaduct.
234. Has that stood well? It has not had any particular testing by floods.
235. I suppose that these piles would all have to be driven down? Yes.
236. What is the estimated cost of a bridge across the river at Wilcannia? The main bridge, £18,000; 600 feet at £30.
237. Then the approaches are by far the most expensive part? Yes, they are; but, of course, they are a long way cheaper per foot run. The main channel will necessitate a steel bridge and an opening span.
238. Would that be a bridge merely for railway purposes? Yes.
239. For a single line of railway? Yes.
240. Has it never occurred to the Department that, in constructing a railway bridge over a crossing of this kind, the bridge might be made available for both railway purposes and ordinary traffic? Yes; in several instances. But the conclusion arrived at is that, as a rule, it is not a desirable arrangement. The kind of bridge that we want for road traffic is so very different from that which you want for railway traffic. A railway bridge is very narrow, and it is open work—there is no continuous decking across.
241. Lately they have tried at Parramatta River actually to have a punt to carry the ordinary traffic across the river, although there is an enormous bridge on huge stone pillars which is used by only a few trains a day? There is a good lot of railway traffic over that bridge.
242. In the case of this bridge at Wilcannia, where only one train a day would pass, it would seem a desirable thing to combine the two objects? No doubt that is the case where the two objects may be combined.
243. Do you not think it is worth considering? Yes.
244. It is suggested to me by Dr. Garrahan that we might have the rails laid and let the ordinary traffic go over

H. Deane. over the rails? I think there would be very little objection to it in a case like this, because the traffic would be so small, and as soon as the traffic becomes large the building of an extra bridge ought to be considered.

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245. *Dr. Garran.*] At Wilcannia, how often would a locomotive be going over that bridge in a day? Very seldom; about twice a day.

246. *Chairman.*] Would there not be a straight run to the bridge, so that the approach of a train could be seen a mile or two off? Yes.

247. *Mr. Trickett.*] The cost of the bridge and viaduct seems to have been considerably reduced since we had the matter under consideration before? No; it is about the same. The former estimate was £92,000; this is £95,000.

248. In your examination, on a former occasion (page 7, question 98), you said that you added to that £92,000 for bridges and viaducts, and to that we should have to add £45,000;—what was that for, I wonder? I added 50 per cent. for a double line; it is a very rough estimate.

249. The consideration of the double line here would not be reasonable? It is not likely to be wanted.

250. If the traffic increased, you could easily arrange to have a double line? Yes, double lines outside the bridge, and single lines across the bridge.

251. I suppose you have had nothing to do with bringing this matter before the Committee, and that you are only giving evidence as to the engineering part of it? That is all.

252. You think that circumstances have changed since this project was considered before, so as to make it less desirable now to construct the railway than it was then? I understand that circumstances have changed. There is not the same activity at Broken Hill.

253. When it was first proposed to make a line to Broken Hill, the idea was to intercept the traffic, and to get the great coal and coke trade? Yes.

254. The prospects now, I understand, are not so good in that direction? No; I believe that the ore is sent away very largely for treatment.

255. At that time the idea was to create a traffic and to divert it from Adelaide, but the traffic has gone an increasing to Adelaide, owing to the shortness of the distance and the increased railway facilities given in South Australia? Yes.

256. The Nyngan to Cobar line may be looked upon as the first instalment of this line;—has that line been a success financially? I believe it has; the returns are constantly increasing. The Cobar district has gone ahead so much; there is much more mining there now than formerly.

257. The copper trade especially has increased largely? Yes.

258. With regard to this route under consideration, its chief object, if a line were constructed to Broken Hill, is that this would be the smallest number of miles of railway to be constructed, as compared with the other routes? Yes.

259. But having that advantage, it has the disadvantage of being the furthest to travel from Sydney? Yes.

260. Looking at it in the way of convenience for intermediate traffic, would you like to say which you think would be the best route to be chosen? No.

261. Would you like to say, on engineering grounds, which you think would be the best line to construct to connect Sydney with Broken Hill—this, or the one to Condobolin, or the one *via* Hillston? This is the shortest.

262. It is very desirable to connect the Lachlan valley by railway;—would that be a very expensive route as compared with this? No.

263. Have you got a comparison? The cost of a line from Condobolin to Broken Hill line was given in August, 1896, as £955,000.

264. How much per mile? The average cost per mile, £2,606.

265. There is very little difference then? Very little.

266. Was there ever a survey made from Hillston to Condobolin? Yes; I think the estimated cost of that was given during the Condobolin to Euabalong Railway inquiry. On page 16 of the evidence the estimated cost of the line from Condobolin to Hillston *via* Cargellico is put down as £259,900. As regards expense, it seems to resolve itself into a question of mileage, because the difference of cost in going over one part of the country and another is so very small.

267. So that in approaching Broken Hill, whichever way you go, the cost of construction is much the same, and the only thing that would save expense would be to go by the nearest route? Yes.

268. Does it not seem rather strange, seeing that this project is put before the Committee in 1899, that no fresh survey has been made of this line since 1891? The survey was quite a satisfactory one.

269. You do not think that there is any necessity, owing to the character of the country, to make a fresh one? No; none whatever.

270. Who was the gentleman who made that survey? Messrs. Wickham and Hixson were on the original survey, and Surveyor Marshall amended some portions to get a better grade.

271. Are they in the service still? Messrs. Wickham and Marshall are.

272. If they are required by the Committee they can be got? I believe so.

273. Do you think of anything special to mention to the Committee in addition to what you have stated at former inquiries? No; I have nothing further to add.

274. You think that the line is a thoroughly practicable one at the cost you have estimated? Yes.

275. *Mr. Dick.*] Could you inform the Committee what was the average cost per mile of the Nyngan to Cobar section? I think it was about £3,000.

276. Somewhat more than the cost of the proposed section from Cobar to Wilcannia? Yes. The Nyngan to Cobar line was estimated to cost about £2,560 per mile. In consequence of the alteration of the grade chiefly the extra expenditure was incurred. Of course it is a very expensive thing to alter grades after a line has been commenced. Possibly the estimate was a little low.

277. What was the grade reduced from? From 1 in 75 to 1 in 100.

278. It is not proposed to have in this section any grades higher than 1 in 100? No.

279. Are the engineering difficulties on the Nyngan to Cobar section any greater than you find on the section of the proposed line? No, I do not think so. The Nyngan to Cobar line would have been more cheaply constructed if it had been laid out for the grades that were finally adopted.

280. All the other constructive details of the Nyngan to Cobar line were the same practically as those of the proposed line from Cobar to Wilcannia? With the exception of the ballasting. The line from Nyngan to Cobar is ballasted. That would be saved.

281. The amount of ballasting will not be so great on this section? No. It will do without ballast almost entirely. H. Deane.
282. Is that fact due to the experience gained in the construction of the Nyngan to Cobar line? No; it is due to the principle that I recommended to be adopted after my trip to America, and which has been carried out since. 4 April, 1899.
283. I think you said, in answer to Mr. Trickett, that you considered the survey a pretty good one? Yes, quite sufficient for the purpose. If the construction of the line is authorised, of course a fresh survey will have to be made for a permanent line, and when that is undertaken there will be modifications made along the route, so as to get the best line.
284. Would you favour the Committee with some idea of the cost of a new survey along that distance? I suppose it would cost about £15 a mile.
285. I have it on fairly reliable authority that in some of the older surveys—for example, in the case of the line from Newcastle to Sydney—the practice was to keep as close to the road as possible, in spite of any engineering difficulties which might be in the way; and that recently very large departures have been made from the original line, adding greatly to the improvement of the line, reducing grades and taking out curves? Yes, the latter is correct.
286. You are quite prepared to rely upon this survey as one sufficiently accurate for your purposes? Yes.
287. How high will the proposed bridge across the river be above summer level? I could tell you more exactly from the details in the level-book. I should think it would give a headway of about 40 feet.
288. That would make the main part of the bridge well clear of any danger from floods? Yes.
289. How long do the approaches on each side of that bridge require to be? On the Wilcannia side they are very short—not much more than a quarter of a mile. On the other side, of course, there is a good deal of viaducting; but the bridge over the main channel is an isolated structure. The banks are high enough to be out of floods, so that it would be more correct to say that there would be a quarter of a mile on each side.
290. Does not the approach on the Sydney side of the bridge include the 2 miles of viaduct which you mentioned? No; not that particular viaduct. It would be detached.
291. Where should we find this 2 miles of viaduct? Some distance back from the river. I said 2 miles; but the stretch of viaduct, including Talyawalka Creek, will be considerably longer, I think. Talyawalka Creek is about  $6\frac{1}{2}$  miles back from the river.
292. Does that viaduct cross an old watercourse? There is a series of depressions, along which flood-waters flow.
293. What is the general height of the viaduct over those depressions? I think the height is from 6 feet to 8 feet. It would be higher in the middle of the depressions, but we may take that as the general average.
294. Is it likely that in flood-times large masses of snags and other *debris* will be piled up against those viaducts? No.
295. They would not act like those rocky bars on the river? No. I take it that any floating timber would come down the main channel chiefly.
296. Have you had any experience of the velocity of the current along those depressions in flood-time? No; I have no information on that. You want to be there to observe them.
297. Would it not constitute a serious danger to the viaducts if large masses of timber were brought down? It depends upon the size of the timber. If it was small it would go underneath. Whenever there is a flood in any place the Railway Commissioners have men on the watch to clear the bridge openings. That is a necessary part of the maintenance of the line.
298. How distant would the timber supports be from one another in the viaducts? The average distance apart that I should put the piles would be 14 feet. If I found it necessary to put wider spans in the middle of the channels I should do so, but not unless on careful observation it was found necessary.
299. Is it a fact that they are replacing the wooden spans of the Wagga Wagga viaduct with steel spans? Yes.
300. What would the life of timber in that district be? Thirty years, I suppose. The timber used in the Wagga Wagga viaduct was not very satisfactory. Another thing—the spans were just a little too long; there was too much sag in them. I am not building viaducts on that design now. That was given up almost as soon as it was adopted. There are only two or three viaducts in existence that were built on that design.
301. What class of timber was it that was used at Wagga Wagga? Ironbark girders; but I could not, without inquiry, give you any definite information, because I was not in charge at the time, and did not see the bridge during its construction.
302. It was not the girders which proved unsatisfactory? No; it was the piles and the decking.
303. Do you propose to get the timber for the viaduct on this line? It will have to come a good way east—from east of Parkes.
304. What is the reason that the line takes such a sudden bend to the north-west, just before it crosses the river? There is water at flood-time to be kept clear of. There is a kind of lake in flood-time—Lake Poopelloe.
305. This is really an amended estimate, as far as the grades are concerned, is it not;—I see an addition for easing grades in the first part? Yes; I have added  $3\frac{1}{2}$  miles to give better grades.
306. What improvements do you propose in the grades? To change them from 1 in 75 to 1 in 100.
307. Is there much country in which it will be 1 in 75? No, not very much; but wherever that broken ground occurs the grade is at present 1 in 75.
308. When the surveyors went out to survey this line, had they any instructions as to seeking a route that would not involve a grade of more than 1 in 100, or 1 in 75? When the first surveyors went out, they were allowed, I believe, to use steeper grades. I afterwards arranged for Mr. Marshall to go and improve the line to get 1 in 75, the same as the grade of the Nyngan to Cobar line.
309. Then two separate surveys have been made? Mr. Marshall's was only a partial survey. He only did certain portions where the heavier grades occurred.
310. *Mr. Shepherd.*] I should like a little information about these curves;—what is the difference in distance between a straight line from Cobar to Wilcannia and following the curves of the line? It scales 146 miles in a direct line.
311. And  $165\frac{1}{2}$  by the curves? Yes.

- H. Deane. 312. That will make a difference of  $19\frac{1}{2}$  miles? Yes.
313. What are the obstructions that necessitate these curves? Ridgy country and flooded ground.
- 4 April, 1899. 314. Are the ridges high? They are hard ridges, but not high.
315. But, seeing that the line is to be laid out for all time, do you not think it would pay to overcome some of these obstacles instead of going round about? No, I do not think so. It would be very costly to make a line straight through with a good grade.
316. You said it would cost about four times as much, I think? Yes.
317. Four times as much for about  $19\frac{1}{2}$  miles would not be such an enormous amount after all? That is for the difference between 1 in 75 and 1 in 100. If you were to go straight across from Cobar to Wilcannia, I should not like to say what the expense would be.
318. What do you consider a fair working grade on a railway? In country of this kind, I think that 1 in 100 is a proper grade.
319. That is a very easy grade, is it not? Yes, it is an easy enough grade.
320. I see that the water supply is put down at £70 a mile;—where do you derive your water supply from? It will be mostly from tanks or dams.
321. There is no natural supply on the line? No, nothing that you could depend upon.
322. I see that on the line between Dubbo and Coonamble you dispense with ballast? Yes.
323. Here you provide for ballast? Only to a small extent. You will find a small amount of ballast on the Dubbo to Coonamble line too.
324. Do you think the lines are as safe without ballast as with it? In the dry western country—yes; and where the traffic is small.
325. Unballasted lines are not so well calculated to withstand a flood as ballasted lines? I do not know that that makes much difference. It is where the traffic is heavier that it is much easier to keep a line in order with ballast, and also where a good deal of rain falls, rendering the formation for days or weeks together soft. Then it is desirable to have ballast; but in country where there is only a few days' rain in the year, it can be very well dispensed with.
326. Is timber plentiful on the line? No; there is no timber until you get to the Darling.
327. I suppose that is one reason why fencing is dispensed with? That is one reason; but the principle recently adopted has been to make lines without fencing; it was looked upon as an unnecessary expense.
328. On those lines, I suppose, the traffic is small, and the trains run only in the day-time? Yes; there is no danger.
329. *Dr. Garran.*] What do you consider to be the life of these box culverts? It depends upon the material; if they are made of ironbark, twenty years.
330. Are there a good many in use in the Department? Yes.
331. Where an embankment is very small there is no trouble in putting in new ones? No; we do not put in box culverts where the embankment is high.
332. Of what area do you propose to make these culverts? It all depends upon circumstances. They are all classed as culverts, but they may be small timber openings with piles, or they may be open waterways, such as I have lately been putting in, with cross timbers, and planking on the bottom, to support them.
333. I gather from a previous answer that you look forward to the possibility of very heavy floods flowing over this line? Yes.
334. Do you think it better to risk that than to have embankments? Yes, decidedly.
335. Time will prove where your weak points are? Yes; you cannot know till time shows; it is impossible to tell where flood-water is likely to accumulate.
336. If you have an embankment only 1 foot high it will offer very little resistance, and it will stand where a high one would give way? Yes; and if damage is done it is very easily repaired.
337. Where you have to make a cutting through these little ridges you speak of, would you not get some material there for embankments? Yes; that is put into the embankment at each end.
338. So that you will have more than side cuttings in some places? There will be side ditches.
339. You throw that material on the permanent-way? It is thrown out to make the road.
340. Where you have little ridges, you will have more earth than where the ground is level? Yes.
341. You will have a better road there? If the ground is hard; but I look on an embankment well consolidated as quite as good as a cutting. It is less costly to maintain than a cutting.
342. Is the water-supply that you speak of likely to be sufficient to stand a four years' drought? Yes.
343. Will the tanks be very deep? About 15 feet.
344. Excavated? Yes. Of course, if there were any channels that one could dam up, with a prospect of collecting water, that method would be adopted.
345. Will 15 feet of water, reckoning for what you would use of it and for evaporation, last you four years? I think it ought to. The water supply is put down at £70 a mile. If we can run for 30 miles that means an expenditure of £2,100 over 30 miles. That ought to be quite sufficient, and we ought to be able to excavate a very large tank, and to put up overhead engine-tanks for that.
346. I am supposing such a drought as we have already had, and this line had been made for four years; would you have been obliged to bring water from somewhere else to work the line? No; I do not think so, if we had caught the water. We might excavate a tank, and have to wait for it to fill as on the Condobolin line.
347. The Cobar line is not fenced, is it? No.
348. Has any difficulty been found to arise in consequence? No; I believe not. The Railway Commissioners are quite satisfied with the institution of unfenced lines.
349. They do not run a lot of trains on those lines? No.
350. Most of this line is pretty straight? Yes.
351. You can see stray cattle ahead in the day-time? Yes. There are one or two curves in the cuttings.
352. There have been no accidents of any importance? No.
353. A few cattle killed I suppose? I have heard of a small number of stock being killed, but the loss has been very trifling.
354. What pattern of bridge is it that you propose to build over the river? I propose to build a steel bridge. I have not gone into the design very much, but I have provided sufficient money to make a bridge that will meet all requirements.
355. Will it swing on a central pier? I prefer the bascule system.

356. That will be cheaper? For the same amount of opening, you get so much more space. With a swing-bridge you get two openings, which you do not want. H. Deane.
357. The two halves of the opening become perpendicular? Yes; nearly so. 4 April, 1899.
358. Have you a rocky bottom for your foundations? There is a very good foundation.
359. Has there been any boring done? I think I have the particulars of that, but if not I reckon it will be perfectly safe to stop at a certain depth. There is no fear of the foundations scouring out on the Darling.
360. Where there are so many rocks and reefs crossing the river, could you not pick a site where you could have a rocky bottom? Possibly. The site has been selected to suit the general location of the line, so there is not much choice in the matter.
361. How many piers are you going to have in the river itself? I should put in spans of about 120 or 150 feet. That would mean either three or four piers.
362. Will they be cylinders filled with concrete? I think so.
363. How deep do you estimate that they will go down? Thirty or 40 feet, if we do not find rock.
364. From the plan, it appears that the line has a bend to the southward to avoid a range of hills? Yes.
365. Then you have to make a sharp run to the north-west to get to Wilcannia? Yes.
366. Then after you cross the river the trend of the line to Broken Hill is south-west? Yes; about west south-west.
367. Then if from the point where it goes south of those hills, instead of turning up to Wilcannia, we made a straight track to the Darling, then to Broken Hill, we should save a considerable detour? Yes.
368. Is not Broken Hill a municipality? Yes.
369. Have you any idea of the valuation of property there? No, I have not.
370. It appears that we have to spend nearly £100,000 to make an extremely difficult crossing to get to that one place? Yes; but any other crossing would be quite as expensive.
371. Is there not many a place within 10 miles of Broken Hill where there is no such difficult crossing? I do not think so. I think it is a good crossing, as crossings go.
372. Do I understand that wherever we cross the Darling we have to face this expenditure of £100,000? Yes. You have to allow for miles of flood-waters on that line. On the line from Condobolin to Menindie there was a fairly favourable crossing found, but the estimate for that crossing was over £90,000.
373. Is the object of this line to serve the township of Wilcannia, or to serve the river trade of the district? My instructions were to go to Wilcannia.
374. You look at it simply as an engineer? Yes.
375. But if we had simply to serve the river trade of the district, the line need not cross the river at all? No, I suppose not.
376. Have not many railways stopped on one side of a river, with the township on the other side? It has been done.
377. Is there a road traffic bridge at Wilcannia? I think not.\*
378. In any case, if we did stop at this side of the river, we should have to make some kind of a road down to the wharf to get to the steamboat? Yes; and you have some miles of flooded country if you stop on this side of the channel.
379. The flooded country begins 9 miles from the channel? Yes.
380. The Darling does not go 9 miles from all parts of its course? No; the greater flooding would be on one side or on the other.
381. Supposing the line be made, it is to be considered whether we should stop on this side, or make the bridge across the river? Yes.
382. You could avoid that expense? Yes.
383. And that would cheapen your line? Yes.

WEDNESDAY, 5 APRIL, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.

The Hon. WILLIAM JOSEPH TRICKETT.  
WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Henry Deane, Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and further examined:—

384. *Mr. Deane*: I have ascertained that there is a road-bridge at Wilcannia. I was told by one of the surveyors that when they were there there was no road-bridge; but there is one now. I also find that it was at Wilcannia that we took some borings. We let a contract for borings down to the rock, on the line of survey. Mr. Cummings, Road Superintendent at Wilcannia, looked after them, and measured them for me. H. Deane.  
5 April, 1899.
385. *Chairman*.] With what result? Rock was found about 35 feet below the summer-level, in the middle of the river; but on the eastern side we have to go down over 90 feet to get to rock; but it will be quite unnecessary to go the whole of that depth with the cylinder. I think that 35 feet in the bed of the river will be perfectly safe. There is no scour likely to take place that would lay bare the cylinders.
386. The stream is sluggish? Yes; the fall of the river is only 2 or three inches per mile.
387. Do you know what depth they drove the piles for the road-bridge? They went down to rock. The rock there is only about 25 feet below summer-level. That is shown on the bridge drawings.
388. You would drive to a test in any case? Yes; the cylinders would, of course, be weighted with a certain load. 389.

\* NOTE (on revision):—I have ascertained that a traffic bridge has been erected within the last few years.

- H. Deane. 389. With regard to sleepers;—in the report you provide for 2,464 sleepers; on the line from Nyngan to Cobar, I think, they used 2,000? Yes, about 2,080.
- 5 April, 1899. 390. What is the necessity for that difference? On the earth-ballast lines I put in fourteen sleepers to the 10-yard rail.
391. You make a saving by not ballasting? I make a saving by not ballasting; but even if I were making a ballast road, I should much prefer to put in a greater number of sleepers. It makes a very much better road, and one much easier to maintain.
392. You allow 5s. a yard for ballast;—but in connection with the Nyngan to Cobar line, I think the successful tender was about 6s. per yard? Yes; for all the ballast that we shall want on this line, there would be plenty to be obtained in those ridges skirted by the line.
393. At the inquiry into the proposed line from Cobar to Cockburn, you said that the contractor's price per yard between Nyngan and Cobar was 6s.? Yes.
394. And you have allowed 5s. here? Yes; that will be quite enough.
395. In your evidence, in reference to the proposed line from Cobar to Cockburn, you say:—"I have taken 6s. throughout as a fair average"? Yes; you see prices generally have gone down since then.
396. I will suppose that your officers have reported to you that ballast can be obtained readily at 5s., and that it need not cost more? I know from my own knowledge of the way the work can be done, that we can excavate for much less than that. The contractor, if he arranged his work properly, would have made a very large profit indeed out of that 6s.
397. I suppose that a considerable quantity of the ballast will be gravel? I should think it would be nearly all stone. This is what is stated in one of the reports by Mr. Stuart to the Minister in 1892:
- The sandstone suitable for ballast can be obtained from the Bulla Range, and from the lower ranges in the neighbourhood of the line.
398. In Part 1 you say that stations and sidings can be provided at a cost of £6,240;—in Part 2, there is the statement that the Wilcannia station will cost £6,000? Yes; the intermediate stations are mere sidings, very small ones. There is no population along the line. There are a few small sidings with now and then a loading bank or a waiting-station. It is very different at Wilcannia. Wilcannia will be the terminus, and you will want a rather expensive station.
399. Is not that a rather large amount for a place like Wilcannia? No; I do not think so. You would have to put down a turn-table, and to have a passenger station, an engine-shed, carriage-shed, goods-shed, wool bank, residences, and all the loops and sidings requisite for a terminal station.
400. Then you have not provided simply for the station; but this being the terminus, it will require other buildings? Yes; it is not merely the passenger accommodation, it is the terminal accommodation requisite for trains, the housing of engines, carriages, &c.
401. You were examined yesterday in reference to the nature of the country. This is in the evidence taken by a former Committee:
- When the Committee were travelling over the country on the other side of the Darling, they found that miles of it was so soft that it could not bear them walking over it. We very often sank to the knees, so soon as the surface was broken. Do you think the country will bear a railway, unless there is some sort of foundation obtained for it?
- You were asked that question, and your reply was:
- It only requires to be well drained by ditches on each side of the line.
- That was in 1891. Have you had any experience as to whether that class of country can be drained? Yes; I mentioned yesterday that on the Parkes to Condobolin line there is a similar tract of country, and the drainage of the line is secured by side cutting and the raising of embankments. There is no doubt whatever about its being perfectly safe. The reason why a country like that gets boggy is that the water soaks in and does not get away. There is nothing to drain it off. Then when you are travelling through, walking or driving, your weight, the weight of the horse, and the weight of the vehicle is not distributed,—it is applied over a very small surface. But it is quite different when you have an embankment with sleepers and rails, and the load is distributed over a considerable surface; so that even where the ground is pretty soft, it will be perfectly safe.
402. If, as is reported, it is difficult to drain the land, or that you cannot drain it, then will it be safe to run a train over a line constructed through that land? There is no fear about the drainage.
403. Are you aware that there is a proposal to lock the Darling, and that it is stated that that will cause a lot of depressions throughout nearly the whole of that country to be filled with water, and if that is so have you taken any precautions as to what might occur? These depressions, if we had to cross any of them, would not present any particular difficulty, because they are clay pans, and the bottom is sufficiently tenacious to carry a railway after the embankment is formed.
404. Was it not found necessary to raise the embankment on the Nyngan-Cobar line on account of heavy rain? There was a short length, I think, of about 2 miles which was raised.
405. And you think it is perfectly safe to rely on the distribution of the weight of the train? Yes.
406. Have you had any borings made in that country, to see the depth of that soft stuff? No; I do not think it is necessary. The only class of country that would be difficult to cross on an embankment would be an actual bog, which is composed of vegetable matter, and in such a case it would be necessary to arrange some way of making a foundation for an embankment with fascines.
407. It is described as so rotten that if a coach goes off the beaten track it will go down? Yes. I should not have the slightest hesitation in laying a line across it, but the surface wants draining. You want to put a side cutting in, and make embankments. You must provide means for the water on the surface to get away. Then the ground begins to consolidate. If you made the railway by laying the sleepers on the surface without draining, or raising an embankment, it would be an unsafe proceeding. But considering that this line would be well drained it is perfectly safe.
408. There being similar country on the Nyngan to Cobar line, and you having had experience of it, you consider it perfectly safe? Perfectly safe.
409. Did you not make provision for fencing when this scheme was before a former Committee? There was a sum added afterwards. It was proposed at first to do without fencing; then a sum of £36,000 for fencing was added.
410. At that time, I suppose, it was anticipated that with the line going right through to Cockburn, you would have trains running at night? I expect so.
411. Then it would be necessary to have a fence? Yes.

412. And if traffic were carried over this line at night, would it not be absolutely necessary to have it fenced? I do not know that I should like to say that, because I think that, with good head lights on the engine, you could run pretty safely. You see the stock is very much scattered in the western country. With regard to fencing, I should like to call attention to this: You will find on the top of page 2 of the report of 1891 details given of the cost of the Cobar to Wilcannia line—Cobar to Wilcannia, £440,000; bridge over Darling and viaducts, £57,000; making a total of £497,000. That is the amount I have given now, but it does not include fencing.

H. Deane.  
5 April, 1899.

413. You say in the same report, page 2:

As these lines will have to be run over at night, I think it most undesirable to leave them unfenced, and I would recommend that the cost of fencing, namely, £36,000, should also be added.

That is why I asked if it was intended to run trains on this line only during the day-time. I know that cattle will get on to the embankments? They will, especially where there is ballast.

414. Is it intended to run trains on this line at night? I cannot tell you that. My estimate does not include fencing. Of course if fencing is necessary that will have to be added.

415. What is the cost per mile for fencing in that country? I should think about £100 per mile—fencing on both sides. Materials would have to be brought forward from one end of the line.

416. Do you think it would be false economy to omit the £100 a mile, and run the risk of a serious accident? That would be a matter for the Railway Commissioners to consider.

417. Is not the line from Narrabri to Moree unfenced? Yes.

418. Have there been any accidents there at all? No; I have not heard of any.

419. *Mr. Watson.*] In your estimate of 1891, I think that portion of the line then under consideration between Cobar and Wilcannia was estimated to cost £3,050 per mile. The report says (Question 33):

With regard to this written estimate, which has been given out to us this afternoon, is not that your final recommendation or estimate?

And your answer is:

Yes. Cobar to Wilcannia, 158 miles, £3,050 per mile.

That does not include ballast? No.

420. How do you account for the difference;—I should imagine that the cost would be smaller now than it was in 1891, because some things have gone down in price? I have gone into the matter very carefully, and I do not think the estimate ought to be reduced, below this amount of £497,000, although the ballast is left out.

421. But, in addition to the ballast you have left out, one would imagine that there would be some reduction in the cost of construction which would be taken into account;—I understand that wages are not so high, and that railway construction is not so costly as it was eight or nine years ago? It is not. I will explain where some of that difference comes in. Although I have left out the ballast, the grades are improved. You will see, on page 2 of that report, it provides for a sum of £60,000 to be added for the improvement of the grades. That would make a difference.

422. But you increase the length of the line by  $3\frac{1}{2}$  miles? Yes; but I have not altered the total. The total for the original line, with a ruling grade of 1 in 75, was £497,000. Then for the grade of 1 in 100 the proportional part was about £36,000. £497,000 and £36,000 would come to £533,000. That was the estimate at that time for the grade of 1 in 100. I have put it down now at the original amount of £497,000, and I have still got the 1 in 100 grade, so that there is a reduction in cost allowed for, considering that the original estimate, with a grade of 1 in 100, was £533,000. I estimated rather roughly for the improvement in the grade, £60,000, and I have now taken three-fifths of the whole line, £36,000, but, as a matter of fact, I ought to take more, because the first part of the line from Wilcannia to Broken Hill would not want altering at all. The ruling grade there would be something like 1 in 200, because there is no elevation at all until you get to Stephen's Creek.

423. Would not the ballasting mean a large difference;—what would the cost of 6 inches of ballast be per mile? I do not think I took 6 inches.

424. In reply to question 93 in the report of 1891, you say 6 inches;—do you remember at what you estimated the cost at the time of the last inquiry? No.

425. The difference, I should imagine, would be very considerable in that country, where ballast has to be carried so far; in answer to Question 124, you say that the price calculated beyond Cobar was 6s. per yard? Yes.

426. Six inches, I suppose, is a fair quantity to lay; at 6s. it would be about £500 a mile; the ballasting here, allowing 5s., is down to £75 per mile; there is a difference of about £450? I shall have to look into the matter. I do not think that full ballast was allowed on that line. I think it was about 1,200 yards to the mile; that would be about £350 per mile.

427. What is the width of it? It is per cubic yard; it would run about 4s. per cubic yard. It is about £350.

428. That is a difference of about £275 apparently;—there ought, apparently, to be a reduction of £275 per mile, because of having so much less ballasting? Yes. I think you will find it comes out to about the same thing. There is the earth ballast to consider.

429. There must be something which runs up the cost in other respects if these reductions are made—for instance, there is a reduction of your estimate of the bridge and viaducts as compared with the estimate of 1891;—then, in the original scheme, the cost was estimated at £57,000, to which you added £35,000? Yes. I am glad you reminded me of that—that in itself accounts for a considerable reduction.

430. It says, bridging main channel, £18,000; viaduct, £51,000? The bridge and the viaducts now come to £95,000.

431. What do you count in with the viaducts? It is the bridge and viaducts.

432. That only comes to £69,000? The original estimate as it appears to me is this, as shown on page 2—the first item is £440,000, to which is to be added for improvement of grades, say, £40,000; probably it would be a little more. That would mean £480,000 for the section of the line up to the river. The bridge over the Darling, and viaducts, the second item on page 2, is £57,000, plus the additional cost of bridge and flood openings, £35,000. £92,572 you say was the estimate submitted for a similar line to what we have now, but including ballast, as submitted in 1891. There is a difference there, you observe,

- H. Deane. between £572,000 and £497,000, a difference of £75,000. Practically there is a reduction now in the estimate of £75,000, as compared with the estimate of 1891, and that is, to some extent, due to the ballasting.
- 5 April, 1899. 433. Doing without the ballasting? Yes. You may say that the ballasting cost £300 per mile extra. That would mean for the 150 miles, £45,000. That would leave a difference of £30,000 that might be put down for the difference in wages and general cheapening of construction.
434. But I believe there are cheaper methods in vogue now for carrying out these works? Yes; ploughs and scoops are used where there is no timber.
435. *Chairman.*] The extra number of sleepers (464) would come to £100 per mile? Yes, it would. If the details were all worked out and compared, you would find that it just about tallies.
436. *Mr. Watson.*] With regard to the cost of sleepers, you put them down at 4s., which is 1s. 6d. more than was put down for them in the estimate for the Coonamble line;—would the cost of carriage from Dubbo to Cobar (181 miles) amount to a difference of 1s. 6d.? The carriage of sleepers costs 1d. for every 13 miles. Carriage for 130 miles only would be 10d.
437. The estimate for the Coonamble line is 2s. 6d. per sleeper; on this line it is 4s.? Yes. Divide thirteen into 181; that is 14d. If you allow the extra pence for carrying over the line itself it comes about right.
438. Is it not possible to get some red gum when you get to the other end of the line, and thus save carriage? Yes; but the red gum on the Darling, near Wilcannia, is not of much account. If we get red gum it will have to be brought by the river.
439. If the river were up, you could get the gum carried very cheaply, I presume? Yes; but red-gum sleepers are expensive as compared with ironbark. You cannot split them; they all have to be sawn. The lowest price we have paid for red-gum sleepers has been about 3s. 1d.
440. Was that on the river? I think it was. I can get the particulars of tendering for the supply of red-gum sleepers on the Finley line.\* Then to that has to be added carriage and cartage.
441. There is an item for laying (1s. 6d.), that comes to £132 per mile. A foot-note says, "laying includes the cost of running for 78 miles, £98 per mile, 1s. 1½d."? Yes; that is for laying the road and fixing the sleepers, and plate-laying.
442. What is the cost of running? Running over the line itself, because the running of trains means something in the shape of wages and material.
443. There is another item, which is rather large, and that is the amount of £200 per mile for culverts;—between Cobar and the flood area, I am given to understand that the country is almost destitute of watercourses of any importance? Yes; but still one must provide wherever there is a depression ample water-ways for ordinary rainfalls, because water is sure to collect. We found on the Nyngan to Cobar line that the rain collected in the depressions to a far greater extent than we anticipated.
444. Does it cost as much as that on the Dubbo to Coonamble line? No; but £200 per mile is not a large amount. The Dubbo to Coonamble estimate would give figures for comparison.
445. I hardly think it is similar country;—the box drains and timber bridges—that would be an item of £182 on the first section, and on the second only £67 per mile? That is because we run on the bank of the river, and there are scarcely any watercourses to provide for.
446. The country between Dubbo and Gilgandra is ridgy? I think that as a matter of catchment area, this line will have to deal with much more water than the Dubbo to Coonamble line.
447. The rainfall is much heavier on the Coonamble line? I do not think you can judge by that. It is a question as to the rainfall which occurs in a short time. When it does come, you get several inches in twenty-four hours. Then there must be a vast accumulation of water.
448. Of course it is not so dangerous as it would be if the water accumulated in country where it runs much faster? It would not have so far to run on the Dubbo to Coonamble line.
449. You do not think you could safely reduce the estimate of expenditure for culverts between those two points? No; you must remember that all the timber has to be carried, you may say, from one end of the line, because unless we start the permanent-way from the Darling end, all the timber will have to come from the eastern end; therefore the cost will be increased by the carriage.
450. You are contemplating the use of box drains and timber bridges? Yes. It will be more convenient in low embankments to put open timber waterways.
451. It has been suggested to me that the approach to Wilcannia might be improved if the road were taken some distance further to the south-west;—you see there is a southern turn on the suggested line to the north-west, and it has been suggested that if the line were taken south-west, crossing the river some distance below the suggested crossing, where the Municipal Council have a dam, not only would there be a better crossing, but a higher ground would be available for approach to the river? I am very doubtful about that, because an inspection of the plan shows that the approaches to the river on each side are very good on the surveyed line. On the eastern side of the river, the approach to the bridge starts from a sandy bank, and on the western side you only go a short distance before you come on land clear of flood. At about 619½ miles, where the approach to the river crossing begins, that is high ground clear of floods. Then, again, after crossing the flooded area, at about 620½ miles, you get on to dry ground again. I do not think you can have a better crossing. The river was very carefully examined by the surveyors who went down there. I cannot speak from personal experience, because I have not been there; but I believe the best crossing has been found, and it is the experience of most of these rivers that after having found a pretty good spot it is difficult to improve it. If you go higher up, you may shorten one particular part of the bridge, you may get a narrow part of one particular channel, but you find that the river spreads out to a greater distance somewhere else.
452. *Mr. Trickett.*] I do not think you have given us the usual information about the weight of the rails, the rolling-stock, and so on;—what is the weight of the rails between Nyngan and Cobar, and what will be the weight of the engines? The weight of the rails will be 60 lb. per yard.
453. That is lighter than the rails on the main line? Yes; the weight of the rails on the main line is 71½ lb. per yard. The axle load is from 12 to 13 tons. I am not aware whether any heavier engines will go over the line. Thirteen tons is about the proper limit for the axle load on 60-lb. rails.
454. Seeing that this is a line which, if constructed, will bring a lot of heavy freight, do you think 60-lb. rails would be heavy enough? Yes, I think so; the grades are very good.
455. That would be of sufficient strength to carry all the minerals and ores? Yes; it is really the load on the axles of the engines that determines the carrying power of the permanent-way. 456.

\* NOTE (on revision).—The price paid to Tuck & Co., of Cobar, was 3s. 3d. per sleeper.



456. With a gradient of 1 in 100, that will be sufficient? Yes.

457. I think you told us yesterday that these dams for the water supply would cost something over £2,000 each? Yes.

458. What did that comprise—dam, overhead tank, pumping engine, and shed? Yes.

459. What would be about the cost of those last items, independent of the dam? The tank to hold about 20,000 gallons would cost £400 or £450; I suppose that the engine and pump would cost about £200.

460. That comes to about £700 or £800? Yes; for pump, tank, piping, &c. An excavated tank to provide 3,000,000 or 4,000,000 gallons of water will cost £1,500 or £1,600.

461. Has it ever been considered by the Department in these long lengths of railway, where the trains run so infrequently, whether you could not have some inexpensive pumping apparatus fixed on the engines? No, that would never do. It would take too long to fill up. The advantage is that you get the tank of water, you have a large pipe and a large outlet, and you fill up your tender rapidly. If you had to pump it would take, perhaps, half or three-quarters of an hour.

462. Then that would be out of the question? Yes; unless you had a very expensive pump. It would not be worth while to pay for that, and at any rate there would be no saving.

H. Deane.

5 April, 1899.

John Harper, Chief Traffic Manager, Department of Railways, sworn, and examined:—

463. *Chairman.*] Have you examined into this proposal from the traffic point of view? Yes; I will read the report which I made to the Commissioners, and on which they based their estimate.

J. Harper.

5 April, 1899.

New South Wales Government Railways, Chief Traffic Manager's Office, Sydney, 13 December, 1898.

PROPOSED RAILWAY, COBAR TO WILCANNIA, 156 MILES.

As directed by the Commissioners, I have made careful inquiries as to the probable traffic were a railway constructed from Cobar to Wilcannia, a distance of 156 miles.

The character of the country through which the line passes is practically the same as that between Nyngan and Cobar, from a pastoral point of view, with a diminishing rainfall, the average at Wilcannia being 11½ inches per annum. There is very little prospect of any intermediate traffic between Cobar and Wilcannia, and at the present time the traffic for Wilcannia and outlying districts is carried either by river, or by road from Broken Hill. When the river is navigable, the river route is, of course, adopted as being cheaper; and by this means Wilcannia commands a traffic extending 270 miles north-west to the Queensland border, and 60 miles west-north-west as far as White Cliffs. It is the practice at Wilcannia, in order to meet the uncertainties of the river, for the local storekeepers to hold large stocks, so that it is most exceptional to use the railway to Broken Hill. Produce is landed at Wilcannia from Moama, Morgan, or other Murray ports, at the rate of £1 7s. 6d. per ton, and general goods from Adelaide or Melbourne at £2 15s. per ton; and as our lowest rates for flour for the same distance would be £2 6s. 1d. per ton, woolpacks £4 4s. 4d. per ton, sugar £7 8s. per ton, and general goods £10 13s. 6d. per ton, it is evident that under the circumstances we could not hope to compete with the river in the carriage of general goods. It is possible, however, that the exigencies of the case might permit of obtaining occasional consignments of produce, the margin of difference not being so great.

*Wool traffic.*

The total number of bales of wool shipped at Wilcannia from stations adjoining the river during the last three years was 13,785 bales, equal to 2,515 tons per annum. This wool is shorn at sheds on the river banks, and transferred direct to the steamers, and carried to and delivered in Melbourne or Adelaide at £3 5s. per ton. We could not under any circumstances expect to obtain this wool for railway transit, as our very lowest competitive rate would be £3 18s. per ton, and this would, of course, involve the additional cost of delivering in the trucks. 13,700 bales, weighing 2,496 tons, reached Wilcannia from the north-west by road, and this was carried at a similar rate. In view of competition this rate could be lowered by the steamboat proprietors to £2 or £2 10s. per ton; and as nearly all the stations have their head-quarters in, and conduct nearly all their trade with, Melbourne or Adelaide, it would be hopeless to expect to obtain its carriage. To prove the possibility of this taking place, it might be mentioned that "Kallara" clip of 1,500 bales, 80 miles above Wilcannia, is carried at the rate of 50s. per ton, in order to divert it from the railway at Bourke; and, even assuming that there were no river, a great deal of this wool would be diverted to the Broken Hill line, where the circumstances of shorter carriage would permit of lower rates being charged than would be possible for us to adopt. In framing my estimate of the wool traffic I have allowed the contingency of there being no river, and some owners electing to forward by railway, and for this purpose have taken 1,000 tons, or nearly 40 per cent. of the total weight (2,515 tons), ex Wilcannia, from the neighbourhood of Wilcannia, and the river banks.

*Stock traffic.*

This district is not in any sense a fattening one; but presuming that some pastoralists may elect to fatten stock for market, I have adopted 800 trucks per annum as the maximum estimate for this class of traffic; and in connection with this, it may be mentioned that with the most favourable season we have had since the Cobar line has been opened, only 400 trucks of stock have been despatched.

*Goods traffic.*

Under the circumstances detailed above, it will be observed that it is an exceptionally difficult matter to frame any estimate of the probable traffic, as on the surface it does not appear that we could successfully compete in any line; but the most liberal figures have been adopted; and I have estimated for the district beyond White Cliffs 200 tons of produce, &c., out of a total consumption of 500 tons, and 800 tons for Wilcannia and White Cliffs, which is the approximate total weight of that class of traffic disposed of in the district yearly. It is idle to expect that under the circumstances already referred to we could hope to carry any general goods whatever, and I have therefore discarded it in my estimate.

*Passenger traffic.*

I have allowed 2,000 passengers per annum, which is also an exceptionally liberal estimate, being between 13 and 14 passengers per day with a tri-weekly service.

My estimate of the probable traffic is as follows:—

*Intermediate traffic.*

There will be a limited quantity of intermediate traffic to points between Cobar and the river, which I have estimated as follows:—

Goods, 390 tons.....	£305	
Wool, 756 tons.....	158	
Stock, 200 trucks .....	110	
		£573 0 0

And from Wilcannia and district I estimate:—

Goods, 1,000 tons, at 13s. 11d.....	£695 16 8
Wool, 1,000 tons, at 13s.....	650 0 0
Stock, 600 trucks, at 29s. 8d.....	890 4 0
Passengers, 2,000, at 20s.....	2,000 0 0
Miscellaneous coaching.....	130 0 0
Mails (150 miles, at £12).....	1,872 0 0
	£6,238 0 8

Summarised,

J. Harper.

5 April, 1899.

Summarised, the estimate is as follows :—

Goods, 1,390 tons.....	£1,000 16 8	
Wool, 1,756 tons.....	810 0 0	
Stock, 800 trucks.....	1,000 0 0	
Passengers.....	2,000 0 0	
Miscellaneous coaching.....	130 0 0	
Mails.....	1,872 0 0	
		£6,812 16 8

464. According to the Commissioners' report, they estimate the loss at £20,510 per annum? Yes.

465. They put down the annual capital expenditure at 3 per cent., but when this proposal was before a former Committee, it was 3½ per cent.? Yes; I suppose that represents the rate at which the money can be borrowed now. I assume that the Commissioners have been well advised in framing their estimate in that direction.

466. If capital is borrowed at 3 per cent. per annum, do you not think the cost of borrowing and remitting interest and that sort of thing ought to be added? I really could not say. I assume that the Commissioners would obtain information from a reliable source on that point.

467. Have you been over the alternative line? No; I have been over the Condobolin to Menindie line, but not over this line, with a view of a railway being built over it; but I have been to Wilcannia.

468. Mr. Hickson says in his report:—

From a traffic point of view, it is, however, not so desirable as the route *via* Condobolin. The latter route would better bisect the country lying between the western and south-western lines. It would open up for development a better class of country.

? Yes; that is my impression.

469. You have been over both lines? Yes.

470. *Dr. Garran.*] The Nyngan to Cobar line is now in operation;—do you charge on that line through, or local rates? We charge some local rates, but the bulk of the rates are through rates. As a matter of fact nearly all the local rates disappeared on the first of this month. The Commissioners introduced through rates generally.

471. The wool rate has always been a through rate? Yes; a competitive rate, really.

472. Looking at the plan, you will see that between the Nyngan and Cobar line and Nyngan and Bourke there is a triangular space? Yes.

473. Where does the wool from there go to? To Byrock or Girilambone.

474. Supposing we make this railway from Nyngan to Wilcannia, it will be the base of a triangle, of which the Great Western line will form one side and the river Darling the other? Yes.

475. Where will the bulk of the traffic from within that triangle go to when the river is up? It will go by the river.

476. Will three-fourths of it go by the river? No; I should not say three-fourths.

477. More than half of it? About half of the wool, but not the minerals.

478. And the return stores would be carried by the river? Yes.

479. Fully half of the traffic would go by the river? Yes.

480. Even if this railway were made? Yes.

481. Taking the line as it is, from how far beyond Cobar towards the Darling do you get wool at present, that being a distance of 160 miles;—do you get the wool for a distance of 70 miles? I should think about 70 miles.

482. About half way? Yes; 70 or 80 miles.

483. What I want to get at is this:—Suppose we make the railway, will you get any more wool out of that triangle than you get now? We shall get some that we get to-day delivered on the new line, instead of its being delivered at Cobar. We shall get that additional mileage, and we shall get one or two additional clips.

484. As the matter is now, would not a squatter who is equi-distant from Cobar and the river have a temptation to go to the river, even if the carriage were heavy, because of the cheap carriage down the river? Yes; unless local circumstances influence him, such as a desire to sell in Sydney.

485. Supposing he were ledger-logged in Sydney? Yes.

486. But supposing him a free agent, there is a tendency to go to the river instead of going to Cobar? Yes.

487. The estimates you have made in the paper which you have read to us is, I suppose, largely based on the experience that you have had of river traffic? Yes.

488. You have had to come down in your prices to compete with the river? Yes; we had to reduce the carriage on sugar to £2 a ton to maintain our trade at Bourke.

489. Supposing the Darling were only a chain of waterholes, and unnavigable, what would be your charge to bring wool down from Bourke? We should not vary our rates.

490. If the river did not exist as a navigable channel, and you had it all your own way, what would be the cost of carrying wool from Sydney to Bourke by railway? It would cost about £5 a ton.

491. What are you really charging? £4 from Bourke; but there are lower rates still between certain parallels of latitude, and certain points on the river.

492. Take the lowest you charge? We charge £3 5s. That is for undumped greasy wool. Then off that there is a further allowance of 12s. 6d.

493. You would not make that allowance if you had a monopoly? Certainly not.

494. Then you are reducing it to less than half? Yes.

495. The river competition has forced you, in some cases, to take off 70 per cent.? Yes.

496. Is not the river sometimes open to Wilcannia when it is not open to Bourke? Yes, frequently.

497. Then river competition will last longer in the year there? Yes.

498. Then the competition at Wilcannia will be more severe than the competition at Bourke? Yes.

499. Have you ever known steamers to go to Wilcannia when they cannot go to Bourke? Yes.

500. Your competition will be a little sharper at Wilcannia than at Bourke? Yes.

501. And the line from Wilcannia to Sydney will be longer than the line from Bourke to Sydney? Yes; 114 miles longer.

502. You will not be able to charge more for wool from Wilcannia than you charge now from Bourke? To get any wool at all, we could not charge as much.

503. To get the trade, you would have to go lower still? Yes.

504. Would it pay you to go as low as £2 10s.? I do not think so.

505.

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505. You would have to go as low? We should. They are carrying Kallara wool for £2 10s.
506. *Mr. Watson.*] Where does that go to? To Echuca. £2 10s. is a through charge.
507. *Dr. Garran.*] Does the wool generally go to Morgan? Yes; a great part of it goes to Morgan.
508. The point I am working out is this: That you have less chance of getting payable carriage to Sydney from Wilcannia than you have of getting it from Bourke? Yes.
509. And a longer distance to carry the traffic? Yes.
510. And so the prospect, if you could make a fair fight for the trade, would not be very great? No; I do not think so.
511. It would barely pay you at 50s.? It would if we had enough of it; but we should not have enough.
512. I suppose the same experience will apply to taking stores up there? Yes.
513. When you cannot take the wool, you cannot take the stores in competition? No.
514. There might be natural reasons for making a line to Wilcannia, but they are not remunerative reasons for the railway? No.
515. The Commissioners see no profit in it? No.
516. If we cannot get the wool that comes down the river, we cannot get the wool from the north-west? No.
517. As far as you know of that country, is there any prospect of closer settlement taking place there? I do not think so. The rainfall will not permit of it.
518. Is there any indication of great mines being discovered? Not to my unpractised eye, at all events.
519. Is it not a fact that the minerals generally run in the lines of longitude, rather than in the lines of latitude? I believe that is the lay of the country.
520. So that they would run north and south of Cobar, rather than west of it? Yes.
521. At any rate, there is no known mine being worked between Cobar and Wilcannia? No.
522. Is the number of stations large? There are some large holdings on the river frontages; six or seven altogether.
523. The line would not run through more than six or seven? I think that is about the number, speaking from memory.
524. I suppose you would not get, at the most, more than half of the traffic from them? No; you will see my estimate. As regards intermediate traffic, I have estimated that we shall get 756 tons of wool.
525. When the Tarawingie line was running, did that affect the trade of Wilcannia? That I could not say. It would have some effect, probably, on the north-western and northern traffic.
526. It goes further north than Menindie, and that country would be affected by it? The probabilities are that the traffic coming down from the north-west, if the river were not navigable, might be placed upon it.
527. Tarawingie is much nearer to the sea-coast than Wilcannia? Yes; no doubt stock travelling through from Queensland would strike that line for the Adelaide market.
528. And might not the wool go by it? Yes.
529. If a line is made to Wilcannia, do you think it will come into competition with the Tarawingie line? Yes.
530. You say you have been across the Lachlan valley to Hillston? Yes.
531. It is a very dry country? Yes; so is the country we are speaking of.
532. Is there water in the Willandra Billabong? I think there is.
533. Do you know how many miles it carries the water back? I could not say.
534. It goes about one-third of the distance between the Lachlan and the Darling? Yes.
535. And the land there is very level? Yes.
536. Looking at it from a practical point of view, I think you said, some years ago, that in making your lines from east to west you would rather do it as far south as possible? Yes.
537. So as to catch the trade to the north? Yes.
538. We have not done that? We have by the extension as far as Condobolin.
539. Yes, but in no case have we gone to the Darling? No.
540. Is it still your impression that, if we go to the Darling, we should take a more southerly instead of a westerly route? That is my impression.
541. If we should go from Hay to Wentworth, do you think that that line would catch all the trade to the north of it? No; I do not think so. We know that that Hay traffic passes over our line to the river.
542. Then the only line we could make in this western district would be one from Hillston and Condobolin, or somewhere on the Lachlan to Menindie? Yes.
543. You would not advocate the line further south than that? No.
544. If we make a line to the Darling at all? Then I should say, go by the Condobolin route.
545. Do you think there can be any possibility of agricultural settlement on such a route? I do not think there could be much; there might be immediately west of Condobolin, and in the neighbourhood of Hillston, but I do not think there would be any further west than that.
546. Is there not some cultivation on the rivers? I do not regard that as cultivation from a railway point of view. There would be no traffic from it.
547. Might there not be places suitable for irrigation? I do not think we should ever make any appreciable volume of traffic for railway purposes from irrigation along the river. People might grow produce locally to keep their herds alive, which at present, under drought conditions, are carried by railway.
548. As a matter of fact, do they attempt to grow it;—do they not prefer to get it from the east? They do.
549. Have you not this year carried very large quantities of lucerne hay for the purpose of feeding cattle? I had it made up before the holidays. We have carried 27,000 tons of fodder for starving stock this year.
550. You say you think they will grow it? I say I think they may.
551. But they do not; they prefer to pay you a very high tariff to growing it themselves? They do not pay us a very high tariff; as a matter of fact, the freight on produce does not pay us.
552. In that case, by your low rates, you are discouraging local cultivation? I do not think so. You could not find a local market, and if we kept our rates higher I am afraid we should not have much production.

- J. Harper.** 553. What I mean is that if the squatter can get his hay brought by you so cheaply it suits him better than growing it himself? Yes; but we are not the only ones that he pays. He has to pay the grower a stiff price.
- 5 April, 1899. 554. If he could grow lucerne, would it not pay better to grow it than to import it? I should think so.
555. Yet they have not found it out to be to their interests? No.
556. Is it because they cannot grow it? I do not know.
557. I want to know whether they would be likely to grow it? I can only give the opinion of experts. Colonel Home expressed the opinion that irrigation would not succeed by reason of its costliness.
558. You think that without irrigation produce could not be grown? No; you might get an occasional crop in a very favourable year.
559. Your advice, then, is that the country should make the line from Condobolin to Menindie? No; my impression was that it was the preferable route to adopt, though it was not a good commercial undertaking; that if a national object was sought to be served, that was the best means of serving it.
560. You would not make the line? No.
561. It would not pay? No.
562. But if there is any national object in getting to the far west, that is the route you would take? Yes.
563. *Mr. Shepherd.*] What is the average cost per mile of running a load? It depends upon the country that you are running over.
564. Where the grade is about 1 in 100, what is the cost? You must tell me what the load is. You would have to know the kind of load, and to calculate the interest on the capital cost. It is very difficult to tell the cost per mile over any particular section of road.
565. Do you think it is likely that we should intercept much trade by continuing this line to Broken Hill from Wilcannia? I do not.
566. Port Pirie would be the attraction? The distance from Broken Hill to Port Pirie is 253 miles, and by Wilcannia to Broken Hill it is 734 miles. The grades on the South Australian lines are more favourable than ours, and there is nothing to prevent them carrying as cheaply as we do. I think they are now carrying ore at  $\frac{1}{2}$ d. per ton per mile.
567. And even the Darling would be likely to attract a good deal of trade from Wilcannia, and wool and other articles would go by the river? Yes.
568. So that really a line from Cobar to Wilcannia is not likely to be profitable? It certainly would not be.
569. *Chairman.*] Your traffic estimate is £2,800 per annum as to goods;—what would the wool rate be? Over that increased mileage we should charge a competitive rate. The reduced rate which we have to-day is £3 5s. per ton; it should be £4. £3 5s. is the reduced competitive rate for certain distances. We add to that a penny a mile on this line, which brings it up to £3 18s.
570. Would that induce the squatters to send their wool along the line? No. There are about 13,000 bales of that wool sent from the sheds on the river, which would involve longer cartage to the railway at Wilcannia than to the steamer.
571. I have seen it stated that some wool had been two years in transit from the station to Sydney;—do you think the more rapid communication a railway would afford would cause them to send it to the railway? It is an exception to have the river in such a state as that; it has only happened once since the railway has been opened. I have particulars as to how often the river has been navigable during fourteen years, commencing in 1882 and ending in 1895, and the river has been navigable on an average for 171 days in the year.
572. *Mr. Hickson*, in his statement, says:
- Wilcannia, which is to be served by this line, is the centre of a very large district, and, from evidence given before the Works Committee, it was ascertained that the annual freight earned inwards and outwards at this town was at least £80,000.
- Can you say whether or not that is a fair estimate? I do not know where he got it from, I am sure.
573. You do not think it is a fair estimate? I should not like to contradict anything that *Mr. Hickson* has said.
574. What is your opinion about it? It is absolutely incorrect that it amounts to £80,000. The total tonnage, as dealt with at Wilcannia, was 9,000, over an average of three years, inwards and outwards. If £8 10s. a ton were charged on that, it would yield £80,000. But I have already indicated what are the prevailing rates on the river.
575. They are not anything like that? No.
576. Presuming it were correct, how much of this £80,000 do you think would come to the line? I do not know what would come to the line. The maximum is what I have stated in my report. But of that £80,000 I know nothing.
577. The traffic would consist chiefly of wool, live stock, and provisions? In my report I have tried to show that our chance of getting any wool at all is very remote, except from intermediate stations. I have given 1,000 tons, which is 40 per cent. of the quantity of wool dealt with at Wilcannia. With the opening of the railway, in the event of there being a low river and low freights, they would pay on the extension of our line from Cobar 1d. per ton per mile, and that would give £810.
578. *Mr. Hickson's* estimate was taken from evidence given before a former Committee; you discredit some of that evidence? Absolutely. That amount is more than the revenue you get for the haulage over the whole section from Nyngan to Cobar and Bourke inclusive, almost as far as Dubbo; indeed, it would represent the earnings from Dubbo west to Cobar and Bourke.
579. Do you think there would be any traffic in coal on this line? I cannot think how there could be.
580. There is a decent fleet of steamers on the river? Yes; they burn wood at present.
581. Do you think they would be likely to use coal? If they did they would bring it from Adelaide. They are chiefly South Australian boats on the Darling.
582. Would this line serve as much country as the line to Bourke? Certainly not.
583. Do you get much wool over from Queensland on to the Bourke line? We did until the export duty was imposed.
584. Would not the wool from the Paroo country come to Wilcannia? No; the traffic from the Upper Paroo comes to Bourke.

585. You do not think it probable that the revenue from Wilcannia would be equal to that from Bourke? No; I am sure it would not be. There is another feature about Bourke, and that is the enormous number of stock coming from Southern Queensland. J. Harper.  
5 April, 1899.
586. You know that there is a proposal to erect locks and weirs on the Darling? Yes.
587. Do you think that that will bring more traffic? Whatever you do to improve the navigation will take the traffic from the railways. If the navigation is improved above Bourke, it will have the effect of bringing traffic down to Bourke, which finds its way to Walgett. But if the navigation is improved between Bourke and Wilcannia, the probabilities are that you will afford means for the carriage of produce outside the Colony. I may explain that I am not selfish enough to say that that ought not to be the case; but, speaking from a railway point of view, it seems to me that it is my duty to try to help to retain the trade.
588. You think that the Darling River will serve the people out there better than the railway? I am sure it will.
589. You are not likely in any case to get the whole of the traffic from Wilcannia, even if the river is not improved? No; I do not think we shall even get a small proportion of it.
590. Do you know how the station properties out that way are held, whether by New South Wales people or by Victorians? I think they are all held by financial institutions.
591. And where do they hold their headquarters? Some in Sydney, some in Melbourne, some in Adelaide.
592. If the bulk are held in Sydney, and their business transactions are in Sydney, are they not likely to send their wool clip to Sydney? If the wool is to be shipped for sale at home, they will take the cheapest route. If it is intended for sale in Sydney, it is brought round by sea from Adelaide.
593. Suppose the Darling River is improved, and tonnage rates are charged, would any reasonable rate drive the traffic on to the railway? It would certainly be more equitable. If the river is improved, the users of it should be required to contribute towards the cost of its improvement. The users of the railways have to pay for their construction.
594. What charge would make that necessary difference? I could not tell; it would be rather an involved calculation.
595. You have not gone into it? No.
596. You simply say that there should be a charge? Yes.
597. And if a charge is made, it might affect the railway traffic? Yes; it seems to me that it is a legitimate charge to make.
598. Mr. Darley, in giving evidence, has said that it would hardly be fair to charge tolls, inasmuch as we do not put tolls on the ordinary roads? I have always regarded that as a grave inconsistency, because if people use the railway, they have to pay not only the working expenses, but also the interest on the capital cost.
599. If you come to a river crossing, you have to pay to go over in the punt? Yes; and I have had to pay for watering my horse at the Government tanks.
600. That being so, it would be a legitimate thing to charge for the use of the river? Yes.
601. *Mr. Watson.*] What proportion does your interest on capital bear to your ordinary working expenses? The interest on capital cost is £1,380,000, and the earnings for 1898 were £3,026,000.
602. I meant the working expenses as compared with the interest on capital? £1,614,000. The working expenses are £300,000 more than the interest.
603. So that practically amounts to this, that, if the users of the railway were not saddled with the interest on the cost of construction, the rates could be reduced by nearly half, say by about 45 per cent.? Yes; I have here the particulars in an interesting form of how the money comes. The earnings from the goods, wool, and live stock are £1,570,000. It takes within about £200,000 of the total earnings of all the merchandise and stock traffic to pay interest on the capital cost.
604. That is without passengers? The passengers have to pay the working expenses, really. It would make a wonderful margin if relief were given in the direction of interest on the capital cost.
605. There is no difference in principle between a road and a railway, as far as capital cost is concerned? Absolutely none. It always struck me as an anomaly.
606. *Chairman.*] On an ordinary road the carriage is very heavy; on the railway it is lighter? Yes.
607. So that they can afford to give the State something for the difference? We have had this anomaly, that we have had teams competing with the railway in what we call the more profitable lines of traffic—traffic on which we get the higher rates. These teams have been burning the country's candle at both ends, so to speak—cutting up the roads and withdrawing the traffic from the State railways, leaving the users of the railways to pay more for their accommodation.
608. What is the distance from Sydney to Wilcannia, and from Wilcannia to the nearest South Australian port? The distance from Sydney to Wilcannia is 615 miles. It is 987 miles from Port Pirie to Sydney, and 253 miles from Port Pirie to Broken Hill.
609. Taking it for granted that Federation is accomplished in the near future, the probabilities are all in favour of the traffic going to Adelaide? Undoubtedly. The business connections are with Adelaide, and under Federation the business relations would be continued under more favourable circumstances.
610. Then we gather from you that the Railway Commissioners do not view this proposal with any very great favour? No.

THURSDAY, 6 APRIL, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
 The Hon. ANDREW GARRAN, LL.D.  
 The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
 JOHN CHRISTIAN WATSON, Esq.  
 ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Henry Deane, Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and further examined:—

H. Deane.  
 6 April, 1899.

611. *Mr. Dick.*] I find in the first document submitted to us, in reference to this proposal, the following statement:—

Another route, namely, that from Forbes, has been suggested for railway communication with Wilcannia, but in January, 1889, when the late Engineer-in-Chief (Mr. Whitton) was asked to report on the matter, he had no hesitation in saying that if it were considered desirable to construct a railway to connect with Wilcannia, and which might eventually be extended to Silverton, the best route to adopt would be from Nyngan to Cobar, thence Wilcannia and Silverton.

Do you agree in the main with that? Yes; I do. If Wilcannia is to be connected, I believe that Cobar is the proper starting point.

612. Do you know enough of that report to know whether Mr. Whitton confined himself merely to the engineering aspect of the question, or viewed it as a matter of policy? I think he confined himself to the engineering aspect of the matter.

613. You would not care to venture an opinion upon any other aspect of it except the engineering? I have been in the habit of avoiding anything else.

614. What are the advantages connected with this scheme over any other scheme, say from Condobolin to Silverton, or Condobolin to Wilcannia? It is very much the shortest to construct, and I believe the country along this route is better too. I think that some information was given on that subject at the inquiry into the proposed railway from Condobolin to Broken Hill. There are some questions upon it on page 11 of the Minutes of Evidence. If you refer to question 250, Mr. Roberts asked—

If a line were taken to Condobolin, through Wilcannia to Broken Hill, what would it cost per mile?

I said—

Not much more than the proposed line.

Then question 253—

Would the country to be traversed differ very much apart from the flooded portions?

The answer I gave was—

No. On the Wilcannia route there would be one or two ridges to cross, but you could get over them without great difficulty. Still the country along that route is not so good; it is less suitable for settlement.

615. Does not that operate against the statement of the late Engineer-in-Chief that this line is the better one to construct? This is comparing the Condobolin line. The land on the Condobolin line to Wilcannia is not so good as on the Condobolin to Menindie route. There does not appear to be any comparison made between the Condobolin to Wilcannia and the Cobar to Wilcannia route. I remember the survey being made from Condobolin to Wilcannia. There were no difficulties in it; there were one or two ridges which, no doubt, would be surmounted with easy grades, the same as on this particular line.

616. Then the advantage of this particular line is its shorter distance? Yes. I do not think there would be any appreciable difference in the cost per mile.

617. I find it is stated that the surveyed line follows the main road 50 miles; later on it crosses and re-crosses a main road;—has not recent experience in regrading and deviations led to any change of opinion as to this practice of hugging the road? It depends very much upon circumstances. In some cases I have no doubt it is the best practice to adopt; in other cases it is absolutely necessary to depart from the road, because the levels of the road are not at all suitable. Generally speaking, it is a good thing to be near a road, because roads give access to the stations. A road is a main line of traffic on which side roads converge, and so it would naturally help the stations on the route, and the adoption of such a location would, of course, obviate the necessity for opening up new roads.

618. Have you had anything to do with these deviations and regrades of lines? With a good many of them.

619. Have you noticed in your experience, that, although the original line keeps very close to the old roads, the deviations are nearly always away from the roads? Yes; that is frequently the case.

620. Do you think that, in the survey of the route from Cobar to Wilcannia, full consideration has been given to the necessity of getting the easiest road, even at the expense of some deviations? Yes; I am sure the most direct line was sought, independently of what the road furnishes. Of course a road in that remote district is not really of any value, it is more a mark on paper than anything else.

621. You will notice on the plan that there is a surveyed road going through a railway reserve marked green;—do you know whether the amended plan departs very much from that? In several places it does. The land in that district is not alienated.

622. I suppose there will be little, if any, resumptions there? Very little. The only private property is near Cobar.

623. What do you include in the item £400 per mile for earthworks in your estimate? All the earthworks on the running road—cuttings and embankments.

624. Any ditching? Yes; any drainage, cuttings, or banks.

625. Would you consider that a heavy or a light charge for a light line? It is not much, considering the remoteness of the district, and the fact that there are ridges to cross.

626. How would the remoteness of the country affect it? There would be the carting of water, and, probably, the extra pay that you would have to give the men.

627. *Mr. Watson.*] There are some artesian bores out there, are the not? There are no artesian bores, but there are some tanks. Still you would have to cart water a long distance.

628.

628. *Mr. Dick.*] That item, I suppose, includes the placing of the soil from the cuttings on the line? Yes; it includes the filling. H. Deane.
629. What height will you make the embankments? Where the country is flat it would run from 6 inches to 1 foot. 6 April, 1899.
630. That is with the ballast? Yes; 6 inches would be a minimum. In the ridgy parts the cuttings and banks would be equalised, so that if you had to take out a cutting of 4 or 5 feet, you would probably have a bank to follow it about the same height.
631. Does the cost of earthworks vary directly with the height of the embankments formed? No. The cost of side cuttings and embankments is very much less than the cost of embankments that are made from cuttings, because the earth is obtained alongside, and put in. You can make it with ploughs and scoops.
632. Supposing the ordinary side-cuttings would have to be double the height of the embankment,—does that double the cost of the work? No, not necessarily. If a bank were not more than about 3 feet, it would not be necessary to add anything to the earthworks.
633. I find that in your report, after your visit to America, you say that the height of the embankments there is at least 18 inches, and that they cost £450 per mile; and as these embankments are going to be about 6 inches, the cost would be a good deal less? When I say that the cost would not be any greater, I mean the cost per cubic yard. Of course, the more earth you put in the embankment, the more the aggregate cost will be.
634. In that case, the difference between an 18-inch embankment and a 6-inch embankment would be considerable, would it not? Yes; but you cannot always get a 6-inch embankment, on account of the undulations of the ground. You would not be able to get a minimum of 6 inches, and keep it as an average. That description of line in America that I mentioned would be more costly than I would put on an absolutely level country. But then we have not only level country to deal with; we have a good many ridges, cuttings, and banks.
635. You would not agree, then, with the statement made by Mr. Barling in his evidence on the proposed line from Cobar to Cockburn that the country from Nyngan to Wilcannia is remarkably easy for railway construction? That is quite correct. Any country which admits of earthworks being done for £400 a mile is remarkably easy by comparison with what has gone before.
636. But the cost per mile on this route is a good deal higher than it was on the Jerilderie to Berrigan and the Narrabri to Moree lines? Yes; but when Mr. Barling gave that evidence those lines had not been made.
637. Which of these two, as a matter of economy and construction—the Cobar to Wilcannia, or the Condobolin to Wilcannia—do you think would be the better? I think I should prefer the one from Cobar to Wilcannia.
638. In spite of the rough nature of the country? Yes.
639. Will you refer to page 12 of the evidence on the Condobolin to Broken Hill line, Questions 278 to 282? Is not that a comparison of the Condobolin to Menindie with the Cobar to Wilcannia line.
640. Coming back to the question of economy in construction, the point is whether the construction of a line from Cobar to Wilcannia or from Condobolin to Wilcannia is the cheaper;—does it not bear on the question whether the Cobar to Wilcannia line is a line that is remarkably easy of construction? It was the Condobolin to Menindie line which I apparently pointed out, in answer to those questions, as being the easiest. Mr. Barling's statement must be taken as a comparative statement. He said that the route from Nyngan to Wilcannia was through remarkably easy country. So it is by comparison, even supposing it costs £400 a mile. I maintain that it is through easy country; but part of that £400 per mile is necessitated through difficulties arising in the ridgy country.
641. Then what you wished to be understood was that the Condobolin to Menindie line, as compared with the Cobar to Wilcannia, would be easier to construct? Yes; that appears to be so. I think the estimate shows that that is the case. For instance, on page 4 of the Condobolin to Broken Hill evidence, I give the first item—
- Condobolin—329½ miles to 587½ miles—256 miles at £2,200.
- But the average cost of this line works out to £2,575 per mile.
642. With respect to that bridge which Mr. Watson asked you a question about yesterday, you hardly cleared up a little perplexity in my mind;—the old estimate for a viaduct and bridge across the Darling was £92,000; the present estimate is £69,250? I think you will find that what I said was that in the original estimate (it was stated to be from rough data), the bridge was put down at £57,000, and then £35,000 was added; that makes £92,000. That is for that particular section of the line, I think; and if you compare this one with that, you will find that the cost of that particular section in this case is £95,000.
643. Does the viaduct then, in the case of the Cobar to Cockburn proposal, include more than it does in this detailed estimate of yours? I believe it means the whole cost of that section covering the Darling from the eastern side of the flood-waters into Wilcannia.
644. In fact, there is a good deal of difference between the estimate of the section, Cobar to Wilcannia, in the larger scheme, Cobar to Cockburn, and the estimate for the section Cobar to Wilcannia, as now proposed? Yes; it is now reduced, on the whole, very much.
645. Is that the result of more careful investigation? Yes, and the cheapening of construction generally.
646. Does that account for the very large decrease of something like £126,000, as I take it; the section under the old scheme was to cost £623,000; under this scheme, £497,000, being a difference of £126,000;—I suppose that a cheapening of material and increased information account for that? Yes.
647. I think you provided for ballasting in the old scheme? Yes.
648. What is the grade from Cobar to Nyngan? 1 in 100.
649. And from Nyngan to Dubbo? They are all good grades till you get near to Dubbo, and those have been improved recently.
650. There are some ranges, I believe, just to the east of Wilcannia, which partly necessitate that detour;—has a survey been made to the north of those ranges in order to give a straight run right across to Wilcannia? The country has been examined, but you will see that the Poopelloe Lake runs very far north. I do not think you would gain anything by going round there. If you went to the north of the lake you would have to turn round to the south to get the shortest river crossing. If you start the crossing on the

- H. Deane. direct line you will have about twice as much flood-water to cross as you would by getting down to the point at present proposed and then going square across.
- 6 April, 1899. 651. You could not cross the river higher up, then go along the right bank to Wilcannia? Possibly, we could, but I do not think anything would be gained by it.\* The map shows that the Talywarka Creek comes in closer to the Darling, and crosses then further to the east.
652. Reading through the evidence taken and the reports of Committees which have gone through that country, I find there is a general impression that the country there is of a very soft and boggy nature, and the opinion has been freely expressed that a watercourse alongside the line would render the embankments extremely soft, and the pressure of the trains going across would, most likely, seriously injure it;— I suppose that that aspect of the question has been considered? You may depend upon it that the witnesses do not know anything about it. An engineer knows that by putting drains alongside the line you do not bring the water to it; you take it away. The water may stand a little, but still the surface is drained and hardened. There is not the slightest fear of the softening of the embankments in that way. The drainage of the line and the throwing up of an embankment will be effectually completed, and it would be perfectly safe to cross. The rails and sleepers help to distribute the load. It is just the same as when you are walking over a boggy place. If you walk without assistance you are very likely to go in, but if you walk on a plank your weight is distributed, and you can get across with perfect safety. Rails and sleepers have the same effect in the case of a railway. There are many parts of the country of the nature of that referred to. I mentioned yesterday some part of the route from Condobolin to Parkes where it was soft in rainy weather; it has become quite hard where the railway passes.
653. How will the bridge that you propose to put across the Darling near Wilcannia be carried? On cylinders—steel or cast-iron cylinders filled with concrete.
654. Have bores been put down to test the country? Yes.
655. What sort of a bottom is there? You get rock in most of the sections; otherwise gravel and sand. It is a very good foundation.
656. *Dr. Garran.*] Have you ever had any flying survey of a road north of that Poopelloe Lake, or are you speaking from your general knowledge of the country? There was no flying survey made, but I think the country has been generally examined.
657. Sufficiently so to make it clear in your mind, as an engineer, that it will be better to go south, about? Yes.
658. Will it be a shorter or a longer way? It would not be any shorter.
659. If you can go round to the north of the lake, you will be much nearer to the Darling than you are at Wilcannia? Yes.
660. So that if you cross the Darling there, you accommodate the country to the north of Wilcannia better than by going to Wilcannia itself? Yes.
661. And if you want to get to Wilcannia, you can still run down the bank of the river? Yes, but it is all flooded country.

John Harper, Chief Traffic Manager, Department of Railways, sworn, and further examined:—

- J. Harper. 662. *Mr. Watson.*] Can you indicate on the map what you have estimated as the traffic area which would be served by the railway if taken to Wilcannia? The area would extend to the Queensland border in one direction practically, almost to the South Australian border in another, and in a westerly direction, 60 miles towards White Cliffs.
- 6 April, 1899. 663. And the Lower Paroo? The trade of that district would come into Wilcannia.
664. I understand that there are no tracks with water anywhere south of Brewarrina towards Bourke? No.
665. So that the Lower Paroo traffic must all come into Wilcannia? Yes.
666. Did the estimates that you mentioned as to the quantity of tonnage to Wilcannia include any of the up river traffic that comes through Wilcannia? Yes; of course as far as wool is concerned, I said in my report that it was extremely problematical whether we should get any. But assuming that some growers would elect to send by train, especially in the event of there being no river, I allowed for 1,000 tons. The other 1,300 bales, or 2,000 tons, comes from the north-west, and would find its way to Broken Hill, where the freights would be more favourable than from Wilcannia.
667. You put down the total trade of Wilcannia as 10,000 tons? 9,100 tons.
668. Did that amount include all that passes through Wilcannia, or only what is sent there? All that passes through Wilcannia; all that is distributed from Wilcannia as a centre.
669. Including the traffic coming down the river? Yes.
670. What data have you to go upon? Three years were taken—three years when it was a good river. There is a population of about 3,000 people.
671. That is in the town? No; there are not 3,000 people at Wilcannia; there are 3,000 people in the district.
672. By whom were the figures compiled, and what do they represent? They represent the increase on the various boats which arrive at Wilcannia. They were taken from the boats' manifests.
673. Are they supposed to supply some returns? They supply us. We have relations with them of such a character that we can always get information from them of that sort.
674. Those figures are for good seasons? They represent the average of the last three years.
675. I notice that in an earlier inquiry some stress was laid by the Commissioners in their report on the possibility of a line such as this being used for the conveyance of stock in time of drought;—do you think that would amount to any large feature? No; I do not think so.
676. Have you had any large traffic this season on the Cobar line on that account? No; we have carried stock to the Cobar line. We have had two transactions, representing about 25,000 sheep, on that line.
677. So we could hardly take that as a criterion? No; we have not removed very many sheep from the western district. It has been principally horses. Sheep have been removed chiefly from the Riverina district.
678. You do not anticipate that there may be occasion to remove large bodies of sheep? I do not think it would pay, even with the concession to remove sheep from Wilcannia. They do not carry a class of sheep worth preserving, in the same sense as the Riverina sheep are, which have been bred up for a series of years to a very high standard. It pays the owners in the Riverina district to go to some expense rather than lose their strain of sheep.

679.

\* NOTE (on revision):—If the line crossed in this way, the flood-waters of the Paroo would have to be encountered.



679. Do you anticipate on this line the conveyance of fodder, say, from districts like Dubbo which probably would have fodder for sale, though there may be a drought in the west? No doubt we should. But we could scarcely frame an estimate on a drought season. As a matter of fact, I do not credit the district with a large amount of produce which would include fodder. J. Harper.  
6 April, 1899.

680. It struck me that the rate, as at present laid down for chaff and that sort of thing would be only 10s. 6d. a ton from Dubbo to Wilcannia, in 6-ton loads? That is assuming that you did not charge a local rate. But if you only charged 10s. 6d. a ton, you can understand what the proportion would be over the distance between Cobar and Wilcannia—150 miles: It would be a very small amount, and it would take a very large volume to represent any earnings. Our charges for produce are designed to encourage settlement in the interior, without regard to whether we derive any profit from the carriage. We expect to derive a profit from the carriage of other material.

681. I should imagine that in a question of policy like that, the people of Wilcannia would be entitled to some consideration, the same as people in other parts? Most decidedly.

682. If it is justifiable in the interests of production and settlement to carry things like that at a loss in other parts of the country, it is just as proper to do it for the Wilcannia people? Yes; but if we carry produce at a loss in other districts, our profit is derived from the conveyance of general traffic, which we should not obtain at Wilcannia, because it is carried on the river.

683. It is no justification for refusing it to the people of Wilcannia to show that produce is carried at extremely low rates in other parts resulting in no profit? No; it would be no more justification for withholding it from Wilcannia than it would be for adding another non-paying line.

684. If the line were constructed, the people of Wilcannia would be able to get the low rates which you now charge;—suppose they are charged through rates, they would be able to get a truck-load of fodder carried at 10s. 6d. a ton, or £3 8s. for the 6 tons? It would be about 12s. 6d. That line would be credited with about 5s. a ton out of that.

685. Still, if it added some additional traffic to the main line, I assume that it is only fair in reckoning the thing up to credit the branch line with that? Then what is going to pay the interest on capital, and the working expenses of the main line.

686. Would there not be a profit on the produce that goes over the main line? Decidedly not; there would be a loss.

687. That applies to the present? No. Assuming that they did get the produce at 6s. 6d. a ton, they would have to get an enormous volume of it to represent any money, and the reasons which justify the Commissioners in other directions in charging low rates for produce to encourage production would not apply in this case, because they will not be recouped by the carriage of other goods which will bear higher rates. As far as Wilcannia is concerned, we should not get the carriage of any traffic at higher rates.

688. Are there not instances where you carry fodder at rates set down in the regulations, and your general traffic results in a big loss per annum? Yes; but we get the whole traffic of the district, but in this case we should not.

689. You have sent for a map to show the area from which traffic is derived? Yes; the lowest clip of wool we get on the river is from Dunlop. That goes at present to Bourke. The wool from all the stations below goes down the river.

690. What distance is Dunlop from Bourke? It is 130 miles below Bourke.

691. Why does that go to Bourke? Owing to special concessions. The Salisbury Downs is the last station west of the Paroo, from which the wool comes into Bourke. The others come into Wilcannia or Broken Hill. The wool from Tickalara goes into Wilcannia, and a duty of £2 10s. a ton has to be paid on the Queensland border.

692. Referring to the question of the conveyance of fodder and chaff, is there at present any considerable amount of fodder carried from Dubbo to Wellington towards Cobar? Yes; this year.

693. Ordinarily speaking, they do not produce enough about Cobar to supply themselves? Yes; but fodder for working stock generally comes from the main line. It is quite exceptional to feed sheep and cattle there in the way that they have been doing lately.

694. Which is the main fodder-producing country, the produce from which would go in that direction? In fair seasons the Bogan and Girilambone supply fodder; but this season, Dubbo, Narromine, Trangie, and Wellington have been the chief sources of supply.

695. They do not come so far east for it as Orange? They do sometimes. They come there for flour as a rule, not for fodder.

696. You say that you put down 1,000 tons of wool at 13s.;—would not that be new freight, so far as the Cobar to Sydney line is concerned? Yes.

697. And if it were reasonable to expect that, would it not be fair to credit the Wilcannia line with that amount on the main line? If you do, how are you going to make the main line pay.

698-9. A certain amount ought to be credited to the branch line. It will be profit over that number of miles, and might be credited to the branch;—but how would you treat the losses on the main line on the carriage of their produce;—you should credit the main line with that loss out of the earnings of the Cobar line? If it was fair to do one thing, it would be fair to do the other.

700. If you have a branch constructed which brings new traffic feeding the main line, it is only proper to allow something, if not in definite figures, at any rate in your attitude towards the line? You may recognise it as an abstract principle.

701. I do not think it would be possible to figure it out, but it ought to be thought out? Considering that the great bulk of the traffic that would come in at Wilcannia would be produce, it would be a loss on the main line, because the greater tonnage is represented by produce outwards.

702. But anything you would get inwards would be new traffic? Yes.

703. And to that extent, it would help the main line? Yes; and the losses sustained on the new line would be heavier than any profits, and should be debited against the branch line.

704. Do you think there is a material loss on the carriage of produce? I am sure of it.

705. When you say material loss, do you mean in the cost of running, or loss, including the original cost of construction? As a matter of fact, there is a loss on the working expenses.

706. You have a train running ordinarily, and you are asked to attach to it a certain number of trucks of fodder, and the additional cost of carrying the fodder entails a loss? Yes; because in nine cases out of ten we have to return the trucks empty.

- J. Harper.  
6 April, 1899.
707. Of course, that loss is submitted to by the whole country for the sake of encouraging settlement. It would not be proper to deny any other district the right to participate in the benefits accruing? No; I may mention that wherever new lines have been opened, although local rates may be applied to the ordinary goods traffic, they have never applied to produce. The produce traffic has been charged the through rate temporarily. For about twelve months we had a local rate on the Jerilderie-Berrigan line, but that was abandoned and a through rate quoted. Hay, straw, and chaff produce, on the average, '39d. per ton, practically one-third of a penny. A charge of  $\frac{1}{2}$ d. a ton per mile does not pay us. Our average earning is 1'38d. per ton per mile.
708. I understood from the evidence given by one of the officers of the Department that when the line from Cobar to Cockburn was under consideration that  $\frac{1}{2}$ d. per ton per mile would pay? I think Mr. McLachlan gave evidence about that. You may have gathered from him that it would pay if there was a sufficient volume of traffic, such as we at that time anticipated from Broken Hill, and a return traffic. Then it probably would pay. If you had fully-loaded trains in both directions then  $\frac{1}{2}$ d. per ton per mile would pay, because there is very little difference between the cost of hauling a train that is loaded and a train of "empties." I daresay that the gentleman who gave evidence in that instance expected that we should get ore from Broken Hill.
709. It was Mr. McLachlan who made the statement; he said that if it was found that the traffic to Broken Hill, Nyngan, or Lithgow would not bear a  $\frac{1}{2}$ d. rate per ton, the rate would have to be reduced; then he goes on to say that the regulations then in force provided for a minimum of 2 $\frac{1}{2}$ d. for 6-ton trucks, if not less than thirty trucks per week. I was about to ask whether you could say whether that cut-rate for dumped wool from Bourke does pay now? It is over 1d. a ton per mile—it does pay.
710. Wool is not to be compared with minerals? We can get as much wool in a truck as it can carry. We can get in 8 tons of wool, and we could not get more minerals.
711. Would it pay to carry wool as cheaply as anything else? That is rather a peculiar question. I can unhesitatingly say "no," on the principle on which rates are adopted.
712. That hardly gives much information? It is a standard rule in fixing railway rates that the value of the article shall be considered. We have to consider what charge it is capable of bearing. It is considered that wool will bear a certain charge. You would not carry a ton of silk at the same rate as you would carry a ton of coal.
713. What I want to get at is, what would be the lowest rate at which it would pay over a distance of 624 miles to bring a train load of wool;—I want to know what is the lowest rate at which you could possibly carry it over the distance we are contemplating, and yet leave a margin of profit? The lowest rate we could possibly charge would be £3 18s.
714. You said the other day that you found it necessary, in order to get freight to the river, to reduce the cost of the carriage of sugar to Bourke to £2 a ton; if it did not pay to carry it at that, I presume that the Commissioners would do without the traffic? The fact of our getting the carriage of that sugar to Bourke means our getting the wool back. That is a countervailing rate to counterbalance the reimposition by Queensland of the £6 a ton duty on sugar. Any sugar reintroduced into Queensland has to pay a duty as though it were imported. No drawback is allowed.
715. How does the carrying of sugar up or down ensure the carrying of wool either way? Teams go up with the loading, and bring the wool back.
716. In any case you have a cut-rate to get the Dunlop wool? Yes.
717. But seeing that you have made a cut-rate there, and I presume in other places also, it does not seem necessary to stand up for consistency? Yes; we have to be consistent within certain limits. As a matter of fact, our Act compels us to treat all people alike under like circumstances. As far as Bourke is concerned, the rate, with the exception of certain districts, applies to every one in that district. The rate to Bourke is no less than it is from any other point on the Western line. But if a lower rate were made than exists to day from Bourke or Wilcannia, we should have the anomaly of charging lower rates from Wilcannia than we charge from Cobar and intermediate stations.
718. It seems that cut-rates are being used on the Southern line;—I understand that some time ago people struck the happy idea of sending goods to one station, then bringing them back to another station to make a saving? Yes, that was at Cocotamundra.
719. It seems to me that if the differential rates are allowable in order to get the trade, it simply resolves itself into a question of what would be the lowest rate at which it would pay? It would not pay us to have a rate of less than £3 18s. a ton. Since 1890 we have been adjusting our rates so that more distant stations shall not have lower rates than those that are nearer, and for the sake of consistency a great deal of revenue has been given away. The rates which apply in Riverina now are maximum rates, and the rates to Bourke are maximum rates.
720. You say £3 18s.;—I understand that undumped wool could be carried from Bourke for £3 5s.? Yes. There is 13s. added for the distance on this local line.
721. Do you say seriously that you could not afford to carry it for the less? I say seriously that we could not afford to carry it for less than that.
722. It is a strange thing, if you can afford to carry minerals at less than  $\frac{1}{2}$ d. per ton per mile, that you cannot carry wool for 1d. and under? Supposing a man had £50, and he badly wanted household necessaries, he could not afford to buy a piano. We give away on what we consider necessaries, but luxuries we expect to be paid for. They are goods which will bear a heavy rate.
723. I hardly make myself clear;—what I want to get at is, not what one would desire to get on the traffic under normal conditions, but what it would be justifiable to get? That is all we could afford to carry it at.
724. It seems to me that the question of affording resolves itself into a question of how much it costs to run the train after making the line;—leaving out of account what the value of the wool is, I want to know what the lowest charge would be on which a profit could be made. A gentleman stated in 1891 that the charge for a 6-ton truck of coal from Eskbank to Sydney was very low? We are getting more than  $\frac{1}{2}$ d. a ton per mile for that. We are getting nearly  $\frac{1}{2}$ d. per mile.
725. How much is a full truck of 6 tons from Eskbank? Six shillings per ton—95 miles.
726. In that case you have to take the trucks back empty? We do in some cases.
727. Of course, I suppose, a short journey is not worth as much to you at  $\frac{1}{2}$ d. a ton as a long journey? That depends upon circumstances. It is better to have a full load for a short journey than half a load for a long journey at the same rate.
- 728.

728. It would cost more proportionately to bring a load from Lithgow here, in view of the grade, than the whole journey from Wilcannia? Yes, certainly; assuming that you had a full load. I may mention, as far as that line is concerned, that with the class of engines which they could work on that line, the load would not be much greater than the load we should haul with the engines in use between Sydney and Eskbank. J. Harper. 6 April, 1899.
729. Because the light line would not carry the same class of engines? On one line we could have forty-five trucks, and on the other thirty-seven trucks.
730. You use the heavy class of engines on the main line? Yes.
731. Would not a lower speed on the line admit of a larger load being carried? No; it would not make much difference.
732. What I want to arrive at is the lowest possible rate at which it would pay to take the traffic with a view of getting hold of the traffic which now goes in another direction;—it appears to me that as you carry it for  $\frac{1}{2}$ d. a mile, and bring back the trucks empty, it might be possible to charge less than 1d. a mile, with a view of getting new trade? I do not think the Commissioners would view it in that light. As far as wool is concerned, we do not care to make any reductions for the purpose of chasing the traffic on the steamboats. We have realised that, when we have reduced our freights, the boats have reduced theirs too, and the boats can reduce more than we can, and when we make a reduction, the intermediate districts complain of their unfair treatment, and very properly so too.
733. You referred yesterday to the fact that at Hay you found the wool passing the railway and going on to the river? Yes, that is so.
734. Is it not a fact that at Hay the Murrumbidgee is suitable for navigation when the Darling is absolutely dry? That is so; it is backed by the Murray waters, and it is fed by snow waters.
735. So that you can get a regular uninterrupted trade to Hay when you could not on the Darling? Yes; they usually have a good river in the wool season.
736. So, from Hay, they can depend upon getting down to Melbourne with some reasonable celerity? Yes. I yesterday stated that the Darling has been open for traffic on an average 171 days in the year during the last fourteen years.
737. Mr. Darley's return extended over some ten years, and it shows that, as nearly as possible, on the average, the river is open for half the year, and is half the year closed? These are the figures: in 1882, it was open for 84 days; in 1883, 44 days; in 1884, 21 days; in 1885, 31 days. That was practically about the time the line was built; they had a bad time then. In 1886, it was 222 days; in 1887, 269 days; in 1888, 82 days; in 1889, 199 days; in 1890, 354 days; in 1891, 282 days; in 1892, 247 days; in 1893, 337 days; in 1894, 282 days; in 1895, 54 days. Of course, I do not know what ten years Mr. Darley took—the average is 171 days.
738. That is less than half the year? Yes; but it is open generally during the wool season, unfortunately.
739. There is one matter which seems to be worth considering, whether it would not be worth while for the people round Wilcannia to make a show of getting quick despatch for their wool, in order to realise? It does not weigh with them. As a matter of fact, under ordinary circumstances, they can have their wool in Melbourne or Adelaide within fourteen days of the time that it is put on the steamer.
740. Is there not a heavy insurance involved? No, the wool is generally insured from the sheep's back to London.
741. Is there not an increasing tendency every year to sell the wool in Sydney or Melbourne? Yes; but even assuming that they did, the steamer is still cheaper than the railway. They can have the wool brought from Adelaide to Sydney for from 12s. 6d. to 15s. a ton; and from Melbourne at about 10s. a ton. As a matter of fact, some of the Darling wool does come in that way.
742. If the rates were nearly equal for the two routes, the people would choose the one to Sydney, because of the quicker despatch, there being no necessity for insurance, and buyers being here from all parts of the world? There is a disposition to come to the Sydney market; but as a matter of fact, the wool can be taken to Port Victor, loaded there, and brought round to Sydney cheaper than we can bring it by railway. The Kallara wool is delivered in Adelaide for £2 10s. a ton.
743. I thought it was admitted that the Murrumbidgee hardly offered a parallel to the case of the Darling? I did not admit that. I say that whenever you have water carriage, you have a very formidable competitor. The matter of waiting a few days with regard to the transit of wool makes no difference.
744. Do you know anything of the mining possibilities of the district between Cobar and Wilcannia? No.
745. I should imagine that if there were any mining to any great extent, it would be a factor in the case? It should be if in existence, but not prospectively.
746. I am informed that there are mines now being worked close to Wilcannia, apart from the opal fields about 30 miles on the Cobar side;—you know nothing of them? No.
747. Have you been over this route? It is seven or eight years since I was at Wilcannia. I went from Cobar to Wilcannia.
748. So there is a possibility of mineral developments having taken place which you would not notice then? Yes.
749. Do you think that there is a large possibility of that kind, or a probability that it would be worth considering? I think that every consideration should be given to every circumstance connected with it. I have only dealt with the apparent traffic.
750. Do the mines at Cobar entail a good deal of traffic? Yes.
751. Can you tell us whether the line is paying? It is not paying yet, but it is getting very near it. The returns are not made up yet, but I had a sight of the figures in the rough, and I saw that it was getting very close to it.
752. The line now projected will be slightly lower in cost of construction than the Cobar line? Yes; all the pioneer lines now are less.
753. Therefore, it would require less traffic to pay interest on it? Yes.
754. There is another aspect of the matter: You have heard of the project for locking the Darling between Bourke and Menindie? Yes.
755. Do you think if the river were locked to Menindie and no further, thus giving revenue and sure communication between the points I have mentioned, that that would have any effect as regards feeding the line which will tap the river at Wilcannia or Menindie? Personally, I think it is rather an unfair project. I think that if the river is locked, although it may be against my interests as a railway man, it should be used to the best advantage of all concerned.

- J. Harper. 756. That is, that it should be locked all the way to Wentworth? That is a reasonable thing.  
 6 April, 1899. 757. Assuming that it be locked only a portion of the way, of course they would begin up the river and gradually go down? I think that would be reasonable.  
 758. In that event do you think the locking would help to feed the railway within a reasonable distance? No; I think it would tend to improve the river communication and enable a more powerful class of boats to be put on the river, and to reduce freights.  
 759. They could not do that until the river was locked the whole way, I suppose? No.  
 760. You do not think it would have any material effect upon the project if the river were locked as far as Menindie? No; I should not anticipate any improvement even at Bourke if the river were locked. I should not expect to get a single bale of wool lower down stream than we get it to-day. I am sure that it would not pay the Kallara people who pay £2 10s. for the carriage of their wool to incur shipping rates to Bourke, and then pay £3 5s. a ton from there.  
 761. *Dr. Garran.*] You said yesterday that that it would be perfectly fair if the Government spent £500,000 to lock the Darling, that we should raise revenue to pay interest on that debt? That is my impression.  
 762. We might raise that revenue in three ways: by putting a tax on the tonnage of steamers; secondly, by putting a tax on the tonnage they actually carry; and, thirdly, by an *ad valorem* tax on the goods;—which do you think it should be? I think the fairest tax would be a tonnage rate on the steamers.  
 763. But would not that have to be a very heavy tonnage rate to pay the interest on £500,000? That would be a matter of adjustment. As far as the principle is concerned, I should imagine that a tonnage rate would be a fair rate. It would be inequitable to charge on the cargo.  
 764. But if the river were locked, it would rather be against the railway than for it? Yes.  
 765. Because you do get some traffic when the river is dry? Yes.  
 766. *Chairman.*] Have you ever been down the Darling? I have been between Wilcannia and Bourke; not on the river.  
 767. You have not been down the river at all? I have been from Bourke to Brewarrina.  
 768. You know nothing of the river between Menindie and Wentworth? No.  
 769. I do not know that I was quite clear as to the reason why you make a half-penny rate for minerals;—is the reason that in getting minerals to carry, you also get goods that carry a much higher rate? Yes.  
 770. Therefore, although a half-penny a ton does not pay, the fact that you get traffic on which a higher charge is realised answers your purpose? Yes; that, and that we desire to develop the agricultural resources of the country.  
 771. But if you had only the minerals to carry one way, you could not possibly carry them at that rate? No.  
 772. If the goods that would bear a higher rate were carried on the river from Wilcannia, you could not carry the minerals from that district at anything like that rate? We should carry them at a greater loss. It is not a question of profit under any circumstances.  
 773. As a matter of fact, you would not? If the position were forced upon us of having to administer the railway under consideration, I do not suppose that we should alter our rates—we should have to grin and bear the loss.

FRIDAY, 7 APRIL, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
 The Hon. ANDREW GARRAN, LL.D.  
 The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
 JOHN CHRISTIAN WATSON, Esq.  
 ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

J. Harper. John Harper, Chief Traffic Manager, Department of Railways, sworn, and further examined:—

- 7 April, 1899. 774. *Mr. Trickett.*] Since this matter was before us on the last occasion, there seems to have been a considerable change of front on the part of the Railway Commissioners in regard to the line; at the time of the inquiry into the proposed line from Cobar to Cockburn, Mr. McLachlan and Mr. Kirkcaldie seemed very much in favour of the line? Not Mr. Kirkcaldie.  
 775. Well, Mr. McLachlan? Yes.  
 776. Are you now giving your own individual opinion, or are you speaking on behalf of the Railway Commissioners? I am giving my individual opinion, and I am also repeating the opinion of the Railway Commissioners in the matter to-day.  
 777. Could you tell the Committee how it is that the Commissioners have apparently changed their view in regard to the line? Circumstances have absolutely altered at Broken Hill. When they made their report in 1889, there seemed a prospect of coal being carried to Broken Hill for the treatment of ores; now it suits them better to carry the ore to Port Pirie.  
 778. At the time of that inquiry, Mr. McLachlan was very strongly in favour of a line to Wilcannia, as being a line that he thought the public would largely avail themselves of as a direct means of communication, and a reliable one as distinguished from the uncertain communication by river; that view would still exist, would it not? Not as far as I am concerned. You will find my evidence at the first inquiry consistent with the evidence which I am giving to-day. The circumstances have absolutely altered, as far as the Barrier trade is concerned.  
 779. It was a large factor in favour of the proposal when we had it before us on the last occasion—that if you gave them certainty of transit, they would use the railway instead of the river? That was eight or nine years ago. Since then we have had a lot of experience—rather bitter experience—in reference to the river traffic.  
 780. Does not this proposal appear to be very much in the same position as the one from Dubbo to Coonamble;—does there not seem to be a number of possible outlets in this western country? We seem

to be rather in a fog as to which would be the best to adopt. I think there are only two practicable schemes for reaching the river—one is a line from Condobolin to Menindie, which has been already fully investigated, and ably reported upon by a Public Works Committee—the other one has been under consideration twice, and is now under consideration again for the third time—the proposed line from Cobar to Wilcannia.

J. Harper:  
7 April, 1899.

781. Seeing that the Broken Hill aspect of the case does not find favour with the Commissioners at present, does not that leave it a very open question whether we should not do something for the people in the direction of Wilcannia—for that great western country there? I do not think there is any justification for doing it. It will involve a very heavy annual loss without conferring any material benefit on the people in the district. As far as the carriage of the bulk of their goods and produce are concerned, they will always avail themselves of the river.

782. Have you been over that district lately? Not for seven or eight years.

783. On what do you base your present facts and figures? Upon information gathered by officers of my Department.

784. Do you think the trade has decreased from there since you were in that district? I could not say. When I was there I made no inquiries in connection with the Wilcannia trade. My inquiries were in reference to the river traffic to see to what extent we could divert that traffic to the line at first. But outside the circumstances, incidental to the seasons, it has not varied to any extent.

785. Could you tell the Committee what outlying places trade with Wilcannia? White Cliffs in a north-westerly direction is the extreme limit. That is an opal field, about 60 miles from Wilcannia, a place of doubtful permanence, carrying a population of about 1,000; also to the Queensland border in the other direction. The Tickalara wool on the Queensland border comes to Wilcannia.

786. Does that country include Milparinka? Yes.

787. Is not that a large district? Yes. I suppose that, in all, the population of the district outside of White Cliffs is something like 1,200 or 1,300.

788. Including Mount Browne, Milparinka, Tibooburra, and the Paroo? Yes.

789. Could you tell how far to the eastward the stations send their wool to Wilcannia? All the frontage stations send their wool by river, or through Wilcannia, I should say 60 miles.

790. Is there not a place out there called Monaro? That is so. They would go to the river.

791. I suppose that Wilcannia occupies a somewhat peculiar position;—does it not geographically belong to South Australia? Geographically it belongs to New South Wales. Its trade relations are chiefly with South Australia.

792. And Victoria? No, chiefly with South Australia. The greater part of the Darling trade is with South Australia. Victoria holds the Murrumbidgee trade.

793. It really has very little tie to Sydney except politically? It certainly has no tie with us. We have a very much reduced rate to Wilcannia, which has been in operation some ten years, for traffic landed at Bourke and delivered at Wilcannia, on production of certain declarations that it has been so landed; and for the ten years that it has been in operation—(all these matters have to obtain my signature before any refund is made)—I have not dealt with £50 worth of railway freight.

794. But very often when we have had the Commissioners' evidence before us on a question of this kind, we do not look to the actual state of things, but to a developing business? I have in my report given evidence which indicates the prospects of development.

795. In the summary to the statement which you handed in in regard to the prospective traffic, you put down the goods at 1,390 tons, and wool 1,756 tons, as likely to be the trade done with Wilcannia, if we extend the railway to that place; and you also give us an average statement to the effect that the total number of bales of wool shipped to Wilcannia from stations adjoining the river during the last three years was 13,785 bales, equal to 2,515 tons per annum; those three years have been rather bad years, have they not? No.

796. Has it not been rather drouthy during the last two years? Yes; but the year before was a good year. The Colony generally has been going down in the matter of wool production for some years.

797. You would hardly take those as three fair average years? Yes; as sheep are now held in the country, they would be fair years. In 1897, we dealt with 634,000 bales of wool; in 1898, with 609,000; that is all over the Colony. It shows a reduction of 5 per cent. in a bad as against a good year.

798. The figures you give us with regard to the trade at Wilcannia seem very small compared with the local evidence which was obtained during the inquiry into the proposed line from Nyngan to Cobar? I am responsible for the one; I am not for the other.

799. There was a gentleman named Doake who gave evidence in that inquiry; he was asked this question:

Can you give us a general idea of the amount of goods forwarded at Wilcannia during the present and previous years?

He says:

The inward tonnage to Wilcannia has been 9,600 tons on the river alone. The outward tonnage from Wilcannia has been 8,900 tons—that is, since June of the present year up to the present date.

That was in October—four months' trade—making about 18,000 tons;—that seems a tremendous difference compared with your estimate? You will probably find, when those figures are investigated, that they will not be borne out. That was ten years ago, and we have been able to secure some further evidence as to the trade since then. Wool that used to pass down stream beyond Bourke, and other goods, we get on to the railways. We have been fighting for that traffic for the last ten years.

800. A lot of that trade, which went to Wilcannia, now goes to Bourke? Yes. I should not like to doubt Mr. Doake's word; but it seems to me that the estimate was an excessive one then, because it appears from that that over 50,000 bales passed Wilcannia. I am quite sure that 50,000 bales did not pass Wilcannia.

801. Then you are inclined to think that that is rather an exaggerated statement? I am. I know it is a far higher volume of traffic than the South Australians and Victorians ever admit having got there; and I may tell the Committee that in negotiations with the other colonies we have had opportunities of seeing the actual figures of the traffic that comes off these rivers.

802. You estimate this wool traffic at 1,756 tons;—will you tell us how you arrive at that? That has been taken from the actual trips of the boats on the river.

803. That is peculiarly a wool-growing district, is it not? Yes.

804.

- J. Harper. 804. Did that district suffer more than the others during the late drought;—you say that the figures indicate a falling off? I put the figures for the Colony generally; they show a difference between a bad and a good year of 5 per cent. This year our falling off in wool has not been equal to more than about 4 per cent. in the Colony generally. That part of the Colony suffered very severely, there is no doubt.
- 7 April, 1899. 805. One cannot doubt actual figures from stock returns, but it does seem a very small quantity of wool from such a very extensive district? Yes; but this has been confirmed by information which we have had from the Victorian and South Australian authorities in conference with them on questions as to rates.
806. You put down an amount for trucking stock;—what would that be for? Fat stock for sale; in view of the fact that the Cobar district is nearer the market, and may be regarded as more of a fattening district; but during the best seasons we ever had, we only had 400 trucks of stock. I have allowed 800 trucks for this line.
807. I should like also to draw your attention to the freight which you quote in your statement;—you say:

The produce is landed at Wilcannia from Moama, Morgan, or other Murray ports, at the rate of £1 7s. 6d. per ton, and general goods from Adelaide or Melbourne at £2 15s. per ton, and as our lowest rate for flour for the same distance would be £2 6s. 1d. per ton; woolpacks, £4 4s. 4d. per ton; sugar, £7 8s. per ton; and general goods, £10 13s. 6d. per ton; it is evident that, under the circumstances, we could not hope to compete with the river in the carriage of goods. It is possible, however, that the exigencies of the case might permit of obtaining occasional consignments of produce, the margin of difference not being so great.

This same gentleman (Mr. Doake), from whose evidence I have quoted, was asked:

What is the general through rate of freight?

He says:

It varies from £4 10s. to £7 10s. per ton. In the case of measurement goods, it has cost me as high as £10 a ton. That is from Melbourne, Adelaide, and Sydney.

That is what he says? That was in 1889. You may accept my figures as being absolutely accurate, because they were taken from contracts made with people to whom the goods were consigned. There is no doubt about the figures which I have quoted to you.

808. These are not charges produced for the occasion when they hear that the railway is likely to come? No.

809. We have had some little experience of that sort of thing;—when the river carriers expect a railway competition, they become liberal? The best evidence of that is contained in a statement which I made yesterday, that we had to reduce our charge for sugar, wire, &c., to £2 a ton, in order to compete with the river at Bourke.

810. Coming to the passenger traffic, you estimate that there will be thirteen or fourteen passengers per trip, trains running three days a week? Yes.

811. On what do you base that? From our most favourable experience of country similarly situated. It practically represents the traffic between Cobar and the junction, discarding the commercial travellers.

812. Do you base it on the coach traffic? No; we never take the coach traffic into consideration. We have many lines on which the circumstances are similar to those of the Cobar line.

813. Do you estimate those who go on horseback, and by teams and buggies? No; that is valueless for our purpose. We take the population of similar towns served by the railways, and we know what the traffic is from those towns, and we apply that to the line to be built. If we took the traffic by coach and on horseback, the number would be much lower, because that number of people do not travel between Cobar and Wilcannia.

814. Experience has taught you that these estimates of yours are reliable? Yes.

815. When this inquiry and similar ones took place on former occasions, the point was emphasised that this was to be regarded as a kind of national line;—has it lost that character now? No; it never had it with me.

816. I think you were asked what your opinion was? I was, in connection with the Condobolin and Menindie line.

817. You said that a national line is paid for by the taxpayers, and not by the users? Yes, and I still maintain the same opinion. In my opinion a line from Condobolin to Menindie would be a better one as a national line than this.

818. Would not the rates that you would charge on a line of this kind, if it were established, be cutting rates? They would be cutting rates under any circumstances.

819. How much a mile would you charge to bring traffic right through to Sydney? Wool about 1d. a ton per mile.

820. Is not that very low? Very low indeed.

821. Could you not charge more than that? We should not get the wool at that rate.

822. When Mr. McLachlan was examined before on this point, he was asked:

What is the lowest charge now for a long distance, per mile per ton? I could not say from memory;—a little over 2d., I think.

That would be a little above the ordinary freight by river to Port Pirie and Adelaide? Yes.

Do you think it is possible, if this line were constructed, for the Commissioners to be able to reduce the freight, so as to bring the produce this way, instead of its going to Adelaide? Yes; we think we should get a large amount of it.

You do not agree with that? I should prefer you to examine me on my evidence there, and see whether I am inconsistent.

823. Mr. McLachlan is Secretary for Railways now, as he was then? Circumstances have altered.

824. You do not agree with that? No.

825. He was also asked:

There is an immense traffic at Wilcannia? Yes; it is shown to be of rather large value. The tonnage, I think, is not mentioned. That would be a good guide to us.

He seems to have a very good opinion of the district, but you cannot back him up? No.

826. I suppose you will recognise that Wilcannia is a very large centre of trade for that district? Yes.

827. Do you know whether there is a large amount of unalienated land there that would be available if there was better communication? That I could not say. But I should imagine that at present it is carrying all that it is capable of carrying.

828. In the statement which was handed in by the Department, it says :

J. Harper.

The Lands Department has supplied me with the following information with regard to the tenure of land within 20 miles of each side of the proposed line.

7 April, 1899.

Alienated land .....	51,060 acres	
Settlement and homestead leases .....	387,000 "	
Reserves .....	476,000 "	
Crown lands .....	3,453,000	3,929,000 acres.

Are these all occupied lands? They are all occupied by pastoralists.

829. Is it used for grazing? Yes; I do not know for what other purpose it could be used.

830. Is it stocked to its fullest extent? I fancy so, from my experience of the western area.

831. What do you put down as the carrying capacity of that country? I could not give an opinion worth much. Some parts of the country would not carry a sheep to 20 acres. It varies very much. A great deal of the scrub in the district has been destroyed by rabbits.

832. Having regard to all the advantages of a railway to a great centre like this, direct and speedy communication, the storekeepers, instead of having to get in supplies for two years, being able to get supplies as they want them, and able to trade with their own people, do you still think that the line would not answer? I do not think that which you speak of exists. It does not exist at Bourke. We have had to reduce our charges to £2 a ton.

833. Allowing what they say to be correct—that they do have to get in supplies for long periods to stand the droughts, and considering the possibility of more land being taken up, do you still think it is not desirable to make this line? I do not grant any of these things in the first place, and I do not think it is a desirable line.

834. The position with regard to this part of the country seems to be that we keep on having inquiries, and we do not seem to get any nearer. A Committee goes and inquires into the line, and then recommends one to be made. Then we come back to the old plan;—could you, as a practical man knowing the requirements of the country, help us to solve the difficulty? I am afraid that I could not. It all depends upon the way the subject is looked at. If it is considered desirable to establish a connection with that district for national purposes, then I should say undoubtedly the line which will best intersect that territory is the better line.

835. A line more to the south? Especially if it is a shorter one, and at the same time intersects the territory better; but I am not prepared to express an opinion that the time is ripe for dealing with the line from a national standpoint. I certainly think that, with means of communication such as are available in that district, it would not be a fair thing to burden the users of existing lines in other parts of the country, where they have no alternative means of reaching a market, with the loss which would result from the construction of this line.

836. *Chairman.*] There are other lines upon which there is a loss;—have not the people of Wilcannia to bear a share of that? Yes; but this fact must be borne in mind, that the people living on those lines have to bear other burdens in meeting them. In order to meet the deficiencies on those lines rates have to be maintained at a higher level than they otherwise would be, and the people are compelled to use those lines—they have not such an alternative as a river route. They are compelled to pay a higher rate rendered necessary by non-paying lines.

837. If we add to our non-paying lines it means that you would have to raise the rates on existing lines? Yes, to users generally; there is no way out of it, because the interest on the capital cost has to be provided for year after year, and the working expenses have to be paid. My contention is that where people are absolutely compelled to use the railway for the carriage of their produce and supplies, it is scarcely a fair thing that they should be burdened with another non-paying line where there is an alternative route and cheaper means of communication.

838. *Mr. Trickett.*] Would you venture an opinion as to how far west from, say, Koorawatha or Young railway communication might be made in the direction of Wilcannia so as to be profitable? I do not think that would be a desirable line to construct.

839. Say in the direction of Menindie? My impression is that the best line to construct to reach Broken Hill would be one from Condobolin through Menindie to Broken Hill.

840. As passing through the best country? Not necessarily. There is very little difference between a lot of that country.

841. You cannot say much for the present proposal? I cannot.

842. *Mr. Levien.*] I suppose you are absolutely opposed to this line? Yes; on the grounds I have stated to the Committee.

843. Have you any idea of the number of sheep around Wilcannia and Cobar? No; I might calculate the number from the number of bales of wool produced.

844. I suppose you got the number of bales of wool from each station? Yes.

845. Did you inquire the number of sheep running on each of those stations? No; it was not material to our point, because it is the wool that we carry, not the sheep.

846. Supposing the people around Wilcannia want to get their live stock to market, how long would it take them to go from Cobar to Silverton or Broken Hill by road? I could not say.

847. There would be no live stock taken from Cobar to Port Pirie? No.

848. So you have not given any opinion as to the transit of live stock? I have allowed 800 trucks—that is 80,000 sheep; twice as many as we carry from Cobar within a year.

849. But you have had exceptionally bad seasons? No; we have had good seasons since the Cobar line was opened.

850. Have they good marketable mutton up there? It is not a fattening country. It is used to carry a maximum number of sheep, or wool.

851. But I suppose they have fat sheep for the markets;—what do they do with their sheep? Use them for producing wool.

852. Wool only? Chiefly.

853. Surely they do something more than that with their sheep? Not to my knowledge. The sheep do not reach the Sydney market.

854. Then after they have got their wool off the sheep's back, the animals die? Yes; and are boiled down. There are extensive works on the river.

- J. Harper. 855. I suppose the produce is taken away by boat? Yes.  
 7 April, 1899. 856. Would it not come to Sydney if they had a railway? No; we could not carry at anything like the rates of the river boats.
857. The Commissioners once favoured this route? That was in the early days of Broken Hill.  
 858. That was in the expectation that there would be millions in population? No. At the time when they reported on the matter, the population of Broken Hill was 40,000 or 50,000, and I think they had in view the probability of large quantities of coal being carried to the mines to reduce the ore; but the ore is now carried to the coast, and reduced there.  
 859. There are mines at Wilcannia? Not that I am aware of.  
 860. Are there not copper mines at Cobar? Yes, but they have railway communication.  
 861. Do they convey coal to Cobar now? Coke is conveyed to Cobar.  
 862. What is the population of Broken Hill now? It was about 20,000 when the matter was investigated in 1897.  
 863. What was the opinion of the Commissioners then in regard to this line from Cobar to Wilcannia? In 1889 their opinion was that it should be built. They thought at that time that great coal developments would take place in the neighbourhood of Dubbo. That was one element. Then it was considered that coal and coke would have to be carried to Broken Hill for the treatment of ores.
864. *Chairman.*] Mr. McKinney says in a report on the utilisation of the River Darling, that no record has been kept with reference to the traffic on the Darling. Then he goes on to say:
- What we do know is that able railway management is steadily lessening the percentage of New South Wales wool shipped from ports in other colonies. In the year 1878 only 48·7 per cent. of the wool grown in this Colony was shipped from our own ports, leaving 51·3 to the ports of other colonies. In 1891 the percentages were respectively 71·5, and 23·5. The returns of the Bourke railway show that Darling wool has been considerably affected by this change. In the season of 1885-86, the number of bales of wool carried on the Bourke line totalled 28,717. In the season of 1891-92, the figures totalled 87,000.
- What do you say to that? In 1878 our railway was opened as far as Blayney. There is no doubt that the extension of the lines has brought in a certain amount of traffic from the rivers; but it has not brought it all, and it is not likely to bring it all. Then Mr. McKinney says:
- So effectively has this line been administered that hardly any of the produce of the Upper Darling country gets past Bourke.
- ? The effective administration he speaks of means the cutting rate.
865. Then a large proportion of the produce of the Bourke-Wilcannia country has been secured? That is as far south as Dunlop.
866. You cannot get it from any farther south? No: as a matter of fact we can only get that far as a hard bargain.
867. What then do you reckon to be the limit at which you could carry wheat and other agricultural produce to Sydney? Our rates do not vary much between 600 and 800 miles. It would pay to carry it from any point in New South Wales where it can be grown.
868. You think that at any rate within 3 miles of the banks of the Darling, the land is generally fit for cultivation, and if there were some system of irrigation, you could irrigate hundreds of acres within a few miles of the frontage? It would not be railway freight that would prevent us from succeeding; it is more likely to be the cost of irrigation.
869. Suppose that were overcome, as it has been in other countries; do you think it would pay the farmers to settle there? Will you pardon me for asking where it has been overcome.
870. They carry wheat immense distances in America, do they not? Yes; but 75 per cent. of their railways are in the hands of receivers. We are not in the hands of a receiver yet.
871. If it had been a private company, would you not have been by now? We have never paid less than 2½ per cent. Some of those companies in America lose their capital, as well as failing to pay their interest. You cannot compare American rates with the rates here.
872. The American system is to push the railways to develop the country? Yes.
873. They do not stop to consider whether it will pay immediately? As long as they can get people to subscribe the capital, the promoters do not care about anything else.
874. If we can borrow the money, does your knowledge of the country enable you to say that the country could be developed sufficient to pay the cost of the railway? I certainly do not think so, from my experience.
875. *Mr. Dick.*] You do not place any reliance on the estimates of gentlemen outside the Department, as to the trade to Wilcannia? No.
876. I suppose you have more reliable sources of information than they have? Yes.
877. Is there any great difficulty in arriving at an estimate? It means a lot of work. It means getting the details of every load of goods that is delivered.
878. It is not likely that private individuals would have that information? Probably firms would not be willing to give every one the information. My experience is that, in country towns, whilst they would give the information to any one representing the Railway Commissioners, or such a body as the Works Committee, there would be a jealousy in regard to furnishing such information to a local man.
879. The map shows that there are over 4,000,000 acres of Crown lands within 20 miles of the proposed railway? Yes.
880. Twenty miles is a somewhat narrow limit, is it not, within which to obtain pastoral products for the railway? Twenty miles in that case fairly represents the area from which the traffic would be obtained, because the frontage stations have their sheds on the river, and would use it.
881. You say that 20 miles would bring you to the frontage stations? Yes; approximately. There are only about four or five runs there, and these frontages run back a long way from the river.
882. In any case, that would not affect the general question that 20 miles is a very narrow limit to put down as the area from which the railway would draw agricultural products? It all depends upon what its boundaries are. If its boundary is the river, it is quite far enough; if it is a railway, it is quite enough.
883. In this case, neither of those conditions exist? I think it would, as far as the river is concerned. I do not think that outside the 20 miles, any traffic would go back in that direction. It would be more likely to come down and join the other line at Condobolin, or go down to Hay. There is no disposition
- on



on the part of anyone to go back to a railway to incur greater mileage. The disposition is to get the shortest route. J. Harper.

884. Even with the 20-mile limit, there is a very large area of Crown lands there;—that does not affect the consideration of the question of setting aside certain areas of Crown land, the revenue of which should be devoted to making up the deficiency in the earnings of a non-paying railway? I have often regretted that it was not done thirty years ago. 7 April, 1899.

885. Do you think that if you found that there was a great disparity between the earnings and expenses of the railway, it would be a good case in which to apply such a principle? I do not know whether the whole of that country would represent the loss. I do not know what the rent is at present, but I should imagine that it is exceedingly low.

886. I think you said in answer to Mr. Trickett that you preferred to see a line to open up that country from Condobolin to Menindie? If it is decided that a national line is to be made to connect with Broken Hill, I say that that is the better one. I do not say that it would be a paying line.

887. I think you also said that the river is open longer at Wilcannia than at Bourke? Yes.

888. And that it is more than likely that a larger percentage of traffic would go past Wilcannia? Yes.

889. Would not that apply with still greater force to Menindie? Yes; I am not an advocate of the Menindie line any more than of the other one.

890. At 1d. an acre even the area within the 20-mile limit would give a large sum? I do not think anyone is paying 1d. an acre for that country. They are more likely paying a 120th part of a penny.

891. *Mr. Watson.*] You are mistaken; the rental is not quite 1d.; it averages about 80-100ths? Well they are paying a good price.

892. *Mr. Dick.*] In any case a railway going through that country would lead to the reappraisal of the rents? I think it has generally been done in such cases.

893. You think it would be a desirable thing to have something like railway land endowment? Yes; I think it is a great pity that it was not done years ago.

894. In any case, when these leases fall in, do you not think that if there is some sort of railway land endowment policy, the Railway Commissioners can get more out of it without harassing the users of the line? I do not think so. I cannot conceive any conditions that would improve that country very much; it is not fit for agriculture.

895. Still it would be a great advantage to them to have a railway? No doubt it would; but it is not a great advantage to the people who have no other transit than by railway, and who, in consequence of these non-paying lines, have to pay greatly increased rates.

896. I was asking whether you were in favour of a land endowment? Decidedly; it ought to have been adopted years ago, because as long as we follow our present method, the users of the railways will be burdened with the interest on the capital cost of railways of this character, and it will prevent the reduction of the rates.

897. I find that Mr. McLachlan, in reference to the Cobar to Cockburn railway, said:—

As the Commissioners pointed out in their report, the traffic is very difficult to arrive at.

Is that the case now? I do not think the Commissioners at that time went into the details of the traffic, but they have been gone into since.

898. Mr. McLachlan says further on they could not form any definite estimate as to what it would be? At that time the Commissioners did not obtain details of the traffic.

899. At present you have better information? Yes.

900. Do you know how many steamers are trading up and down the river? It is a variable quantity. Sometimes Murrumbidgee steamers go up and down there and *vice versa*; it all depends upon the freight and other circumstances.

901. There must be a considerable amount of trade up and down the river to employ such a number of vessels? Yes; there is a good deal of trading done by the steamers, as well as carrying. A great deal of hawking is done by the river boats.

902. *Mr. Watson.*] Did you include in your estimate of 9,100 tons what the steamers carried? My estimate would not include the whole of the Darling trade by any means.

903. *Mr. Dick.*] Mr. McLachlan was asked:

In view of your experience of Bourke over two or three seasons, do you think you will be able to compete for the Wilcannia traffic as against the tendency to send it down to Port Pirie and Adelaide?

His answer is very explicit. He says:

Yes; we think we shall get a large portion of that trade by this railway.

? What did he say when before the Committee the other day. He told you that he had altered his opinion. When Mr. McLachlan made that statement, we did not know as much about the river as we know now. We have been in constant negotiation with the other colonies, and every year has given us special information with regard to the traffic on the river.

904. Are we justified in presuming that there is not likely to be another change of opinion in two or three years? If you examine me on the evidence which I gave in that report, you will see that I have not changed my opinion.

905. Mr. McLachlan had the benefit of your experience before he gave that reply? I do not think he had.

906. What is the recent experience with reference to the rivalry between the railway and river trade? We have had to reduce our rates on the heavy traffic. So much so, that a month ago we carried certain lines, such as galvanised iron, sugar, and woolpacks, in large quantities, at £2 a ton on condition of our using stock waggons, which would otherwise run empty. I was approached by a firm which was getting 300 tons of mixed goods consigned to Bourke, but we were not sending to that district, because there was no fat stock coming down. I told them that they would have to wait three weeks or a month, so that the conditions would apply. Their reply was, "We shall have no alternative but to get the goods up from Adelaide." As a matter of fact, we had to carry the goods in ordinary trucks.

907. What part of the trade of that district north and west of the Darling would be catered for by the Tarrawingie tramway; would there be much of it? No; they would join the tramway, probably, instead of joining the line at Broken Hill. I think there is a certain portion of wool carried over it already.

908. Do you think anything east of Mount Browne would go there? It would depend on the seasons.

909.

- J. Harper. 909. Do you think the Mount Browne traffic would go by Tarrawingie? I think it would if there was no river.
- 7 April, 1899. 910. Have you anything to justify your opinion? No; it is simply a conjecture as to the possible direction of the traffic.
911. Have you any idea of the number of sheep in the district round Wilcannia? No; I do not think anyone knows that.
912. Do you know that during one drought nearly a million sheep perished in that district? Yes; but the Wilcannia district is a very big one. It includes Dunlop and Toorale, and it extends nearly as far as Bourke. Those sheep would not all be within the trafficable area of that railway.
913. Mr. Kirkcaldie was asked this question in a previous inquiry:  
On the basis of that amount of wool leaving the place, do you think £90,000 a year an over-estimate of the traffic inwards and outwards? I do.  
You think it is very largely over-estimated? I should not say very largely, but, in my opinion, it is over-estimated.  
Do you think, in the light of fresh facts, it is so? Mr. Kirkcaldie did not know anything at all about it at that time. But you will see how singularly my estimate is corroborated. There is another question:  
Do you think that it is the fact that in 1889, 27,000 bales of wool left Wilcannia.  
My details make almost that total.
914. You do not think that this line would get the whole of that 27,000 bales? No.
915. Not more than half? It is extremely doubtful whether we should get any.
916. Are you aware that the country from Cobar to Wilcannia has been described by the Government Geologist as a highly-mineralised district? It may be so.
917. Do you think that the construction of the line is likely to lead to the discovery of new mines? I should not think so. If we had waited till the railways were built we should have been in a very queer way in regard to the discovery of mines. When the Cobar mine was discovered there was no railway within 300 miles.

Richard Sleath, Esq., M.P., sworn, and examined:—

- R. Sleath, Esq., M.P. 918. *Chairman.*] You are Member for Wilcannia? Yes.
- 7 April, 1899. 919. Have you any evidence to give to this Committee in reference to this proposal? I have a very fair knowledge of that country.
920. Are you aware that there is another proposal before the Committee to give those people a better means of communication by means of locks and weirs? Yes; but I think the proposal for locking the river is only from Bourke to Menindie, and that, in itself, would not be of much benefit to the people unless they also have railway communication.
921. Would not the locking of the river from Menindie serve the people up there? No.
922. Have you been down the river from Menindie? Yes; I have been right down to the junction with the Murray River. There is a long distance from Menindie to Wentworth, so that when the river is down between those two points, the fact of the river being locked from Menindie to Bourke would be of no advantage to the people who want to get down below. It would be of very little advantage in the way of getting supplies. If the supplies came by rail, then the boats on the river would charge much the same price per ton from Bourke down as they would from Morgan. The people would be paying two freights—the river freight and the railway freight.
923. In order to make the Darling navigable, it would be necessary to lock it below Menindie? Yes; at least to Wentworth.
924. Unless it is locked to Wentworth, in your opinion, the river traffic would not take anything away from the railway? No; not in the least. As a matter of fact there is a good deal of misunderstanding as to when and where the river is navigable. It is navigable at Bourke just as long as it is, say, at Menindie, not quite at the same time, because when a fresh comes down it will take about seven days to travel. It depends on the volume of water that is coming. The river has very little fall, and it takes a fresh a long time to travel, so that the river may be navigable at Bourke for a week when it is not at Wilcannia, and it may be navigable for a week at Wilcannia when it is not at Bourke.
925. In reference to the anticipated traffic on the railway, what would it consist of from there? It would consist of wool and minerals.
926. What minerals? Gold, gold-bearing stone in small quantities, and concentrated copper. The whole country between Cobar and Wilcannia and to the east of Wilcannia is a rich mineral country.
927. Is there much gold-mining in that direction? Yes; there is a good deal of gold-mining. The whole of the supplies for the gold-mining district lying to the north come through Wilcannia. Wilcannia has always been the main distributing centre of that western country.
928. Supposing this line is constructed, would there be other traffic created? The chances are that the large holdings would be taken up in small areas. It would settle a great many more people; there would be more homestead leases taken up.
929. You think that if the railway were constructed, instead of there being three or four holdings between Cobar and Wilcannia, there would be a great many more? Yes; a great many small ones.
930. And that would conduce to the land carrying more stock? Certainly, because the better improved the land is, the more stock it will carry. If you fence in small paddocks well supplied with water, you can carry more stock than you can carry on a large run not fenced, and not properly supplied with water.
931. Where do they send their stock to from that district? It is a first-class fattening district; of course, not in a time of drought, but in ordinary seasons. The difficulty they have to contend with now is, that they have to travel the sheep such a long way through to Bourke or Hay, or in some cases to South Australia. A great quantity of stock travels from the north of Wilcannia through to Hay, or they go to Wilcannia and up the river to Bourke. Of course, you can understand that having to travel such long distances prevents the stock from arriving at the market in the condition in which they would arrive if they had railway carriage.
932. Their market for stock and wool is to the east? Yes.
933. Which way do they get their supplies? They get them by river. But during the last four years the river has been down most of the time, and they have had to get them from Broken Hill. That was the nearest road for teams. But then the cost of carriage from there is excessive—the freights amounting to £10, £12, and £15 per ton.
- 934.

934. Suppose this railway were constructed, do you think the carriers would reduce their charges, and the people would get their supplies from Adelaide? No; very few supplies come from Adelaide. They generally come from Morgan. The carriers would not be able to reduce the freight, because, in a great many instances their teams have perished within even 10 or 20 miles of Wilcannia. They have not been able to get through. One shilling per ton per mile is the regular charge in a fair season; in a bad season, when there is neither feed nor water, they double the charge on account of the risk they have to run with their teams.

R. Sleath,  
Esq., M.P.  
7 April, 1899.

935. You mentioned that the stock and wool come in from some distance north of Wilcannia—how far north? Right across from some distance into Queensland. The traffic from Berawinnia comes into Wilcannia, also from Tickalara and all those stations in that direction.

936. Bourke is nearer? Yes; but you cannot get a direct road across, in consequence of flood-water.

937. It has not troubled them much lately? No, but you cannot travel a team without a properly-watered road; there is no track to get across that way, and when the flood-waters come down from Queensland, it is impossible to cross at all.

938. They travel down from the Paroo? To the west of the Paroo.

939. The traffic from all that country to the north-west would come into Wilcannia? Yes.

940. Wilcannia is the depôt for that country? Yes.

941. You were examined before a Committee on a proposal to construct a railway from Condobolin to Broken Hill? Yes.

942. You were asked this question:

You recognise the fact that the pastoralists would still use the river for wool carriage?

You answered:

Undoubtedly. I feel confident that no matter which way the line may go, the only freight which would really come from the river would be the ordinary produce. The necessary goods for consumption would undoubtedly come by rail from Sydney if it was constructed, whether the river was up or down.

Are you still of that opinion? Yes; I am still of that opinion. During a good river the wool would go by the river, and all the heavy cargo. Of course, that is only my opinion. Some of the pastoralists say that they would prefer to send their wool by rail. They say that in sending it by river they have not only to pay the freight, but they have also to pay a very heavy insurance. I think about two years ago the river was up for only some six weeks, and there were twelve barges of wool sunk between Wilcannia and Wentworth. That means great depreciation in the values. The wool gets wet, and they refuse to ship it, because it is liable to become heated.

943. Is there not a general rate of insurance from the sheep's back to the market in London? No; they pay special insurance for river cargo.

944. A special rate for railway and for river carriage? Yes. I forget what the rate is, but I know it is very high, and they contend that it would be as cheap for them to send their wool by rail, that it would arrive at the port of shipment much quicker, and that the additional freight by rail would not be much more than they have to pay by boat and for insurance.

945. You think that the wool will come to Sydney if the line is constructed? For the last four years, and even now, it has been impossible to get the wool away. There are great quantities of wool—last year's wool and some of the previous year's wool—lying at Wilcannia now, because they have not been able to get it despatched.

946. Do you think that the last three years has been a fair test? No; the last four years has not been a fair test.

947. It may occur again? It did occur before. Previous to the 1890 floods it was the same for about three years, I think.

948. You said that that district is good fattening country? Yes.

949. Do you know the country between Cobar and Wilcannia pretty well? Yes; I have been over it many times.

950. About Paddington Station? Yes; that is really good country. It is a good wheat-growing country. Sometimes they miss a season. If they do not get rain at the proper time the crop is a failure. If they do get rain it is an excellent crop.

951. Have they experimented in reference to wheat there? Yes. Within 2 or 3 miles of Wilcannia a homestead lessee has been growing wheat for chaff purposes. He has not attempted to grow it for anything else.

952. Do you think that if this railway were constructed there would be any settlement in that part which would raise produce to come east, or would the production be simply for local requirements? It would probably be a different class of produce from that which is grown in the eastern portion of the Colony. I think that for a considerable time anyhow all that would be attempted to be grown there would be only for local requirements. As regards fruit, and that sort of thing, no doubt if they had railway communication an attempt would be made—and I believe a successful one—to go in largely for fruit production on the principle adopted at Mildura and Renmark.

953. Anywhere they have attempted to irrigate, or conserve water in that district, has agriculture been a success? They have not attempted to do very much.

954. In any other similar district that you are aware of has irrigation been a success? The land down at Mildura and Renmark is not equal to the land there. It is very rich red loam, and there is a great depth of soil. It is land which all experts admit is very suitable for irrigation. At Renmark they have not the same depth of soil, and it is said that in some cases it is proving a failure, the subsoil being too near the surface and causing disease to affect the trees.

955. *Mr. Trickett.*] Wherever they have tried it on a small scale it has been successful? Most successful. There are in Wilcannia a number of gardens. They have tried it in small patches of 2 or 3 acres. On some of the stations they produce chaff, wheat, and lucerne.

956. *Chairman.*] So that if irrigation can be carried out, there would be a traffic produced for the railway? Yes; I believe it would mean the settlement, within a very few years, of many thousands of people out there, in a comfortable way on Crown lands. Practically it is all Crown land there.

957. *Mr. Harper,* in his statement, summarises the traffic as follows:—Goods, 1,390 tons; wool, 1,756 tons; stock, 800 trucks; passengers, 2,000;—do you think that is a fair estimate? I think it is a most ridiculous estimate. As a matter of fact, some three years ago, we arranged with some of the people at Milparinka,

- R. Sleath, Esq., M.P.  
7 April, 1899.
- Milparinka, 200 miles further north than Wilcannia, to keep a record of all the trade from Mount Browne, Tibooburra, and all those little townships right out to Queensland. They were to keep a record of the number of teams, and the tonnage they carried. It was found that there were between 8,000 and 10,000 tons going through Milparinka. Since evidence was taken on the subject before, a great many more people have settled in the district. At White Cliffs there are something like 3,500 settled. In 1890 that place was entirely unthought of.
- 957½. What are the principal products there? It is an opal-mining district. The goods for consumption required by those people would undoubtedly come by rail. Round about Wilcannia there is copper, and west of Wilcannia, about 20 miles, there is a very large copper lode; but they have not been able to open it up properly on account of the drought, and the difficulty of transit.
958. *Mr. Watson.*] There is no fuel there? They have neither water nor fuel, and the river being down, they have not been able to send shipments away, except at a great cost.
959. You gave an estimate of the population at White Cliffs? Yes.
960. What do you reckon the population of Wilcannia to be? There is a good deal of settlement around Wilcannia.
961. What is the population of the district? Less than that at White Cliffs; I think, probably, about 3,000 all told.
962. What would be the population of Tibooburra, Mount Browne, and Paroo? There are a great many people out there; but it would be difficult to estimate the scattered population of that district.
963. *Mr. Harper* told us that the total population of the district within the influence of Wilcannia was about 3,000? I should say that it will be about three times that, about 10,000.

THURSDAY, 13 APRIL, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LUNDESAY CRAWFORD SHEPHERD.	WILLIAM THOMAS DICK, Esq.
The Hon. ANDREW GARRAN, LL.D.	JOHN CHRISTIAN WATSON, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Edmund Resch, sworn, and examined:—

- E. Resch.  
13 April, 1899.
964. *Chairman.*] What are you? A brewer at Wilcannia and Sydney.
965. Have you an intimate knowledge of the trade of Wilcannia or a general knowledge of it? I have never gone into anything as regards what the storekeepers import, and so on, and I cannot say anything about that—I can only speak for myself.
966. How long were you in Wilcannia? Nineteen or twenty years.
967. You were doubtless able to form an opinion as to whether there was much business doing there—as to whether it was a good depôt? Oh, yes.
968. And whether there was much traffic passing through it? Yes; and a good deal of it would be diverted to the proposed railway, if it were made; at least, that is my impression. In my own little way I would do more. I think, for instance, it is about two years since I imported any malt there. I have to buy it from Adelaide merchants, or send it round from Sydney *via* Adelaide, and living here now, I should send pretty well all of it that way, except when a big flood was on.
969. At the present time you get it from Adelaide, do you? Most of it. I have sent some from here—round by Adelaide, too.
970. At the present time you mainly draw your supplies from Adelaide for your own business at Wilcannia? I have done. I have not imported any there for a good while. I used always to take advantage of the river when it was high. Owing to the uncertainty of the river I have had to keep a big stock always on hand at Wilcannia. It would be disastrous to import malt to Wilcannia in a dry season, such as the present—we should have to carry it by teams such long distances.
971. You are compelled to lay in a big stock simply because the river is not always navigable? Owing to the uncertainty of the river.
972. But supposing the river is made navigable by means of locks from Menindie up, how should you get your supplies? I should get my supplies still from Sydney, because I import such a lot of malt here—myself that it would pay me to send it on by Cobar, rather than to buy from merchants in Adelaide. I import a lot of malt direct from England.
973. If the proposed railway is constructed and Wilcannia is its terminus, you are quite sure that the whole of your supplies for Wilcannia will go from Sydney? The greater portion of them I should send from Sydney.
974. Now supposing that Wilcannia is not the terminus, and the line is constructed on to Broken Hill from Wilcannia, how would your supplies go then? I would still get my supplies from here.
975. Notwithstanding that at Wilcannia you would be nearer to Adelaide? Yes. I would still get the greater portion of my supplies from here.
976. Malt, sugar, and other things, I suppose? Yes. Of course, malt is an awkward thing to carry in dry seasons, and if there is no railway we have to take advantage of the river when it is navigable.
977. *Mr. Levien*] How do you carry the malt? In 400-gallon tanks.
978. *Chairman.*] You consume only English malt, I presume? All English malt.
979. Then, if English malt is landed at Adelaide at the same price as it can be landed at Sydney, you still think you would draw your supplies from Sydney? Yes; I get all my supplies from England here. I get my malt out by means of sailing boats, and they would not call at Adelaide.
980. You having a business established here? Yes; I would get most of my requirements for Wilcannia and district here. It would not necessitate my keeping up any big stock, as I could get it as I required it from here.
981. Have you any knowledge of the country surrounding Wilcannia? A fair one. I have been up as far as Tibooburra and Milparinka.

982. What sort of a place is Tibooburra? It is a pastoral township, kept going by the stations round about it. E. Resch.
983. Do you know much about the population of that country, for which Wilcannia may be said to be the depôt? I cannot say anything about the population, but the district itself is a large one. 13 April, 1899.
984. Would the population be much more than 3,000? Yes, I should think so. I suppose that White Cliffs must have a population of 1,000 at least, and Wilcannia fully 1,000. We used to boast at one time of having 2,500 or 3,000 at Wilcannia.
985. Then, if evidence has been adduced here that the number of people to be served by this railway will be about 3,000, that is an under-estimate? Yes; I think it would be more.
986. Do you think if wool reaches Wilcannia that wool will be carried by the railway in preference to going by the river? I think so, in many instances. I have heard people grumble about the high rate of insurance they have to pay on the river-borne wool, and I have often had a chat with the storekeepers there, and I have often heard them say that they would prefer in many instances to use the railway, on account of the heavy insurances they have to pay on several things river-borne. I think that Rich & Co., and Stone and Corney, would be able to give explicit answers to the question.
987. *Mr. Shepherd.*] What is the nature of the country about Wilcannia? A good deal of it is salt-bush country.
988. Is it fit for agriculture, or merely for pastoral purposes? I have seen some splendid crops there. I am interested in one selection; at least, I have advanced a lot of money on it, which I am not sure I shall ever get back. They could not get seed wheat last year, and I do not think it would have been any good, as there was a great drought this year.
989. You have experienced a great drought there, I suppose, during the last three or four years? Yes. I have had goods stuck in the river, I suppose, for fully twelve months.
990. Is there any good timber in the neighbourhood? I do not think so.
991. It is chiefly plain country? Yes.
992. As salt-bush country generally is? Yes.
993. Of course, you always have an ample supply of water in the river for domestic purposes? Yes.
994. And for watering stock? The Council have had to bank the river up now and again in order to force the water back for water supply purposes.
995. What kind of traffic have you there generally—all kinds of stores, I suppose? All kinds of stores necessary to carry on the stations, and for the inhabitants of the district.
996. I suppose it is chiefly wool which is grown there? Yes.
997. There are very few cattle? Yes; very few cattle—mostly wool.
998. So a steamer takes up supplies and returns mostly with wool? Yes.
999. Do you mean to say that you would prefer getting goods from Sydney by rail if there were a railway open to Wilcannia? Yes; so far as I am concerned the greater portion would go from here.
1000. Do you think you could land it there at anything like the same price? I think so. For instance, in regard to the carriage of malt, I send it round from here to Adelaide by steamer, and then it goes by rail to Murray Bridge, where it is handled into a steamer again, and I can do that cheaper than buying from the Adelaide merchants, because I import it here myself. Instead of laying in fifty, sixty, or seventy tanks of malt at Wilcannia at a time, I should prefer to send 8 or 10 tons from here at a time.
1001. But there are steamers running right to Adelaide, are there not? No.
1002. They always stop at Murray Bridge? Yes; Murray Bridge or Morgan. Morgan is the nearest to Wilcannia, and the rail is cheaper to Murray Bridge, which makes a little difference. Sometimes the Murray River is not navigable much past Murray Bridge, and when goods are sent to Murray Bridge, the people are, perhaps, short of time, owing to the river falling fast; and they, therefore, want to save the time it takes from Murray Bridge to Morgan.
1003. On an average, how many months in the year is the Darling navigable? You cannot say anything. I have seen it not navigable for fifteen months. As I have said, I have had goods stuck twelve months in the river without reaching their destination.
1004. Do you know anything about the country between Wilcannia and Cobar? Yes; I have travelled over that country, and have often thought that there ought to be more mines discovered there. It looks like a mining country.
1005. The mining there now is chiefly near Cobar—none about Wilcannia? Yes.
1006. Is the country of the same character all the way to Cobar? Pretty well.
1007. Salt-bush country? Yes.
1008. Have you been as far as Condobolin? Yes.
1009. Is there any material difference between the nature of the country between Wilcannia and Condobolin and that between Cobar and Wilcannia? I think it is about the same kind of country—most of it.
1010. It is badly watered, I suppose? Yes; very badly watered. There are some mines, I believe, about 30 miles from Wilcannia towards Broken Hill, but they are not working now for want of water. They have been working a good while trying to do something, but on account of want of water the men cannot go on with it.
1011. In the event of a railway being taken to Wilcannia, do you think it would be largely used for the carriage of wool and supplies, or would the wool and supplies continue to be taken by the river? I have explained to you that in my conversation with storekeepers they have often told me that if they had a railway they would prefer it on account of the heavy insurance they have to pay on the steamer-borne goods, but I cannot enlighten you on that subject very much, because it never came in my line. However, as I have said, Rich & Co. and Stone and Corney, the principal storekeepers there, would be able to throw more light on the matter than I can.
1012. Of course, if it would be an advantage to you it would be an advantage to them;—what would be good in one case would be good in another? Yes.
1013. Supposing that a line via Condobolin to Wilcannia would be 23 miles shorter than a line via Cobar, which do you think would be the better line to adopt? I think the Cobar line, by far.
1014. From Wilcannia to Sydney via Condobolin is about 23 miles shorter than from Wilcannia to Sydney via Cobar? But I suppose that that would not make much difference in such a long distance.
1015. Of course, if the country is all the same, it does not matter very much, but it is the opinion of some people that the country on the Condobolin line is far superior;—you have been all over there? Yes; I have several times. I often gone from Cobar to Forbes.
- 1016.

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13 April, 1899.
1016. Do you think the nature of the country would permit of the line being carried through straight, or would there be any great obstacles? There are some rises, but I do not think that it would be very difficult to get over them. They are not big mountains—only little rises.
1017. You think they could be overcome without much difficulty—without having a difficult grade? Yes, there would be no difficulty about that.
1018. Are there any obstacles on the line from Condobolin to Wilcannia? No; I do not think any more than there would be from Cobar to Wilcannia.
1019. *Mr. Trickett.*] How long altogether were you a resident of the Wilcannia district before you started business in Sydney? About seventeen or eighteen years.
1020. So you have started in Sydney only within a short period? I have been in Sydney only about three and a half years now.
1021. Was that change by reason of a falling off of business in Wilcannia? No. I left Wilcannia some seven years ago. I retired. I thought I had enough to live on, and I went to Melbourne, and lived there; but something happened. The bank which had been assisting me very much in my earlier career wanted me for something, and I complied with their request, and came to Sydney, and took charge of the business of Allt & Co., which later on I purchased myself.
1022. But you still carry on business in Wilcannia? Yes.
1023. What has been your experience of the place of late years;—has it increased in population? No; not the town itself. I suppose the district you may say has increased, through the opal fields mostly. The population of the district has not decreased much, at any rate, if it has decreased at all. The first blow to Wilcannia was, I think, the discovery of the silver-field at Broken Hill.
1024. It unsettled the people? Yes.
1025. How is the town in regard to prosperity now as compared with what it was formerly? It is nothing at all compared with its prosperity in former years. The town itself has gone down very much. But look at the three or four years' drought they have had—it could not be otherwise.
1026. Are there many empty houses? There are a few empty houses.
1027. What do you pay for freight on your goods from Sydney to Wilcannia;—what do you pay for malt, for instance? That all depends on the river freight. I have had it as low as £4 10s. a ton.
1028. Give it us with a good river? With a fair river, I suppose it would be about £2 a ton from Murray Bridge.
1029. And what does it cost you before it gets to Murray Bridge? I suppose it costs fully £2 or £2 10s before it gets to Murray Bridge—£2 anyhow.
1030. In addition to that you would pay insurance? Yes.
1031. What rate per cent. do you pay for insurance? That I cannot exactly tell you.
1032. It is pretty high, is it not? I cannot say from memory exactly what it is.
1033. Is it not between 1 and 2 per cent.? I cannot remember; but I think it is over 1 per cent. However, I would not be quite sure on that point.
1034. Well, putting it at  $1\frac{1}{2}$  per cent., that is £1 10s., which with £2 10s. and 30s., make £5 10s., which it costs you to get your malt from Sydney to Wilcannia by river when the river is good? I think you can average it at £5 a ton with a fair river. It may be when there is a little competition going on a little less, but not much, I think.
1035. Now will you tell us what would be the highest that you have paid for getting malt to Wilcannia? I cannot remember that. I suppose I have paid £15 a ton. I have paid as much as £6 a ton from Morgan to Wilcannia.
1036. That is with a bad river? Yes.
1037. Would that come by river or by team? That would come by river all the way—at least it is supposed to do so? I remember at one time that I had a lot of goods which did not get any further than Wentworth, and I had to send teams to Wentworth; and I think I paid £25 a ton from Wentworth to Wilcannia, if I remember rightly—some enormous sum, £20 or £25 a ton.
1038. Seeing that your malt freight ranges from about £5 a ton, with a good river, up to as high as £20 or £25 under very adverse circumstances, can you tell us the charges under the same circumstances with regard to store goods? The same rate applies. I remember at one time I had to get malt by mail coach from Hay. You labour under many great difficulties in that district.
1039. *Mr. Harper*, in a statement which he laid before us the other day, said that the rate of tonnage for sugar would be £7 8s. per ton, and the rate for general goods would be £10 13s. 6d. per ton, and that those would be the very lowest rates from Sydney to Wilcannia by rail; and he went on to say: "It is evident that under the circumstances we could not hope to compete with the river in the carriage of general goods";—will you give us your views on that statement? Would that be taking a truck load at a time.
1040. I suppose so; *Mr. Harper* quotes those as the lowest rates—sugar £7 8s. a ton, and general goods £10 13s. 6d. a ton;—as a man of the world and as a trader in Wilcannia, do you think that for the benefit of constant and ready communication, the people would pay those high rates when they could get the goods carried more cheaply by river; that is rather an important feature of the question before us? If the river were a favourable one for a long time, and there were competition between the boats, of course the people would get the things carried a great deal more cheaply than that.
1041. Supposing I were to put that question directly to yourself—supposing that you could get your goods up there for £5 or £6 a ton, would you care to pay up to £10 13s. 6d. a ton? Of course, none of us like to pay more than we can help. I suppose we are all alike in that respect.
1042. You naturally would take the cheapest? Yes; that is, under more favourable circumstances as regards the river.
1043. Seeing that there would be these two means of communication with Wilcannia, and that, at the start at any rate, apparently the railway rates would be heavier than the river rates under favourable circumstances, is there anything in this district itself that you think is a prominent feature towards connecting it with Sydney by railway? I think so. In the first place, I think the population out there deserves a little consideration from the Sydney people. It is very hard to be out there with no means of communication, and sometimes on the verge of starvation for the want of food, and having to depend on camel teams and such things. I think they have not been fairly dealt with by the Government. I think there would be more mining carried on there if easier means of communication were provided.

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1044. At the present time the district is sparsely populated; is the country of such a character that you think that, with better means of communication, it would be likely to attract a larger population for sheep-breeding or for agricultural purposes? If there is a drought the stock simply have to perish; they cannot get away from there. There are no means of communication to take them away. If stock-owners had an easy way of getting them away from there in time of drought, I daresay they would stock more than they do at present. At the present time it is terrible to be there. I was there six or eight weeks ago, and really there was not a blade of grass to be seen.

1045. And the sheep had died in great numbers? Yes; there were the bodies of sheep lying about everywhere.

1046. Then you apply to that district the reason we have heard given in favour of the construction of many such railways, namely, that with an impending drought, such as the one we have just realised, the stock-breeders would have been able to get their stock away either to another district or to a ready market if they had had railway communication? Yes; but under present circumstances they cannot get them away, and they simply have to perish. The present state of affairs is simply disastrous.

1047. Do you regard this as a breeding district, or chiefly as a wool-growing district? Both.

1048. But would it be a meat-supplying district if it had railway communication? I should think so.

1049. Does the town of Wilcannia extend right up to the river banks? Yes.

1050. Is there any portion of the town on the Cobar side? No.

1051. The town starts immediately you get on the other side? Yes.

1052. I suppose you have some little knowledge of the public travelling to and from Wilcannia;—you must have noticed whether a good many people come to and fro? The coaches are sometimes pretty well loaded.

1053. Mr. Harper, in his estimate of the probable revenue from this line of railway, puts down the probable travelling people at 2,000 a year to and fro; that would be about six travelling both ways each day all the year round;—do you think that is a fair estimate of the traffic? There are a good many people who do not go to Wilcannia because of the coach travelling. I myself would go to Wilcannia four or five times a year if there were no coaching to do.

1054. It seems to me a low estimate? I think it is a very low estimate.

1055. What does it cost you to get by coach from Cobar to Wilcannia? £7 7s. return, I think, and £4 4s. single fare. Then there is the inconvenience of being two nights and one day in the coach. Now I do not go oftener than I require.

1056. And when there has been a slight fall of rain the road is almost impassable, is it not? Yes; I very seldom go that way. I generally go via Adelaide and Broken Hill. Going that way there is only twenty-four hours in the coach, and there is a better track than going the other way, where you have two nights and a day in the coach.

1057. If you want to go from Wilcannia to Sydney and back, what does it cost you for fares by the most convenient route? I think that the charge for a return ticket to Broken Hill from Sydney is £13 odd, and then the charge is £5 return from Broken Hill to Wilcannia.

1058. In round figures the fares come to £20? Between £18 and £19.

1059. And what the other way—from Wilcannia via Cobar to Sydney? In round figures, between £13 and £14.

1060. So that you are carried from Sydney to Cobar, a distance of 459 miles, and back for £6 8s., and from Cobar to Wilcannia and back to Cobar, a distance of only 156 miles, you have to pay £7 7s.? Yes. Although it would be cheaper that way, I still prefer to go the other way. The mail coaches are so fully loaded that you run a great risk in going inside a coach at all, when you go from here via Cobar.

1061. Do you ever suffer any inconvenience at Wilcannia by reason of delay in the mail deliveries? Yes. very often the Cobar mail is very late.

1062. Has this last drought during the last two or three years been a very severe one? Yes; very severe.

1063. Would any estimate of the traffic, the freight, or the general prosperity of the country, based on the last three or four years, be a fair average? Not at all. Everybody cuts down everything during a time of drought. It is a wonderful country in that district. It soon picks up. I have seen it in a time of drought when there was not a blade of grass anywhere to be seen, and yet with a couple of inches of rain it would, in a fortnight or three weeks, be like a meadow all over the place. You would not think it was the same country.

1064. That has not been the case for two or three years? No; unfortunately.

1065. Do you find it is to your interests to remain in Wilcannia still as a business man? It is all right yet. The district is a splendid one.

1066. Have you noticed very much, or any, diminution in the trade of Wilcannia since the Bourke railway was opened? Yes; it has taken away a good bit, because we used at one time to send goods from Wilcannia to Wanaaring and Thargomindah, and places in that direction, and all that trade now goes from Bourke.

1067. But a large quantity of wool still comes into Wilcannia from country lying towards the Queensland border? Yes.

1068. And for the country in the north-west, I suppose the requirements of a railway are just as great now as before the railway to Bourke was constructed? Yes. It is wonderful how the people keep alive there when no goods can sometimes be got up to them.

1069. One prominent view you take of the question is that, as a matter of fact, that north-west corner of the Colony is one in the direction of which railway communication is absolutely necessary for present requirements, and also with the view of further development? That is my opinion.

1070. *Mr. Watson.*] You said you thought the people of Wilcannia deserved some consideration at the hands of the Government, or of the people of the Colony generally, with a view of having proper communication;—can you offer an opinion as to which the people there would prefer—a railway or the locking of the river, so as to secure permanent navigation right down to the Murray? That I could not say.

1071. Which would you prefer? The railway, by far.

1072. You think the railway would do more towards opening up the country and securing regular communication? Sometimes the Murray is not navigable, and how can you have permanent navigation if the Murray is not navigable sometimes. I have had a lot of goods stuck in the Murray. You could not ensure permanent navigation by simply locking the Darling.

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13 April, 1899.
1073. In evidence given before us the other day, the opinion was offered that the Murray was nearly always navigable? I have seen it not navigable for a long time. Besides, that would not ensure the people or stock being able to get away from the drought-stricken districts.
1074. That would provide only for goods, pure and simple—not for stock and passengers? Yes; not for passengers at all.
1075. So, from the point of view of the convenience of the people there generally, you think the railway is much preferable? By far preferable I should think.
1076. I suppose you know what the general run of traffic would be on a railway at other places; there was an estimate given here as follows of the goods which it was likely this railway would carry, namely:— Ordinary goods, 1,390 tons for the year; wool, 1,750 tons; stock, 800 trucks; do you think that that would fairly represent a year's carriage on the railway under ordinary conditions;—do you think that would be an under-estimate, an over-estimate, or a fair estimate? I think that would be an under-estimate.
1077. The total revenue which is expected to be derived from the line, including any traffic that might accrue between Wilcannia and Cobar, amounts to only £6,800? Of course, I am not able to judge, because I think that is a long way below the correct estimate. If we had permanent communication to Wilcannia we should supply the whole of that portion of the country which lies to the north-west of Wilcannia. Whatever goes there now comes from Port Pirie way. A lot of fodder would go from New South Wales, whereas now it is obtained from South Australian farmers.
1078. At present the people there draw their supplies only from South Australia? Yes.
1079. You think that with the construction of this line they would draw a much greater quantity from New South Wales? Certainly; especially if Nevertire and Dubbo and that district is a producing country.
1080. There is a great quantity of fodder produced there now? Yes; and that would go up this way instead of the people getting their supplies from South Australia.
1081. The evidence is that taking chaff and other fodder from Dubbo would only mean a freight of about 10s. 6d. a ton from Dubbo to Wilcannia, if based on the present freights for similar distance on other lines;—do you think that would compete with the river? The river could not compete with that.
1082. Even in good seasons? No, it could not.
1083. Do you think there would be a fair demand for fodder of that description? Yes. Look at the lot we now get from South Australia.
1084. There are a large number of teams, I suppose, which carry supplies to stations and other places in the Wilcannia district? Yes.
1085. And they would be customers for fodder? Yes. I have seen chaff as much as £30 and even £40 a ton in Wilcannia.
1086. I suppose that has been when there has been no river for a long time? Yes, with a drought on. The station owners had to feed their stock, and also the horses they used to work the station with.
1087. It would cost a great deal to get the fodder there, even from Cobar, at the time you speak of? You could not get it from Cobar. There was no water on the road then for teams. We had to get it all the way up from Wentworth at that time.
1088. Can you tell me whether the Tibooburra and Mount Browne trade goes through Wilcannia? A good deal of it does, but, of course, at a time like this, most of it goes *via* Broken Hill and Tarrawingie, whereas, if we had a permanent depôt in Wilcannia, we should again supply the whole of that country in the north-west. The supplies of produce would be brought to New South Wales.
1089. You say "at a time like this";—I presume there is not the convenience on the track to Wilcannia there might be, and owing to the long drought Wilcannia cannot supply goods as cheaply as it could otherwise? We can scarcely get supplies to Wilcannia at all now. There has been a little river lately.
1090. Only a slight fresh, lasting a short time? That is all.
1091. So, practically, Wilcannia, through not having communication with the coast either at Sydney or Adelaide by the river, is losing a portion of the trade that otherwise would go to it from Mount Browne and Tibooburra? Yes; and it has lost a good deal of the White Cliffs trade from the same cause. When I was in Broken Hill six or eight weeks ago, I saw lots of teams carrying South Australian goods over to White Cliffs from Broken Hill that should have gone from Wilcannia, in the natural course of things.
1092. You see Berewinga, on the Paroo, marked on that map; can you tell me how far south of Berewinga trade would begin to be drawn towards Wilcannia if the railway were constructed;—do you think half-way up, or three parts? More than half-way up. I think the railway would draw all the trade from the Wilcannia side of Wanaaring. If you had the river locked, and this railway were not constructed, no one would send goods to Bourke and then down to Wilcannia by the river. They would be sent up the Murray and the Darling. The supplies would not be drawn from New South Wales; they would all come either from Victoria or South Australia.
1093. So you much prefer the construction of a railway? Yes; for the good of New South Wales.
1094. Do you think that the locking of the river as far down as Menindie would in any way help the railway if it were constructed;—if it were locked from Bourke to Menindie, would it help to feed this railway or the Bourke line? I think it would considerably help to feed this railway at Wilcannia.
1095. So, to that extent, you think that, from a New South Wales point of view, the locking of the river would be justified? Yes; it would feed the railway.
1096. You were saying that you saw teams a little while ago loading at Broken Hill for White Cliffs? Yes.
1097. Do you think a railway from Cobar to Wilcannia, if constructed, would have anything to fear from the Broken Hill-Adelaide line in the way of competition? I do not think so.
1098. The South Australians would not compete for the trade of the district? I do not think they would.
1099. The competition with them would be only round Broken Hill? Yes.
1100. I understand that, on the whole, you think the Government would be justified in making a railway to Wilcannia? That is my opinion.
1101. You do not think a great loss would result? In my opinion there could not be much loss.
1102. And even if there were a small loss, you think the people of that district are deserving of some consideration at the hands of the Government? That is my candid opinion. They do deserve something to be done for them.



1103. *Dr. Garran.*] What is the lowest freight at which you have ever sent malt from Sydney to Port Adelaide? About 10s. or 12s. 6d. per ton, I think. E. Resch.
1104. Will the owners of the steamers on the Darling quote you a price from the ship's side at Port Adelaide to Wilcannia? Yes. 13 April, 1899.
1105. How much? I think about £3 10s. or £4 a ton.
1106. And they do all the handling? Yes.
1107. That would make £4 12s. 6d. from Sydney to Wilcannia? Yes, with a favourable river.
1108. Exclusive of insurance? Yes.
1109. Which would be how much extra? It all depends on the nature of the goods. I suppose that on malt it would be 5s. or 6s. a ton.
1110. If you were to send goods from Sydney to Wilcannia by railway, would you insure them? No; it is not necessary.
1111. From the time the Government take the goods until the time they deliver them, they are responsible? Yes.
1112. So you have no insurance to put on there? No.
1113. Then, if the Government would not charge you more than £5, it would be cheaper for you always to use the railway? If they were to charge me £6 all the year round they could have all the hauling I have to do. I would not send one ounce by river.
1114. But supposing that the river and the rail were in full competition, and had cut rates down to the lowest, and the river rate was still 5s. less than the rail, which route would you take? I should give the railway £1 a ton always the preference.
1115. For what reason? For the simple reason that I need not have any great quantities in stock at a time. The river steamers will not carry 4 or 5 tons at a time at such low rates. It is only when you make up large quantities that they will carry at those low rates; but by rail you could always send a truck-load at a time, and for that simple reason I would not require such a large amount of money sunk in stock when it was not required.
1116. How many of your malt tanks could you put in a truck? I think the other day I sent five to Bourke; that is about 6 tons.
1117. These very low rates on a railway would be for a truck load? I suppose so.
1118. If you wanted to send a single tank, you would have to pay more? Yes.
1119. For your particular trade, the railway has such advantages that you would give the railway a higher price than the river? Certainly.
1120. Up to what point—£1 higher? Yes; always.
1121. Do you think that other storekeepers would do that for general goods? I fancy they would, though, perhaps, not quite to that extent—for now, in order to get any low rate, they must get up large quantities at a time, whereas by their being able to get smaller quantities by rail at a time, they need not have as much money invested in goods.
1122. All your experience has been with the river in its natural state? Yes.
1123. That is a very uncertain means of communication? It is simply a matter of gambling; it is not business there at all.
1124. But supposing the Government, or the future Federal Government, were to lock the whole river, and make the navigation open all the year round, do you think the people then would get their goods by rail if the river were cheaper? I do not know about that.
1125. It is a state of things that has never arisen in your experience, and, therefore, you cannot tell what would happen? No.
1126. So far as passenger traffic between Sydney and Wilcannia is concerned, I suppose that the railway would carry nearly the whole of it? Yes.
1127. Nobody would go round by way of Adelaide? I do not think a single one would.
1128. Not to save 10s.? No one will go by coach if they can go by rail.
1129. I meant that they would not go round and work their way up the river? No; that would be impossible. It takes such a long time to get there.
1130. The time would be against that? Yes; it would take you at least a week to get there from Adelaide.
1131. Would people going from Melbourne to Wilcannia prefer to go by rail to Morgan, and thence by the river, or go to Sydney and thence go to Wilcannia by rail? The latter way.
1132. So you think the railway would get all the Melbourne and Sydney traffic? Yes.
1133. And of course all the Queensland trade? Yes.
1134. South Australians would prefer the river perhaps? No; they would go by Broken Hill.
1135. And then by coach? Yes.
1136. You think that the Adelaide men would prefer to do that rather than go to Sydney, and then go to Wilcannia by rail? I presume so. I go right round to Adelaide and Broken Hill in order to go to Wilcannia now.
1137. You told the Committee you had some slight interest in a free selection on which wheat had been sown? Yes.
1138. Do you think that, apart from irrigation, there is any prospect of agriculture in that district—taking your chances of the seasons? I think there would be if there were always communication to Wilcannia. I think there is a great chance of wheat being grown there.
1139. How many seasons in ten years do you think a man would get his crop? If you were to go back ten years from now, when there have been four bad years, the average would be a bad one.
1140. You have been there seventeen years; supposing you had been farming every year, how many crops do you think you would have had? Eight crops out of ten, I think, on the average.
1141. And it would pay a man, you think, to lose two crops out of ten? Yes; the crops are abundant ones; I have seen beautiful crops there.
1142. The soil is rich? Yes.
1143. And manured, I suppose? Yes. I have a garden round my house at Wilcannia, in which everything grows prolifically. I never saw anything richer anywhere.
1144. How many years did you cultivate it? About seven or eight years—until I left there.
1145. It kept good to the last? It is good now.

- E. Resch. 1146. Do they grow any hay in that district? They only use the wheat for hay. They have no mill there. Some of them asked me to erect a mill a little while before I left, and I did say that I might consider it if there were plenty of wheat grown there; but I left the district—you may say—almost, and I did not take quite so much interest in the place afterwards as I did previously.
1147. What class of people grow the hay? Selectors.
1148. All selectors? Yes.
1149. Do any of the squatters grow hay for themselves? Yes.
1150. But no sufficient amount of hay to keep stock alive during a drought? No.
1151. It is principally used by the teamsters, I suppose? Yes.
1152. The teamsters buy from the free selectors? From the storekeepers.
1153. The storekeepers buy from the free selectors? Yes.
1154. How much does the free selector get from the hay? Different prices.
1155. According to the season? According to the river and the season.
1156. Is hay ever sent up and down the river in the steamers? Sometimes from South Australia. New South Wales now derives no benefit from that part of the country as regards supplying fodder or anything of that sort; but it would if the railway were made from Cobar, because the Nevertire and Dubbo districts would supply the people in that district.
1157. Is this wheat hay brought all the way from Morgan up to Wilcannia? Yes; wheat and oaten hay.
1158. Mixed? No, not mixed, separate.
1159. What does that cost generally in Wilcannia? It all depends on how the river is.
1160. On the cost of the navigation? Yes. I have paid as low, I think, as £5 8s. a ton there; but, as I have already said, I have had to pay £40 a ton for chaff there.
1161. If the river were open permanently between Morgan and Wilcannia, would the sale of hay from South Australia be a steady business? Yes.
1162. A regular business? I think it would be a fair business.
1163. Do you not think the people around Wilcannia could grow hay cheaply enough to cut out the imports from South Australia? Not in droughty seasons.
1164. Could they in ordinary seasons? I dare say they could; but it will be years before they grow enough there for the requirements of the place. I do not suppose it will be done in our time, at all events.
1165. It is an industry that is not even in its infancy, I suppose? No; there are simply a few selectors there.
1166. What quantity of hay in a year would you think is brought up from Morgan? I cannot say. I think that Mr. Shainwald, of Rich & Co., would be able to give you a very good idea as to that.
1167. I suppose all the flour for Wilcannia comes up the river? Yes; it is all river-borne.
1168. You get very little down from Bourke to Wilcannia? None at all, excepting, perhaps, when the river is just sufficiently navigable to enable the boats to go from Bourke to Wilcannia.
1169. When there is a fresh in the river, a boat may carry it all the way from Bourke to Wilcannia coming down the river? Yes.
1170. But it would not be able to go up from Wilcannia to Bourke? No.
1171. Because the fresh would have ceased before it could get up? Yes.
1172. Therefore, a boat can sometimes get to Wilcannia when it cannot go beyond? Yes.
1173. The business of the whole district is at present pastoral, I suppose? Yes.
1174. And the prospect for the future is pastoral or mineral if mines should be discovered? Yes.
1175. But the opal district is the only mineral district that at present affects Wilcannia? Yes; White Cliffs. All the way up to Tibooburra and Milparinka there are mineral districts.
1176. But the traffic of that part goes largely to Tarrawingie now? Yes.
1177. Do you know whether there is a coach running from Tarrawingie to Mount Browne or Tibooburra? It goes from Broken Hill, I think.
1178. Then the prospects of a railway would depend, to some extent, on the possible development of mineral country? The pastoral and mineral.
1179. But the pastoral trade is pretty well a fixture;—you know what the maximum of that would be, do you not—it would not go beyond a certain amount? In good seasons they would be able to stock plentifully, and when droughts came on they would be able to get the stock away.
1180. Still the number of sheep per acre does not increase very much year by year, does it? I do not think so.
1181. *Mr. Dick.*] I think you said you would prefer to pay £1 a ton extra for the railway as against sending round to Port Pirie? Yes.
1182. Of course you would not do that as a matter of patriotism, but simply because it would pay you? Convenience; and because it would pay me.
1183. There would not be the delay? There would be no delay, and no need to keep big stocks on hand. While the stock is lying idle a couple of years, the insurance and the interest on the money would be sufficient, if saved, almost to enable me to pay £1 a ton more to send the stuff direct. It must be insured whilst lying there, and also whilst in transit now.
1184. There is a loss of interest occasioned by the holding of large stocks? Yes.
1185. It is rather difficult, I suppose, to arrive at what it costs you per cent. on the value of your goods in that way? I never went into that.
1186. It is an amount worth considering, I suppose? It is a considerable amount. It must be when I offer £1 a ton more for the carriage of the goods by rail rather than by water.
1187. What is the carriage per ton from Sydney to Port Pirie or Adelaide for goods? I think I paid about 12s. 6d. to Adelaide.
1188. Supposing you only send small quantities by the river, do the rates go up? They are higher then.
1189. They are higher for small quantities than for large ones? Yes. I think it is only for 10, 20, and 50-ton lots that the rates are cut.
1190. Do you know if any part of the district around Wilcannia is suitable for fattening stock? They send a lot of fat stock to the market from there when the season is all right. It is a good fattening country when there is a good season.

1191. Do you think that if there were a railway from Cobar to Wilcannia, killing works would pay at Wilcannia? Well, I do not know what the freight would be from there to Sydney. E. Resch.
1192. Works similar to those at Bourke, for instance? I think it would pay there as well as it does in Bourke. 13 April, 1899.
1193. And, of course, that would feed the railway with a certain amount of traffic? Yes.

Richard Sleath, Esq., M.P., sworn, and further examined:—

1194. *Mr. Watson.*] Have you had an opportunity of hearing Mr. Harper, the Chief Traffic Manager, give evidence? Yes. R. Sleath,  
Esq., M.P.
1195. You have heard his estimate of traffic which he anticipated would be got if this line were constructed to Wilcannia? Yes. 13 April, 1899.
1196. Can you offer any opinion as to whether that estimate would be likely to be exceeded in ordinary seasons? That estimate is, in my opinion, ridiculous, because a record has been kept of the traffic that has gone from Wilcannia, through Milparinka, on towards Tibooburra, to supply Tibooburra and Mount Browne, and across the Queensland border, and we find that the traffic that has gone from Wilcannia in that direction much exceeds the estimate made by Mr. Harper. Leaving out the whole of the country lying to the west and north-west and north-east, and taking in the Paroo, White Cliffs, and Wilcannia itself, and all the settlements down the river between Wilcannia and Menindie, and out towards the north-west corner, the number of teams and the tonnage carried by the teams have been kept, and that traffic exceeds the whole of the traffic that Mr. Harper includes in his estimate.
1197. How far does the Wilcannia influence extend on the eastern bank of the river and up the river—a radius of how many miles around Wilcannia would you estimate as being within this estimate on that side? In a north-westerly direction the Wilcannia influence, going along the river, would not go quite half-way to Bourke. The Wilcannia influence also extends towards Cobar, Ivanhoe, and Menindie; but during the seasons we have had recently a good part of the northern trade has come from Tarrawingie. The reason why that occurred was because it could not go from Wilcannia, as there was no river to land goods in Wilcannia, and in a great many instances the goods for Wilcannia itself had to come through South Australia to Broken Hill, and be carted by teams through Broken Hill to Wilcannia; so that, as regards the greater portion of the whole of the trade in that northern part in times of drought, and there being no railway to Wilcannia, many people have had to depend on getting goods through Broken Hill.
1198. So that any shifting of trade from Wilcannia to Tarrawingie is merely a passing and not a permanent event? Yes. Had there been railway communication to Wilcannia it would never have taken place; but owing to the river being down, and unable to land goods at Wilcannia, that was the only route that was open to the people.
1199. Mr. Harper also spoke about the charges on wool—as to the amounts that were paid by the people for the carriage of wool by the river as compared with the railway? Yes.
1200. I think the lowest price he mentioned from Bourke was £3 5s., off which 12s. 6d. was taken, leaving it at £2 12s. 6d.;—can you offer any opinion as to what rates are charged per ton on the river, say from Wilcannia or above Wilcannia, so far as the through charge is concerned: we were told that some stations are getting it carried from 50 miles above Wilcannia right to Adelaide or Melbourne for £2 10s. per ton;—have you heard of such a low price as that being charged—that is, a through charge? I am perfectly satisfied that that is altogether an incorrect statement, unless, perhaps, there were some special circumstances in connection with that particular station of which we know nothing. That is certainly not the ordinary rate chargeable. Of course the charges on the river vary at times. For the greater portion of the time, I suppose, the people will have to pay, even on goods sent in quantities, from perhaps £4 10s. to £10 per ton. The reason for that is that a boat may be laid up for six or eight months; they have to keep the crew, and when the river goes down they consider that, in order to keep the boat on the river at all, they must charge additional freight to make up for the time the boat has been laid up. The boats belong to a number of people on the river, and in order to retain the trade of a particular station and prevent another boat from getting it, a boat-owner may have in one case charged exceptionally low freights. I do not know anything about that, but, of course, that cannot be considered the fair average freight chargeable by the boats on the river.
1201. Have you any idea how many boats there are on the river permanently? I think Rich & Co., of Bourke and Wilcannia, have fourteen; Mr. Connell has a number; Stone and Corney have some; Donaldson & Co. have some; and there are also some Menindie and Wentworth boats plying, and likewise some boats owned by people in the neighbourhood of Murray Bridge and Morgan, and some also come up from Moama and Echuca. I suppose that altogether the boats trading right up the river must number twenty-five or thirty anyhow.
1202. That is, regularly trading on the Darling? Yes.
1203. When they have anything to do? Yes.
1204. We had an estimate in Mr. Harper's evidence that the total trade in and out of Wilcannia amounted annually to about 9,100 tons;—can you offer any opinion as to that total, in view of the fact that so many steamers are plying on the river, and have to be kept up; would that be sufficient to keep them going? I do not wish to mislead. I should say that those steamers supply the trade right from Morgan up to Bourke. Those steamers are not plying directly with Wilcannia, and nowhere else. Of course we have a number of regular steamers—six or eight that ply regularly; they are steamers of light draught, and they get cargo from barges brought up by other steamers. We have four or five steamers that trade between Wilcannia and Bourke—Rich & Co. have two, and Connell has others. They take up goods brought up by the barges of other steamers.
1205. Do you think that that estimate of 9,100 tons represents the whole trade of Wilcannia? It is simply a ridiculous estimate, and one which no one would dream of making who had any idea at all of the trade.
1206. I think you gave some evidence previously about the Condobolin-Broken Hill proposal? Yes.
1207. You were then asked which of the two routes—Cobar to Broken Hill, or Condobolin to Broken Hill—you thought would be the better? Yes.
1208. And you said you preferred the Cobar-Wilcannia-Broken Hill route? Yes.
1209. Can you give any reason for that, as far as the character of the country or anything else is concerned?

R. Sleath,  
Esq., M.P.  
18 April, 1899.

concerned? My reason is this: If you were to adopt this lower route from Condobolin, you would probably run the railway to within 100 and odd miles of the Cootamundra-Hay line, and you would be simply robbing the Hay line of the trade which it is getting at the present time, without gaining much, if any, additional trade. If the Cobar to Broken Hill or Cockburn line is carried out, you are running it through the centre of that great western country, and giving an opportunity for an immense quantity of trade taking in a great area of land; in fact, supplying the wants of the settlers on 40,000,000 acres of Crown lands. But at the same distance from Wilcannia in this direction the land is equal in quality to the land in that direction.

1210. When you get near the river the land is very much the same as you approach Wilcannia, from whatever point of departure? Yes. The rainfall is much the same right down. You can draw a straight line down, and you will find the rainfall is much the same, and that the soil is much the same in character. But the land in the Wilcannia to Cobar direction is, in my opinion, superior to the land at an equal distance from the river in going from Menindie towards Condobolin.

1211. So that, although the Condobolin route commences in better country, you would have just the same proportion of poorer country, so far as production is concerned, to go through? Yes.

1212. Can you offer any opinion as to the comparative dryness of the routes;—we have been informed that there is some swamp between Menindie and Ivanhoe, for instance? Yes, there is.

1213. And that it is more expensive to make a line through it than through ordinary country? I do not know if there would be a great deal of difference in that respect, although there are a number of billabongs and that sort of thing lying back, which, especially when the river was up, would make it rather dangerous country. But in constructing a railway from Condobolin to Menindie you would have more than 100 miles more construction.

1214. And the most you could save, taking the total distance to Broken Hill, would be about 40 miles? Forty-three.

1215. Do you know the country towards the river on the Cobar side? Yes; I have travelled over it many times, and camped on it.

1216. Have you noticed on this parish map that the line, when it gets to a point 600 miles from Sydney, takes a sudden turn to get into Wilcannia; it has been suggested that, instead of going in that way, it should branch off at about 575 miles, and go more northerly, passing round the other side of some small hills;—can you offer any opinion as to the desirability of going more northerly from 575 miles with the view of avoiding the Talyawalka Creek or Anabranche, and crossing the river higher up? I am not prepared to give a very definite answer in reply to that question, because I have not considered that phase of the matter—because I have not made an examination of the ground, and without doing that one could hardly be in a position to express an opinion.

1217. You are aware that the immediate approach to Wilcannia seems to offer a fairly large obstacle to railway construction? Yes.

1218. According to the estimate put before us, it involves the expenditure of some £10,000 a mile for 9 miles? I believe that by taking a swing further to the north you get on to higher ground. On the western side of the river you certainly have higher ground, and I think that on approaching the river from the eastern side you would also have higher ground.

1219. As against the suggestion I have just mentioned, it has also been suggested that possibly, if you went higher up, you would get lower-lying land on the western side of the river? No. On the western side we have higher land. Of course you do not mean going up 70 or 80 miles.

1220. No, a short distance? Yes; you have higher land on the western side, and I think also on the eastern side, of the river. You get on higher land much more quickly in going back from the river.

1221. You mean there would be a shorter width of low-lying land? Yes; probably when the river was in flood a mile would be covered by it, but you would get on high land probably 1 mile back instead of 9 miles.

1222. If that is so, it would be a consideration, I imagine? Yes.

1223. At any rate, you think from your local knowledge it is advisable to make some effort to discover a route along there? Yes. I am not in a position to give the Committee a very definite opinion about it, because I have not paid particular attention to the lay of the country with the view of expressing an opinion in regard to it now.

1224. Of course a deviation through that country would be just as acceptable to the people of Wilcannia, because it would practically make no difference in the total number of miles? Quite so.

1225. And if it had the effect of reducing the expenditure in crossing the river that would be an advantage? Certainly.

1226. I understand that there is a long stretch of mineral country from near Wilcannia towards the border? Yes; it is all mineral country from Cobar, and indeed the whole of it lying right out. It has not been thoroughly prospected yet, but within 20 miles of Wilcannia I think they are opening out a large copper lode.

1227. In what direction from Wilcannia? It lies to the south-west, I think.

1228. It is somewhere on the extension of the proposed line towards Broken Hill? Yes; I think it is, almost. They are just opening it up. I have not had an opportunity of personally examining it; but from reports I have to hand, I know there have been a great many leases taken up recently, and there are a number of men working, opening up that copper lode. I have had some of the samples sent to me, and have had them assayed. They have gone very high in copper—that is, if they were a fair sample.

1229. Do you think that there are any possibilities of development between Wilcannia, Tibooburra, and Mount Browne? Yes; there are fresh developments taking place there every day. In 1890, when the Public Works Committee took evidence, White Cliffs was unknown—unthought of. Now there is a population there of at least 3,500 souls, all getting a fair living at White Cliffs from the opal-mining. Some distance from, although not in a direct line between, White Cliffs and Wilcannia—more towards the Paroo—on a back station of Momba, known as Purnanga, there has been opal quite recently discovered, and a number of men have settled down there, and are getting some first-quality opal, although I do not suppose they are getting it in large quantities.

1230. Still it shows there are possibilities there? When I went through White Cliffs, in 1891, I found, only about a dozen men camped there, living on rabbits or whatever else they could get; and it was two or three years after that before there was any population settled there, although they were then getting opal. About 14 miles further on than White Cliffs, in a north-easterly direction, some development has taken

taken place quite recently in regard to opal-mining, and a number of men have gone out there, and they believe that that is going to be just as important a field as White Cliffs. The demand for this gem, instead of decreasing, is increasing every day. The prices paid are much better now, because there is more competition amongst the buyers. R. Sleath, Esq., M.P. 13 April, 1899.

1231. The superstition must be fading away? Yes; at one time there were a few men who had the whole of the trade in their hands. Now, I suppose, there are twenty or thirty buyers who go up from Sydney and Melbourne every month and compete for the opal that has been got during the month. Some distance further out, still going north—about 40 miles—there is gold-bearing country. Some years ago there was a great rush there; but it was just about the time when rushes were not very successful as a rule, and there have been only a few men left working there. They are still working there, and I believe that a number of the station-owners and others have put some money into the venture, and are now developing the reefs in that particular locality. It is known as Kandie Peak. One claim is known as the London, another as the Mystery, and there are a number of others. The gold is held in ironstone, and when that gold-bearing country was first discovered there was a belief prevalent amongst mining men that you could not get gold in ironstone, and as far as my recollection serves me, I think Peak Hill was the first mining field that gave the lie to that assertion. The reefs resemble very much the reefs at Peak Hill. They are simply ironstone lying very flat with a great dip.

1232. You have between Wilcannia and Mount Browne some artesian bores, have you not? Yes.

1233. Are they in working order? The Government has got none until you come to Cobham.

1234. How far is that out? 160 miles from Wilcannia, I suppose.

1235. Are there any near Wilcannia? On private property, but not Government bores.

1236. Are they successful? Yes; on Momba station.

1237. How far from Wilcannia? Fifty or 60 miles. There are a number of artesian bores on Yancannia station—private bores, but all having a flow.

1238. Do you think that the existence or possible increase of the number of those bores would have the effect of increasing the capacity of the country either for stock-carrying or for mining purposes? I am afraid not to any great extent, because the cretaceous formation lies only back from the river a certain distance, and then the slate comes in. Almost due west from Wilcannia the cretaceous country runs right on for close on 100 miles. But north from that, the slate comes in, 14 miles west from White Cliffs, and then, of course, it comes in with a dip, so that you would not be likely to get a flow. The fact of the matter is that the Government Geologist, Mr. Pittman, although he suggested as an experiment to put down a bore at White Cliffs, was afraid that that was almost on the fringe of the cretaceous country, and it was very doubtful whether a flow could be got at all. Mr. Pittman has been over that country.

FRIDAY, 14 APRIL, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Henry Deane, Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and further examined:—

1239. *Chairman.*] You were asked to supply the Committee with some further evidence in reference to the overflow of the Darling? Yes. H. Deane.

1240. Can you give us that evidence now? Yes. I have marked on the county map the position of some of the flood-waters. When I was here before I quite overlooked the fact of the Paroo coming in near Wilcannia. 14 April, 1899.

1241. Where does the Paroo enter the Darling? It comes down from the north and enters the Darling just above Wilcannia. The overflow of the Paroo is marked on the map.

1242. What distance above Wilcannia does the Paroo come in? A few miles above Wilcannia.

1243. Has that bend in the river a few miles above Wilcannia any local name? I do not know of its having any local name. It is 30 miles, I think, above Wilcannia, and the river takes a sharp turn to the south, and the flood-waters from the Darling spread out there. Consequently, the location of a railway there would be a very unsuitable one. I also understand that from the Poopelloe Lake, opposite to that bend, right across to the Darling, the country is subject to flood. Therefore, if any attempt were made to run a line across there to Wilcannia, you would have over 20 miles of flood area. The line is curved to the south in order to secure the best place for crossing the river. The flood-waters are narrower there than they are for a long distance either above or below Wilcannia.

1244. Then the flood-waters from the Paroo, and the fact of the country being subject to inundation between Poopelloe Lake and the Darling, drove you to that more southerly course? Yes.

1245. *Dr. Garran.*] Have you equally precise information about the country on the south side of Wilcannia? On the south side of Wilcannia, it will be seen that Talyawalka Creek begins to branch out again.

1246. You mean it spreads out over the country? Yes; and on the other side of the Darling too—that is on the Wilcannia side—there is more flood country. I am assured by one of the surveyors who was engaged on the survey, Mr. Wickham, that the crossing that has been selected is the narrowest crossing that could be found.

1247. *Mr. Watson.*] Do you know whether Mr. Wickham went up the river with a view of exploring that country, particularly above Wilcannia? I believe that the officers obtained all the information that was necessary, but I do not think that any attempt was made to get a crossing which would avoid Wilcannia.

1248. I did not mean to avoid Wilcannia, but to get a more northerly crossing? The extent of the inundation area proved the undesirability of any survey being made there. 1249.

- H. Deane. 1249. What I meant was, do you know whether Mr. Wickham personally went over the tracks to the north? I do not know that he did. I think he depended very largely on information that was given to him. The distances to be travelled over are very considerable.
- 14 April, 1899. 1250. We were told yesterday by Mr. Sleath that he would not be positive, but that he was under the impression that there was a better crossing-place to the north where the inundated country was narrow, and it occurred to the Committee that if there was any possibility of that being true, it would be well for an officer to make a cursory inspection of that locality? Yes.
1251. *Chairman.*] Is the course at present proposed identical with the original scheme? Yes.
1252. *Mr. Watson.*] You have very largely followed the coach road, have you not? To a considerable extent. But if you look at the map you will see that it is a long way off the coach road, in different places.
1253. Is that stock route the coach road? Yes. I understand that the reason why the road goes north there, and skirts that lake, is on account of getting water for horses and stock; but for a railway we keep south of that, so as to keep out of the way of floods.
1254. *Chairman.*] You avoid a lot of that boggy country, I suppose? Yes. Of course, the coaches and the stock want to go as near the tanks as they can; but with a railway, so long as we get water supplies at convenient places, the more we keep out of the way of water the better.
1255. *Mr. Watson.*] But usually a coach road, I imagine, would keep away from low-lying ground, or otherwise the coach travelling would be slow? Yes. Possibly in flood-times the coaches may not use that road, but it is very rarely that a bad flood comes along there. When it does they may have to choose some other road. I think the Committee may rest assured that it is not possible to get a better crossing north of Wilcannia. I believe that the information which the surveyors have obtained is perfectly reliable; it is also apparent that the Paroo waters, which, of course, occasionally, though very rarely, cause any difficulty, ought at all events to be avoided, and you cannot cross the Darling higher up and avoid that overflow on the right bank and the flood-waters of the Paroo. You must encounter them if you cross the Darling higher up. I think that on the latest plan of the Colony in the Survey Office you will find that the country from that bend down towards Wilcannia is shown to be intersected by numerous channels.
1256. Does that condition of things obtain right down to Wilcannia? Further down towards Wilcannia the Paroo floods are encountered.
1257. *Chairman.*] You said just now that the line proposed is less subject to flood than if it were taken further north? Yes.
1258. *Dr. Garran.*] Both sides? Yes.

Francis Edmund Wickham, Resident Engineer, Railway Construction Branch, Department of Public Works, sworn, and examined:—

- F. E. Wickham. 1259. *Dr. Garran.*] You have been in this Darling country with a view of examining the route for the crossing at Wilcannia? Yes.
- 14 April, 1899. 1260. When were you there? In 1887.
1261. Was that a dry year or a wet year? There was a very good season that year.
1262. Was the Paroo River running? No.
1263. Had it been running shortly before you got there? Yes. It runs very seldom though.
1264. Had it either reached the Darling or made marshy country north of Wilcannia? No. It leaves the channel quite dry. You would not know the river was there unless you saw the flood-waters.
1265. Does it spread out in the neighbourhood of Wilcannia when it does come down? Yes; very considerably.
1266. Of course, then it would be very troublesome for a railway? Very troublesome.
1267. Will you tell the Committee how far you personally went in your travels then, and how much of your information you got from the residents—how far over this country did you travel—either along the proposed line, or up and down the river? I staked a line from Cobar to Wilcannia along the black-mark line. I made a detailed exploration of all the country from Wilcannia up the river, until I came to the junction of the Talyawalka Creek.
1268. In a straight line, how far is that from Wilcannia? Something like 50 miles, as nearly as I can recollect. It was impossible to get to Wilcannia by that route on account of swamps and other obstacles.
1269. Did you go across from the proposed line in order to strike the Darling at the northern end of the Talyawalka Creek? Yes; I went across there.
1270. What sort of country did you cross over there? Sound country as far as the Darling.
1271. Was it floodable? To some extent, but not more than usual—all the banks of the Darling are floodable.
1272. Is Lake Poopelloe flooded by the Darling flood-waters? Yes; it is a great storage place for the Darling flood-waters.
1273. Is it what you would call a back-water lake? Yes.
1274. That is what makes it a lake? Yes; it has none of its own water. The whole of it comes from the Darling.
1275. It is not a rain catch-water lake? Not at all.
1276. Then the ground there is soft? Yes, when it is wet; but it is very hard indeed when it is dry.
1277. It bakes? Yes, bakes very hard.
1278. Then you would not recommend that route for crossing the Darling? Not at all.
1279. Between that north end of Talyawalka Creek and Wilcannia there is no other way of crossing? No.
1280. We are shut out so far as that 50 miles is concerned? Yes.
1281. You notice the bend the line makes to the north-west to get in to Wilcannia? Yes.
1282. Could you avoid that by going a little more south of the Darling? I think so; but I did not examine the country further south than Wilcannia, because Wilcannia was my objective point.
1283. If there should be an extension of the railway hereafter to Broken Hill, its course would lie to the south-west? Exactly.
1284. Would there be any reason for going north-west of Wilcannia if you would have to go south-west the moment you crossed the river? I think you could go south-west of Wilcannia some miles, without meeting with more obstacles than at present. I think you could get across before you come to the great anabranch.
1285. That leaves the river a little above Menindie? Yes.
- 1286.

1286. Between Wilcannia and Menindie are the sides of the Darling bad? No; I think they are very good. I think you could get across anywhere there.

F. E.  
Wickham.

1287. How far south of Wilcannia does that anabranch start—on the western side? I could not say accurately; but I think about 80 miles.

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1288. It would not do to cross there, because you would have both the Darling and the anabranch to cross? Yes; the same as the Talyawalka Creek and the Darling further up.

1289. Then the choice lies between Wilcannia and where that anabranch strikes out? Yes.

1290. That is a distance of about 80 miles? Yes.

1291. And you have not minutely examined that 80 miles? No, not as regards a railway; but I have been across the country.

1292. From what you saw while you were there did Wilcannia seem to be the natural centre of the district? Yes; I think so.

1293. Is it a good site for a township? A very good site for a township.

1294. Is it ever flooded? No; it is out of flood reach.

1295. There is no likelihood of such an accident as happened at Bourke happening at Wilcannia? I should not think so. I do not think flood-waters have ever been actually in the main street of Wilcannia.

1296. They have to go behind it? Yes.

1297. And so make it an island? They would make it almost an island.

1298. You would have high and dry ground for the railway station? Yes.

1299. Do you locate your station north of the township? Yes.

1300. On good sound land? On very sound land.

1301. Did you go at all into the question of the foundations for the bridge? No; I simply chose a site with a view of erecting a bridge.

1302. You have been over the whole of the line from Cobar to Wilcannia? Yes.

1303. At one place on the parish map there is a considerable bend marked at 530 miles; perhaps you can tell me the reason? There is a range of mountains called the Racking Range, which increases as you go more southerly, and that would necessitate rather heavy grades. I have not the slightest doubt that a straight line taken where I went first could be developed into a better line than I have got.

1304. You do not think there is any obstacle in the way of making a straighter line? I do not think so.

1305. Does the stock route go over that range? In several places it does.

1306. Were the grades 1 in 70 when you went to examine the route? The grades went up to 1 in 50.

1307. Did you reduce them all to 1 in 100? No; I took them out to 1 in 50 on the first route across there.

1308. What did you make the ruling grade there? 1 in 50.

1309. Has it not been altered since then? Yes; it has been cut down on the section. It is possible to cut it down on the section without making a further survey.

1310. Continuing the same line, you could easily bring it down to 1 in 100? Yes, easily.

1311. Without any material cutting? Yes.

1312. It is contemplated, I presume, to make it 1 in 100? I could not tell you that, but I think it is very likely.

1313. According to your evidence, the margin for choosing the site of the bridge is not very large? No; it is not at all large.

1314. It must either be at Wilcannia or within 80 miles of Wilcannia to the south? Yes.

1315. And as to that 80 miles, you have no direct evidence? I cannot say anything with certainty about that 80 miles.

1316. Did you go up and down the river very much? Yes.

1317. How far? Up the river to the mouth of the Talyawalka Creek, and I have been down [the river as far as Wentworth.

1318. With a view of fixing a railway crossing? No; only travelling.

1319. But this time you went there with a view to fixing the railway crossing? Yes; I was inspecting the country, so as to get through there.

1320. There would be no particular object in striking the Darling north of the Talyawalka Creek unless we were going to strike out towards Mount Browne? No; you would be out of the direct line to Broken Hill if you went up there.

1321. We should have to give up the idea of going to Broken Hill, and make the railway a line more to the north-west of the Colony? Yes.

1322. Of course you understand that going to Broken Hill is a mere contingency, and that the project before the Committee is for a line merely to Wilcannia? Yes.

1323. Do you know anything of the country between Hillston and Menindie? I have driven over it.

1324. Is it much of the same character as the country between Cobar and Wilcannia? Yes; a little flatter if anything.

1325. How far does the Willandra Billabong go back from the Lachlan? I cannot say. I did not go anywhere in the neighbourhood of that.

1326. In going from Hillston to Menindie, are there any ranges you have to cross? Nothing to speak of.

1327. It is pretty level country? Yes, all the way.

1328. Not level enough for a water-course to be made from one river to the other, I suppose? No; the country is bound to rise too much for that.

1329. But there is nothing that you could call a range? No.

1330. You could make a railway there with an easy gradient, from one place to the other, even if you could not cut a canal? Yes; you could make a railway there easily.

1331. And the quality of the soil is about the same? Yes; I think it is almost precisely the same.

1332. This side of the Darling, going from Menindie, is there not an anabranch called the Teryawynia Creek? Yes, there is an anabranch on this side breaking out almost where the Talyawalka comes in again, and running south; but although of good capacity, it is not of the same capacity as the Talyawalka.

1333. It does not flood the country to the same extent? No.

1334. There would not be the same difficulty in crossing it? No; the work would be rather lighter than in the case of the Talyawalka.

1335. Did you look into the question of water supply along the proposed line of route? Yes.

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1336. Do you think there would be any difficulty in getting water stations sufficient to hold out during four years of drought? You would have to conserve the water.
1337. Could you conserve it so as to make it last for four years? I think so.
1338. In open tanks? Yes; that is the only possible way. The ground is very good holding ground.
1339. You would have to get natural hollows? Yes.
1340. Is the ground sufficiently clayey underneath the surface to hold the water? Yes, if you select your spots.
1341. You would have to sink shafts here and there to see how the subsoil is? We should have to sink trial shafts to see what the subsoil is like, and if it was not good enough in one place, we should have to try somewhere else.
1342. After rain you see the hollows where the water settles naturally? Yes.
1343. And you can ascertain the retentiveness of the subsoil very easily? Yes.
1344. And if you chance to get rain just before you fix your sites you will have that to guide you? Yes.
1345. At what intervals would you have the tanks along the line? I think you could have them as often as would be necessary. There would be no difficulty in finding suitable sites at almost any point to hold water. The station tanks are very large, and we should be guided very much by their position. Some of them are 10,000-yard tanks, and they hold water very well.
1346. You do not know how those station tanks have held out this season? No; I have not been there for twelve years.
1347. And you have not heard? No.
1348. Of course such experience would be valuable to you? Yes.
1349. Do the station-owners make larger tanks than you would make? No; but I think we should make larger tanks than those.
1350. Do they make them deep? They make them 16 or 18 feet deep.
1351. That is about what you would do? Yes; it would not do to break too far into the bottom ground.
1352. You would have to pump and lift the water? Yes; we should have to lift it for the locomotives.
1353. You see no difficulty about conserving water? Not the slightest. We should have to wait for rain and then fill the tanks—that is all we should have to wait for.
1354. What should you want for that—2 inches? Two inches would give an enormous quantity of water.
1355. Would 2 inches fill most of your tanks 15 or 17 feet deep? I do not think it would.
1356. You would want 4 inches? Yes, 4 or 5 inches to fill a tank.
1357. When once you got that, the rain would make good all you took out of it? I think so.
1358. You do not at all anticipate getting into difficulties for want of water on that line? I do not think so at all.
1359. Have we had any trouble at all on the line from Nyngan to Bourke for water? Not that I am aware of.
1360. Do they depend on tanks there? I do not think they do. They may have one tank, but I cannot say for certain.
1361. The 6 miles just before entering into Wilcannia is rather swampy country, is it not? Between the Talyawalka Creek and Wilcannia it is rather swampy country.
1362. There must be 6 miles in which you would have to support the railway on piles? Oh, no; I do not think so.
1363. Would you make an embankment all across? No, not all across; but I should have a great portion of embankment.
1364. Would not that stop the flood-water? Not materially. It would force it under the necessary openings which we should leave.
1365. Where would the wooden viaduct be? At the Talyawalka—most of it—and about a mile before you reach the Darling, on the eastern side.
1366. Then between the Talyawalka and the Darling there is fairly high ground, from which you could make an embankment? Yes; sand-ridges.
1367. The cost of those last few miles is reckoned at £10,000 a mile on account of the difficulty of getting over the flooded country? Yes.
1368. Do you think it would cost that? I could not say.
1369. You think that an embankment would do over part of that distance? I think so.
1370. How much—half? I could not tell you without a section.
1371. Did you make any special investigation? No.
1372. You are satisfied it could be done? Yes.
1373. And you could not get a better access to Wilcannia? No.
1374. So far as you could see, there was no better way of getting into the township? None that I could find.
1375. And after you cross there, there is a fairly good get-away on the other side? Yes.
1376. There is no other river coming in there? No; there is no other river west of that.
1377. It is a riverless country right away to Mount Browne then? I have not been to Mount Browne. It is riverless until you get near Broken Hill.
1378. *Mr. Levien.*] What is the distance from Hay to Melbourne? It scales 224 miles in a straight line.
1379. *Mr. Dick.*] In making railway surveys, has it been the practice to keep as close as possible to a road? No, I do not think so. We take a good route in preference to closeness to a road.
1380. How far did you make explorations in carrying out your survey—did you explore the country on each side, or merely straight ahead? We usually get a general route, and go in advance of the survey party, and take the most suitable crossings of rivers and mountain ranges, and then take the line from point to point. A low cutting of the range and a good crossing of the river we unite, so long as they are on the main route. If we cannot get our line that way, we might go several miles another way to get it.
1381. How do you decide on the general route in the first instance? A straight line first.
1382. You work ahead of that, do you? We explore ahead of it.
1383. On both sides of the straight line? Yes; miles on both sides of it.
1384. I suppose you have noticed that in many of the deviations now being carried out in connection with the existing railways, although the old line kept close to the road, the new deviation, which is a much better route, goes widely from it in many instances? Yes.
1385. I was wondering whether you carried out the same practice in this instance? As a matter of fact, there was no coach road when I went over this route.



1386. You feel satisfied that this is about the best route you could get between Cobar and Wilcannia, if Wilcannia is to be your objective point? I am quite satisfied it is the best route.

1387. *Mr. Watson.*] You were asked about the length of the proposed viaduct going towards Wilcannia; included in the evidence given by Mr. Deane was a statement that the viaduct would be about  $3\frac{1}{2}$  miles long, but not in one piece;—that would coincide with your opinion? That is what I said, though I would not give an opinion as to the exact length.

1388. You mean the  $3\frac{1}{2}$  miles viaduct would not be in one section, but spread over the last 9 miles in approaching Wilcannia? Yes; bridge all the low portions, and bank the higher ones.

1389. You said that, as originally surveyed, the scheme provided for a ruling grade of 1 in 50? Yes.

1390. Can you explain how, with a resurvey, you get a reduction to 1 in 100;—is it a mere alteration of the section, or do you have to make deviations in order to avoid hills? We make slight deviations. Supposing I had half a mile of 1 in 50, I should cross-level the line for some chains in the right direction, and then it could be struck out on the plan, showing how it could be obtained.

1391. You keep a record of the different rises, and so on, which you obtain in the survey? Yes; and use that again when estimating afterwards.

1392. The alteration of grades has been allowed for in the estimate? I think it has.

1393. *Chairman.*] You are satisfied from the explorations made by yourself that the line submitted to this Committee is the best line that could be obtained? I do not think you could find a better.

1394. And that the crossing or site for the bridge is the best to approach Wilcannia by? Yes.

1395. Supposing there was a better crossing for a bridge some miles to the south of Wilcannia, would you recommend its adoption? So much depends on whether you want to go to Wilcannia or not. If you can afford to miss Wilcannia I should certainly go for the better crossing.

1396. What is the nature of the country on the western side of the Darling below Wilcannia;—is it much the same? Yes; you see no difference in driving over it. It is slightly rolling country.

1397. So you would save nothing, even if you did go to the south and crossed on to the other side? I think you would save nothing, unless you found an eminently suitable site for a bridge. That is all you could save in.

1398. *Mr. Watson.*] You have not been far below Wilcannia with a view of looking for a site? Not in railway exploring; but I have driven over that country many times in a buggy.

1399. Was there any spot that struck you as being "an eminently suitable site for a bridge"? No; there was not.

1400. With, of course, correspondingly high approaches that would make a sufficient saving in going south and then going back to Wilcannia? I saw nothing like that.

1401. *Chairman.*] I suppose you have explored south of Wilcannia to see if you could get a better site for a crossing? Yes; 3 or 4 miles below the town.

WEDNESDAY, 19 APRIL, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.

The Hon. ANDREW GARRAN, LL.D.

The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.

ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Edward Fisher Pittman, Government Geologist and Chief Mining Surveyor, Department of Mines, sworn, and examined:—

1402. *Chairman.*] Have you made a geological survey of the country to be traversed by this line? No, I have not. I know the character of the country, but there has not been anything like a detailed geological survey of it made. E. F. Pittman.  
19 April, 1899.

1403. Generally, you know the character of the country? Yes.

1404. Do you know what the possibilities are, from a mining standpoint, of the country about Cobar and west of Cobar? Yes; about Cobar there are very valuable deposits of copper ores containing gold and silver, but so far as we know there is no extension of these westward towards Wilcannia. But at the same time, seeing that those western plains are all covered by a superficial deposit of Pleistocene soils, there is a possibility of there being valuable mineral deposits there which would not show on the surface. However, we are not aware at present of any deposits west of Cobar.

1405. There are a few low hills are there not in the country between Cobar and Wilcannia? Yes.

1406. Are there any mineral indications there? Not so far as I am aware.

1407. What about the country west of Wilcannia? It is all mineral-bearing country west of Wilcannia. I have been over that country, but on the direct route I do not know of anything, although off that route there are deposits of silver and of copper also.

1408. I mean the country that is likely to be served by a railway? Undoubtedly a railway would offer facilities for mining which would induce people to open up the deposits of copper and silver in the ranges north of that line.

1409. That is, known deposits? Yes. At least I should be of that opinion.

1410. And, provided with proper railway facilities, do you think those deposits would maintain a large population? I can hardly go so far as to give an idea of what population they would maintain, because they are practically untried at present.

1411. You say there are deposits there? Yes.

1412. But, they not having been proved, you do not know what they are, but I suppose it is possible that another Broken Hill might be found about there? Quite possible.

1413. Is it the same class of country as the Broken Hill? Very much the same class of country. There is some copper about Nuntherungie, opened up about twenty-five years ago, and quite recently, on account

E. F. Pittman. account of a considerable increase in the price of copper, it has been taken up again, and the last report I saw on the deposit was from the warden, and he spoke very highly of it. At the same time, it is in such a position that without a railway I hardly think it would be possible to do much with that copper ore, because its value would be largely discounted by the cost of carriage. With a railway such a deposit ought to be opened up.

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1414. Then, in your opinion, there is a fair amount of mineral country there which would be developed if there were railway communication? Yes; I think that until we do get a railway out west there, it is almost hopeless to expect that anything definite will really be known of the mineral deposits of the western country, and there is really no reason why very valuable mineral deposits should not be opened up there.

1415. Then the possibility of a railway being extended out in that direction, you think, would stimulate prospecting? Undoubtedly, because with the knowledge of a railway coming there, there would be a hope of the deposits being worked at a profit. At the present time it is hardly worth anyone's while prospecting there, unless, perhaps, for gold, because the cost of carriage would be a fatal handicap.

1416. And the reason why that mineral country has not been prospected is, in your opinion, because, owing to the absence of cheap carriage, it is impossible to work those deposits at a profit? Yes.

1417. *Mr. Trickett.*] I suppose then we can take it that between Cobar and Wilcannia, the whole of the country may be regarded as metalliferous? I cannot go quite so far as that. As I said, the surface of the country is obscured by superficial deposits of soil over a very great extent of that route, and it is impossible to say what really is below; but the probabilities are that there is a considerable extension of these Palæozoic rocks—the rocks in which mineral deposits occur in this country—hidden by the soil.

1418. Have you any report in the Department on that line of country? I do not think there is any report on the country between Cobar and Wilcannia, with the exception of a report made in connection with the artesian water supply.

1419. Do you think it is likely that copper and silver would be developed in that direction? I think it is very likely indeed. They have copper at intervals between Girilambone and the Barrier Ranges—at intervals all the way.

1420. Therefore you, not from having visited the country, but from information in the office, think it is a country in which it is likely there would be a development of copper, silver and, I suppose, iron? Yes. I have visited the country myself, but I have never made a detailed geological survey of it.

1421. You have been on the western side of the river down to Wilcannia? Yes, over a considerable portion of it.

1422. Are there goldfields there? There is no gold-field anywhere in the neighbourhood of the proposed line or on a line between Wilcannia and Broken Hill. The nearest gold-field is a considerable distance north of it—at Milparinka.

1423. Well, taking the direction out north-west, what is the character of that country,—say from Wilcannia to White Cliffs? That is not a mineral-bearing country, so far as I am aware. It is a part of the artesian water basin.

1424. But when you get to White Cliffs you have mining? You have only an opal-field.

1425. Is not that opal-field very extensive? Yes; that is, the class of rock in which the opal occurs is spread over a very large area. The occurrence of opal is so capricious that it is impossible to say what extent of the rock will contain opal.

1426. But that is a recognised opal-field at the present time? Yes, an important one.

1427. Do you get reports on that place? Yes. I have also visited it myself.

1428. Is the occurrence of opal spasmodic? Its occurrence is very spasmodic.

1429. It may run right out? Yes, at any moment. You get it in small patches. A man may sink a shaft where nothing appears on the surface, and perhaps in 10 or 12 feet he may come on to a heap of opal as large as this table.

1430. Is it indicated by an outcrop? No; there is no indication on the surface, as a rule. In the first instance, opal was found there through a small piece being found on the surface, and a man sank on that. But that is very rare; as a rule, it does not come up to the surface at all.

1431. That is the only mineral at White Cliffs? Yes.

1432. Going in the direction of Mount Browne, what is the character of the country? It is all a cretaceous basin until you get to Mount Browne, and there you have a limited gold-field.

1433. Alluvial? Both alluvial and quartz.

1434. Is that attracting anything of a population at the present time? It did some years ago. The place is suffering from a drought now, and it is an exception when it does not. There is very great scarcity of water there. It is one of those fields that would be very extensively worked, I think, if it were in a favorable climate; but under the present climatic conditions, it is very difficult, indeed, for men to get a living by mining there.

1435. Would it be what you would call a good poor man's field? Oh, no; not under present climatic conditions.

1436. I mean under favourable circumstances of approach and better water;—do you think it would then attract a large population? I hardly think it would be possible for Mount Browne ever to develop into a poor man's diggings, because of its climatic conditions.

1437. Only organisation could make it habitable? Yes.

1438. Is there any water out there at all? There is enough water for domestic purposes, and you can always get water by sinking or boring in the neighbourhood.

1439. Have they had a bore out there? Not in the immediate vicinity of Mount Browne. They have had one within 10 or 12 miles. That country is being systematically prospected for artesian water by the Department of Mines.

1440. But suffering from those disadvantages as regards water, would not that bar its becoming a field where the mineral could be locally treated? I think so.

1441. The ore would mostly have to be taken away to be treated? Except that they might do it with artesian water. They could certainly sink artesian wells and get sufficient water for mining purposes.

1442. But gold is found there in payable quantities, is it not? Oh, yes; it has been found in rich deposits.

1443. Is there any coal at all in this locality? None whatever; at least, there is coal at a depth of between 2,000 feet and 3,000 feet beneath the surface. It might be of use for local purposes if it could be

be

- be obtained; but in the first place it would be impossible to mine it on account of the artesian water. *E. F. Pittman.*  
The miners would really have to work in water under pressure, which would be impossible.
1444. Do you think that Mount Browne is a mining district that would be improved by improved facilities of approach? I cannot say that I do. Mount Browne is essentially a gold-mining field, and gold-mining fields, as a rule, are not very much affected by railway communication. It is different with other ores, such as copper and silver ores. The trouble with the Mount Browne field, as I said before, is the climatic conditions that prevail. *19 April, 1899.*
1445. It has a very bad climate? Yes, a very hot and dry climate.
1446. Has there been any great mortality there amongst the mining population? I do not know that there has. I think there was a fair amount of typhoid when it first broke out; but I do not think that the climate is an unhealthy one in the ordinary sense of the word, although it is a very dry one.
1447. It has extreme heat? Yes, and dryness.
1448. Can you tell us how far, in all directions, the mineral belt round about Wilcannia would extend? The mineral belt commences to the west of Wilcannia, and runs north and south approximately—that is, so far as we know it.
1449. How far west? Right away out to Broken Hill.
1450. And goes pretty well up to the north-western border of the Colony? As far as I remember, it would take in the words "White Cliffs," and also the words "Mount Browne" on the map. It runs in that direction.
1451. Right away up to Paroo? No, it does not go so far east as the Paroo. It just takes in the words "White Cliffs" on the map.
1452. Has that country been thoroughly prospected? I should hardly like to say it has been thoroughly prospected.
1453. It has been prospected? Yes.
1454. Mostly for alluvial deposits? Yes.
1455. Generally, would you be disposed to say that it is a district that would develop in a mineral way if it had better means of communication? Yes, I think that a railway would probably result in the fields about this district being more thoroughly prospected, with a reasonable hope of success in some instances at any rate.
1456. *Chairman.*] You have maps in the office showing the geological features of the country about there? Yes, you can have a copy of them at any time.
1457. *Dr. Garran.*] Can you give us a sketch map showing the size of the lodes already known? No; but I can give you a map showing the trend of the rocks already known. That is shown on the geological map.
1458. *Mr. Trickett.*] You know the area to be served by the proposed railway, from Cobar westward; will you kindly have blocked off a map, to be attached to your evidence, showing the whole of that north-western corner with those lodes marked? Yes.
1459. West, and on both sides of the railway? Yes.
1460. *Mr. Watson.*] You said that gold and silver deposits occur north of the proposed line of railway? I may have mis-stated what I meant. What I mean is, north of an imaginary line from Wilcannia to Broken Hill.
1461. Not north of the line between Cobar and Wilcannia? No.
1462. Do those instances that you had in your mind, when speaking, occur close to Wilcannia in any case? No. I should think that the nearest of them would probably be 60 or 70 miles from Wilcannia.
1463. Still that would be within the influence of the Wilcannia railway? Yes.
1464. So there are some west towards Broken Hill which are within that distance of Wilcannia? Yes.
1465. Outcrops which would justify prospecting? Yes.
1466. I think you said you did not know of any mineral deposits between White Cliffs and Mount Browne? Yes, that is so.
1467. It would seem, then, that your Department has not kept up-to-date in regard to discoveries? Pardon me, I think I am wrong there.
1468. There is a place called Kandie Peak, about 50 miles north by west from White Cliffs, a rather notable peak, which juts out very abruptly; that is being worked at the present time, I understand;—have you heard of that? If I did say that I did not know of any mineral deposits between White Cliffs and Mount Browne, I was wrong, and I should like to correct that answer.
1469. There is the London claim, and the Mystery claim, which are not very far out on the White Cliffs side of Wilcannia, I understand? Yes.
1470. Then, again, the Kooningberry ranges, further on towards Mount Browne from Kandie Peak, are being tunnelled into very extensively with a view of gold-mining; I do not know whether you have had this reported to your Department? I have been all over that country, and if I stated just now that there were no mineral deposits between White Cliffs and Mount Browne, I did not intend to say so.
1471. You said it was a cretaceous basin, and I think that the inference which the Committee drew from that was that, it being a cretaceous basin, there was no mineral deposit? I distinctly remember stating that there was a belt of country running north from a line between Broken Hill and Wilcannia, taking in the words "White Cliffs" and "Mount Browne" on the map, and that is essentially a mineral belt, in which all these deposits, which I hope will be served by the railway, occur.
1472. So you might say that it is a continuous line of mineral country starting from a line drawn between Broken Hill and Wilcannia, and going north for a considerable distance towards Mount Browne? Yes; except that it is obscured in a great number of places by surface deposits.
1473. Still it is, broadly speaking, a fairly continuous line of mineral country? Yes.
1474. You know, I presume, that at a place called the Bunka, some distance from White Cliffs, there are opal deposits being worked fairly extensively at the present time? Yes. There was a place reported the other day as a new find—I do not know the exact locality—and subsequently the warden reported that it was a place where prospecting was carried on some years ago, and it has been reopened.
1475. I understand that there are about 100 men there at present getting opals? Yes.
1476. There is another matter, which I think of importance in this connection;—can you give the Committee an idea of the general run of the cretaceous formation in the district of Wilcannia? Yes.
1477. Where you think it is probable that artesian water would be got in the district generally around Wilcannia?

E. F. Pittman. Wilcannia? Yes. Wilcannia, so far as I am aware, is just about on the southern boundary of the artesian water-bearing basin.

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1478. Say, starting from Cobar, are there any indications of cretaceous formation between Cobar and Wilcannia anywhere near the route of the proposed line? I do not think there is any chance of getting it there.

1479. Take now north-west and north-east of Wilcannia;—do you think there are any reasonable chances of getting it there? We know it occurs north-east, along the northern bank of the Darling; but I do not think it crosses the river southwards.

1480. Now, going out on the Mount Browne road—that is, past White Cliffs, and right out north? At Tarella Station they have the older rocks—that is, the rocks in which artesian water does not occur—close to the surface, so that there is very little chance of getting artesian water south of White Cliffs. There is just a possibility of getting it in places.

1481. It is not probable that you will get it between Wilcannia and White Cliffs? Well, it is open to question. You might get it in places, but you would not get it continuously.

1482. Well, north of that again? North of that again, you ought to get it all the way.

1483. All the way between White Cliffs and the Queensland border? Yes; but not going north-west, for then you get on to the mineral-bearing country.

1484. How far would the cretaceous formation extend west of a line north of White Cliffs? It goes a long way into South Australia.

1485. I thought you said it was limited in a westerly and north-westerly direction? Yes; by the out-cropping of rocks that come to the surface. But on the other side of those you again get the cretaceous formation.

1486. Does this extend over a large area of country? Yes; a good width. It is shown exactly on the Geological map, as near as we know it.

1487. How far west of White Cliffs can you go and make sure practically of getting water—with a few experiments, of course? I should not like to make a statement to that effect without having the Geological map in front of me; and even that is not absolutely accurate. We are continually testing this country—that is to say, the Public Watering Places Branch is—by means of bores.

1488. Have there been any successful bores out in that direction so far, between White Cliffs and Mount Browne;—out in that country, are there any bores down from which water is flowing in anything like a volume? Oh, yes. As far as I remember, there are a number of bores put down by squatters.

1489. And a number of them are giving a good flow? Yes.

1490. Are there any put down by the Government which have proved successful—I understand they have put some down? Yes. On the road from the Paroo to Mount Browne there are several splendid bores—that is, between Wanaaring and Mount Browne; that is the Lower Paroo.

1491. That would be a good few miles north of White Cliffs? Yes, it would. I cannot remember all the bores and their positions.

1492. You say there are splendid bores—that is, there is a big flow? Yes.

1493. Can you give us any idea of the worth of an artesian well, so far as the country round is concerned, irrespective of the mere watering of stock;—do you think it would be of any value for irrigation? Yes; it has been proved to be valuable for irrigation wherever it has been tried by the Government.

1494. For a small extent of country? Yes. I should hardly be inclined to think, although I am not an authority on the subject, that it would be suitable for irrigating large areas of country for grass.

1495. Still, it would be a valuable addition to the resources of the district? No doubt.

1496. From the map which you are going to supply, shall we be able also to get the limits of the cretaceous formation, so far as they are known? Yes.

1497. *Mr. Shepherd.*] I think you might say that you have been a good deal about the country to the west of Wilcannia? Yes.

1498. Are you sufficiently informed of that part of the country to say distinctly that there are large mineral deposits there of any particular kind? To the north of the line, between Broken Hill and Wilcannia, there are.

1499. Chiefly copper? Copper and silver. There have been rushes over that country both for copper and silver. They have not paid so far. I think that some of them would stand a very good chance of paying if they had better communication.

1500. Are there any men at work there now? I believe those deposits I was speaking of are being worked now—at Nuntherungie, I think they are.

1501. Have they been developed to any extent? Not to any very great extent.

1502. So that you would hardly be justified in recommending any large expenditure on the supposition that this country was sufficiently rich in these minerals? No, I should hardly feel justified in doing that. I should simply say that I believe that that country, if assisted by a railway, would probably possess mineral deposits, some of which would be payable. I could not go so far as to say that it would be worth while building a railway to prove those deposits, so far as we know of them.

1503. I suppose you have been to the White Cliffs opal-mines? Yes.

1504. Are they very extensive? Opal-mining is something like alluvial mining, in some respects—that is to say, the mines themselves are not extensive. Perhaps two or three men work together, and they simply sink a straight shaft, perhaps 20 or 30 feet, and if they do not find opal there they sink another elsewhere—in fact, when I was there, they had a theory amongst themselves that you could not get opal below 12 feet, and therefore they would not bother looking.

1505. There is no organised company there now? No; it is all in the hands of miners. There may possibly be one company owning large blocks, but from the appearance of the mines you would think they are all in the hands of miners.

1506. They just hold these blocks, but are not working? Oh, yes, the miners are working. It is just like an alluvial rush; that is the idea the workings convey to anyone.

1507. At what do you estimate the population at White Cliffs? I really do not know how many people there are there now; it is about four or five years since I was there.

1508. Have they been regularly at work since then? Yes; I think they have been continuously at work. They had some trouble about water during the late dry seasons, but I do not think they have ever stopped working.

1509. Is there any other population to speak of, either to the north or to the west of Wilcannia? E.F. Pittman. Excepting the Mount Browne and the Tibooburra goldfields, there is no township.
1510. What railway station does Mount Browne now communicate with—Bourke, I suppose? Broken Hill, I think. It is considerably nearer to Broken Hill than to Bourke. There is a regular coach line from Mount Browne to Broken Hill. Broken Hill, 19 April, 1899.
1511. Mount Browne would be just about as near to Bourke as to Wilcannia, or there would be a very little difference, I should think? It is nearer to Wilcannia than it is to Bourke.
1512. I think you said you had not been very much in the country between Wilcannia and Cobar? No, I have not.
1513. You have been more on the other side? Yes.
1514. You are not aware, then, if there is mineral country between Cobar and Wilcannia? I know all the country between Cobar and Wilcannia, and I know that there is no known deposit of mineral—at least if there is, I am not aware of it, and I should be, I think, if there were any.
1515. Does the mineral country extend far to the west from Cobar? Not very far.
1516. So that really, as far as the mineral country is concerned, there is nothing sufficiently advanced or sufficiently known to justify the expenditure of money in that direction? I should think not, from Cobar to Wilcannia. It is not as though the Cobar people would take their material down the Darling. I do not think that is at all likely, because they have made arrangements to take it to Lithgow, and smelt and refine there. They get, I understand, very cheap railway rates between Cobar and Lithgow. They get their matte carried for 14s. 8d. a ton from Cobar to Lithgow.
1517. Did you notice any fairly good agricultural country to the west or north of Wilcannia? To the north there is country that would grow anything, provided that it had a sufficient rainfall; but you cannot call it agricultural country, with the present climatic conditions. I have seen experiments tried on the stations there for growing green food for horses and cattle, and about one crop in every three or four crops comes to maturity. Some of the big stations, where they had to spend large sums of money on fodder, have tried the experiment of growing oats, and they got on an average one crop in every three or four crops.
1518. *Mr. Levien.*] How often have you visited White Cliffs? Only once.
1519. Have you sent your officers there, though? Yes.
1520. What is the report as to the chances of success of those mines? The point is this: The occurrence of opal is so capricious, and it gives no sign whatever of its occurrence at the surface, and it is impossible to say what population could be kept by opal-mining in that district, or how much opal is likely to be got; in other words, it is impossible to say what are the dimensions of the opal deposits there.
1521. That will apply to all mining—for opal or anything else; it is impossible to do more than guess? No, that is not so, because in the case of lodes you have considerable surface evidences.
1522. You have been deceived many a time, have you not? You may be deceived; but here you have no evidence at all. In the case of a lode, you are able to see that there is a lode running from such a point to such a point, and by testing it at certain places between those two points you get certain results.
1523. We are told that there are 3,500 people at White Cliffs; most of those are miners—men who would have a good knowledge—and their opinion would be worth having? From my examination of the opal-fields at White Cliffs, I do not think that anybody's opinion as to how much opal there is there would be worth anything.
1524. Do you know of any instance, either from reading or otherwise, where an opinion is worth having as to opal-fields? No; I cannot say I do.
1525. Do you know of any instance where they have reported with certainty as regards opal fields—I mean as to their success or otherwise? I have met men who were prepared to report as to the success of any mining undertaking.
1526. That is to say there is no certainty about any of it; but considering that there are 3,500 people at White Cliffs, as we are told, including, no doubt, many miners with vast experience, working there for a living, do you not think that they have a fair idea as to whether they can make a living there or not? Certainly; if they have made a living there for some time, they could have a fair idea of the continuance of the living.
1527. Their opinion would be worth having, would it not? Yes, I think so. I misunderstood you. I understood you to mean, did I think anybody could say with certainty that there is so much opal there.
1528. I do not suppose any living being could do that; but with their long experience in opal-fields they would have a good idea, would they not;—I suppose men go there who have had a fair experience of opal-fields elsewhere, to see if they can make a living in that part? I do not think anybody went there who had had any experience of opals previously, except, perhaps, some who came from similar deposits in Queensland.
1529. Well, they would have experience? Yes.
1530. What is the price of opal? It sells for as much as £5 per carat.
1531. Has any opal from White Cliffs fetched £5 per carat? I think so. I do not mean that the people there get that price, but that is what the jewellers ultimately get for it.
1532. Do you think it is worth that? It is worth exactly what you can get people to pay for it.
1533. But in your opinion, what is the fair marketable value of it? There is no such value as regards opal. Gold has an absolute value, but opal has not. Its value is merely what people will pay for it.
1534. Of course, I know that gold has a recognised value; but has not opal? Opal has merely a fancy value.
1535. Have you seen opal from White Cliffs as good as opal from any other fields? I have seen opal from White Cliffs which I liked as well as any other opal; but another man might say it is not so good; it is a pure matter of fancy. A certain kind of opal becomes fashionable, and people will pay large sums of money for it, and outbid others for it; but it has no intrinsic value.
1536. Have you been to Mount Browne? Yes.
1537. What kind of field is that? Mount Browne is a goldfield.
1538. What is your opinion about it? As I have said, it is a field which, if it had better climatic conditions, would be very considerably worked.
1539. So it is merely the climatic conditions of Mount Browne which prevent it, in your opinion, from being worked? Prevent it from being more extensively worked.

- E.F. Pittman. 1540. But what is your real opinion of Mount Browne as a mining centre itself? I do not quite understand your question.
- 19 April, 1899. 1541. Supposing I were to give you £20,000 to go and develop Mount Browne, or some equally good place, to which would you go? The climatic conditions must influence me under those circumstances, for £20,000 is only a limited sum.
1542. What would you call climatic conditions? Absence of sufficient water supply, extremely hot weather, and scarcity of wood.
1543. Would you call water supply climatic conditions? I should call water supply one of the effects of climatic conditions, most undoubtedly.
1544. What is your opinion of Mount Browne, apart from all those considerations? I do not know what other opinion I can express beyond what I have said.
1545. Supposing there were a water supply there—supposing the climatic conditions were favourable, and there were a pleasant atmosphere and plenty of water there—what would you say of Mount Browne then as a mining-field itself? I think it is probable that there would be a very considerable amount of mining development there.
1546. But, in your opinion, is it a gold-bearing country? Yes, undoubtedly.
1547. Therefore you look upon the field itself, apart from the climatic conditions or water supply, as a gold-bearing country? Undoubtedly.
1548. Would you say it is a payable one? With those conditions altered, I think it would be highly payable.
1549. Leave those out? I cannot leave those out. If you ask me my opinion, I must be allowed to give it unconditionally. I cannot say what would happen if certain things were not there. I must be allowed to give my opinion on the matter as it appears to me.
1550. But the water or the climate would not bring the gold there? No; but they would bring facilities for working the gold.
1551. I am not considering the facilities for working; people have in many instances to bring water many miles to work mines? Yes.
1552. They have to bring machinery thousands of miles? Yes.
1553. They cannot bring the climate, no matter what they do? No.
1554. Then, in your opinion, is it a gold-bearing country that would pay? If you insist on my leaving out those conditions, I must say it is not a gold-bearing country that would pay.
1555. Why? Because they have not the facilities for working it. You cannot work gold without water.
1556. But supposing the water can be brought there? If you brought the water there, I say it is all right.
1557. But is the gold there? I have already said the gold, in my opinion, is there.
1558. And you think it would pay if the water could be brought there? No; I do not say that exactly. I say that if the water were there it would pay. It would not pay to bring the water there to work the gold; for there is not, so far as I am aware, any place to bring it from.
1559. Supposing it were opened as a mining-field, would it be a sufficiently extensive field for a large population? It is not a very extensive field.
1560. But have you gone over the field in such a way that you can give a direct opinion about that? Yes.
1561. How long were you there? I could not tell you without referring to my notes. I was about two months in the district on the one trip, and I visited wherever there was anything to be seen in the shape of mining. I could not do more than that. I am speaking only from the experience gained from that and from reports that are continually coming in from the district.
1562. Have you ever been further than Mount Browne? I have been right up to the Olive Downs Station—in fact, right up to Warri Warri, right on the Queensland border.
1563. What sort of country is that? It is all pastoral country north of Tibooburra.
1564. Is it rich or poor? Some of it is very good—Mitchell grass, and that class of country. It all depends on the season.
1565. Good sheep-growing country? Yes; all for sheep. It is a splendid country—when it has a fair rainfall—that is, in fair seasons.
1566. Taking generally the country from Wilcannia right up to the place you mentioned on the border of Queensland, what is your opinion of it;—I suppose you have a fair idea? There are so many ways of expressing one's opinion.
1567. Well, as to pastoral purposes; put that first? It is pastoral country, undoubtedly.
1568. Undoubtedly good? Yes, when it has a sufficient rainfall.
1569. With fair seasons? Yes.
1570. Now as to mineral? I know of nothing in the shape of mineral north of Tibooburra.
1571. What is the country about Tibooburra? It is a granite goldfield.
1572. What do you think of that as a goldfield? Well, it supports a number of miners in sluicing—working alluvial claims.
1573. Do they get a fair living there? I cannot give an idea of what they make.
1574. I suppose you were not there long enough? No, I was not. It is all shallow alluvial working.
1575. But in having a general conversation with those miners in going through there, what is their general expression of opinion about that? They are always asking for rain, and not getting it.
1576. I mean as to the chances of success in getting gold? It is not a very rich goldfield.
1577. But is it such a one that the men would make a fair wage at it? Spasmodically, I think.
1578. If you had a man out of work, would you keep him here, or would you send him there for the chance of making a fair living? If I wanted to be sure of his never coming back, I would send him there.
1579. I mean as to the chance of his making a living? He would have a better chance of making a living there than here, in good seasons.
1580. He would have a chance of making enough to keep himself and family? Yes, in fair seasons.
1581. They could get a fair living there? Yes, in fair seasons.
1582. Where do the people there now get their water from? They have it in tanks.
1583. Are there no creeks or rivers? They are conspicuous by their absence.
1584. It is a great barren space, according to that map? It is very little better. 1585.

1585. Are there no creeks in which they can conserve water? In the vicinity of Mount Browne they can. They have a dam in a creek close by Milparinka, I think. E.F. Pittman.
1586. Are there any big creeks running through there? Not a big creek, but there is a fair-sized creek, which contains water in holes during fair seasons. 19 April, 1899.
1587. Is the country at all hilly about Mount Browne? Yes, it is.
1588. So there would be a fair waterfall off these places? Yes.
1589. How is the ground for holding water? I should say it is fair to medium.
1590. That is to say, that in your opinion the ground would hold water? Yes. I do not think it is first-class holding ground; but I think it would hold water fairly well.
1591. How about Tibooburra? That is all granite.
1592. How is that for holding water? That would be good for holding water.
1593. Is it hilly country about there? Yes, fairly hilly.
1594. There would be a good place for holding water there? Yes.
1595. Do you know the distance from Tibooburra to Wilcannia? I cannot say right off. I have travelled it.
1596. Well, roughly speaking? Two hundred and odd miles.
1597. And the traffic of that Tibooburra, Mount Browne, and White Cliffs country all centres in Wilcannia? Not all of it. A large amount of the traffic goes to Broken Hill, where there is a railway.
1598. You, having travelled that way, and been there a month or two, do you think that the trade would centre in Wilcannia, and come from Wilcannia into this Colony? If a railway were built to Wilcannia, it stands to reason that a great deal of the traffic that at present goes to Broken Hill would go to Wilcannia.
1599. To Wilcannia, and then from Wilcannia into this Colony? Yes.
1600. Did you see many people travelling along there? Yes, a good many.
1601. And it is a fairly populous district, say, from Wilcannia to White Cliffs and Mount Browne, and up to Tibooburra—it is a fairly trafficable place? For that sort of country, it is.
1602. So they seem to make to Wilcannia? Yes; I found that most people there regarded Wilcannia as a centre.
1603. So, naturally, the trade would centre in Wilcannia, and then come on to this metropolitan area? Yes. If the colonies were federated, I think it would be different, though.
1604. *Dr. Garran.*] I understand you to say that all this western country is a large cretaceous plain, with peaks and ridges rising up occasionally? Yes.
1605. Do those peaks and ridges represent spurs of the main dividing range? Well, hardly that; it is more a dividing range of itself.
1606. A parallel range? Yes.
1607. Is Cobar part of such old country? Yes; it is the same rock. But Cobar is on a sort of submerged range, which runs at right angles from the main dividing range—a sort of T-piece.
1608. Cobar is on a spur from the main range? Yes.
1609. And it is in these spurs that there are likely places to look for minerals? Yes.
1610. What is the characteristic rock of Cobar? Silurian slate.
1611. Has it been penetrated by dykes? Yes.
1612. Of what character? Diorite, chiefly.
1613. And it is in those places you look mostly for mineral? Yes.
1614. Do these mineral belts run mostly north and south, or east and west? As a general rule, they run north and south; but Cobar, as I have said, is an exception to that, in being situated on a range that runs west from the dividing range.
1615. Is there any high land between Cobar and Nyngan? The old rocks come to the surface, but there is not any very high land.
1616. Has any mineral been detected in any part of the country between Nyngan and Cobar? I do not know that it has.
1617. Then it is only in particular parts the spurs are mineral-bearing? So far as I know. They may be mineral-bearing in numbers of other places where they have not been prospected.
1618. Now, seeing that there is mineral at Nymagee and Mount Hope, would that be in the same strike as Cobar, or quite independent of it? Quite independent of it.
1619. Would that be on another spur of the main range? That is a very difficult question to answer. It may be a very wide range, or it may be a spur; I cannot say. There is not sufficient evidence on the surface to show.
1620. You cannot at present say? No.
1621. Is there any evidence that the spur between Cobar and Wilcannia continues beyond Wilcannia? I have no evidence of it.
1622. That is the end of it, so far as you know? Yes, because the surface is all covered with soil.
1623. Does it show a dip to the west rapidly? No. The range gradually becomes lower, and then meets the surface soil, which obscures it to the west.
1624. But, of course, under this overlying cretaceous soil, there may be, of course, mineral deposits? Yes.
1625. Only they will have to be groped for? Yes.
1626. Do the railway surveyors, when they are out on their expeditions, report to you if they see anything in making their surveys? Occasionally some of them do, but very seldom.
1627. This line between Cobar and Wilcannia, we have been told, has been travelled over several times by surveyors? Yes.
1628. Have they ever reported to you any mineral indications? No.
1629. Have you been over that route yourself? Only a portion of it—not a very large portion of it.
1630. On the portion over which you have been, have you detected any of this old country cropping out? No. The older rocks outcrop in places for 80 miles westward of Cobar.
1631. Supposing the spur does continue from Cobar, it is overlaid with a cretaceous formation? No, with Pleistocene soil.
1632. With a non-mineral soil? Yes.
1633. Is there any hope of mineral being found between Cobar and Wilcannia? Yes, there is a chance of its being found.
1634. We have to cross the Darling to get to mineral country? There is mineral country across the Darling.

- E.F. Pittman. 1635. Would not a line merely between Cobar and Wilcannia open up a mineral country? It would open up country in which mineral deposits may occur.
- 19 April, 1899. 1636. It would only be useful for the country beyond? Yes.
1637. Is this mineral strike at Mount Browne a continuation of the Broken Hill, or rather a continuation of the White Cliffs? I cannot say whether it is a continuation of either, for between both places the country is quite obscured by those superficial deposits. In appearance the Mount Browne stone is not at all like the Broken Hill stone.
1638. What is the main rock at Broken Hill? It consists of gneisses and banded quartzites, whereas at Mount Browne it is a slate.
1639. Now, with regard to the great mines in Australia, have not many of them been developed altogether apart from railway facilities? That is so.
1640. Was not the Burra Burra a great mine before there was a railway to it? Yes.
1641. And Broken Hill? Yes.
1642. And Cobar? Yes.
1643. And Mount Browne? Yes.
1644. And Peak Downs? I believe so.
1645. Then, admitting that we have a mineral district beyond the railway line, would you, as a geologist, say that it is best to make your lines on speculation, or to wait until the great mines develop, and then bring your railways to the localities where the mineral deposit is? I do not think I have intentionally conveyed the idea that I would say that a railway should be made for the purpose of developing mines in this district.
1646. You would not make a prospecting railway? No.
1647. Admitting the mineral character of the north-west corner of this Colony, would it be wise, for instance, to make a railway from Wilcannia to Mount Browne on the chance, or to wait until something was definitely developed, and then make a railway to the mines? I certainly do not think it would be worth while to make it for the sake of the minerals alone.
1648. You think that the uncertain mineral character of the country at present would not justify the construction of a railway? I should think not.
1649. You see that in making a line to Cobar we were making it to a mine as well as to a mineralised country? Quite so.
1650. I am speaking especially of the policy of making railways to what you, as a geologist, call mineralised country? Quite so.
1651. There might be a great deal of mineralised country, but no mine in the paying sense of the term? Quite so.
1652. With regard to Mount Browne, is that an alluvial or a reefing field? Both alluvial and reefing.
1653. Then, when the alluvial is worked out, there is a good prospect for the reefs? Yes; the alluvial, I think, has been pretty well worked out.
1654. You are not able to say whether the opal field is a permanent field or not? I think it is a permanent field, as far as one can tell. I merely state that the occurrence of opal is so capricious that I think that anyone who tried to make a statement as to the amount of opal there would be simply saying what he was not justified in saying.
1655. Is it permanent enough to justify the construction of a railway to it? As far as its permanency is concerned; but I should hardly have thought that the trade of the place would have justified the construction of a railway.
1656. *Mr. Watson.*] I understood you to say a little while ago, when referring to the bearing of the construction of a railway upon mineral development, that it would have a good effect in helping to develop the mineral wealth? Undoubtedly that is my opinion.
1657. I did not understand you to imply that it would be worth while constructing a railway simply for the purpose of developing minerals, but that the effect of railway construction would be to help forward things from the mineral point of view? That is what I wanted to convey.

Richard Sleath, Esq., M.P., sworn, and further examined:—

- R. Sleath, Esq., M.P.  
19 April, 1899.] 1658. *Mr. Dick.*] Do you think, if a railway were constructed from Cobar to Wilcannia, that the people in the whole of that north-western corner of the Colony, or a majority of them, having certainty of transit, would send their goods along that line instead of down the river practically at all times? Yes, I think so. I think the great bulk of the traffic of the north-western corner will go to Wilcannia, and thence by rail.
1659. What is their outlet at present? The only possible outlet at present is to Broken Hill.
1660. It is a matter of necessity, then, for them to go to Broken Hill at present? Yes; because if the river is down, and they bring anything to Wilcannia, they cannot get it away from there.
1661. Is there any difference between the character of the country for traffic purposes between Mount Browne and Tarrawingie, and between Mount Browne and Wilcannia? Yes. Going from Mount Browne to Tarrawingie, you have to cross over what is known as the Euriowie Ranges. It is very difficult for teams to get over those ranges, because they are a succession of ranges extending about 12 miles, and it is impossible for teams heavily laden to travel over them at all. It is all plain, open country from Mount Browne to Wilcannia.
1662. So that, given facilities for getting away from Wilcannia, it seems that Wilcannia is the natural outlet of that district? Yes. Wilcannia has been always the great distributing centre for the whole of the western portion of that country.
1663. How far east would the distributing area of Wilcannia extend—does it go east to the Paroo? Yes, until you get farther north to Wanaaring. Wanaaring is, I think, served as a rule from Bourke, though sometimes from Wilcannia. All the lower Paroo is, of course, served from Wilcannia. Wanaaring is almost in a straight line between Bourke and Milparinka.
1664. You have a pretty good idea of the character of the mineral operations that are being carried on in that district. I have.
1665. Will you take the larger centres, and give the Committee a general idea of the scope of the work being carried on there (say) all north and west of Wilcannia? The work that is actually going on at the present time is about 20 miles west of Wilcannia, where there is a large copper lode being opened up.

As



As to whether it is going to be of a permanent or payable character, I am not in a position to form an opinion, because I have not seen it since it has been opened up. A number of men are employed on it.

1666. *Mr. Watson.*] That is on the road to Broken Hill? Yes. Then about 10 miles further west there is a claim which I believe is being worked. If it is not, they have got suspension of labour conditions, for it is held by a number of Wilcannia people, and was at work the last time I was up there. That is at Caulker's Well. It is gold.

1667. *Chairman.*] Is there any tin there? I do not know of any tin. I am talking of the claims now actually being worked. There has been very little development on the Caulker's Well field, although it is some years since it was first started. They sent away one or two shipments of stone, which went, I think, something like  $1\frac{1}{2}$  oz. of gold to the ton, but apparently the men and the manager knew little or nothing about mining, and considerably mixed it up. Those are the only two claims I know of close to Wilcannia on the western side which are at present being worked. Then, of course, there is the White Cliffs opal-field. I heard Mr. Pittman give his evidence, but you should understand that it is three or four years since he was there, and a very different style of working has been adopted of late years compared with that in operation when he was there. A London company bought, I think, some six or eight 40-acre blocks, they buying out Turner, Richardson & Co., and others who held a number of 40-acre blocks. They have been working those blocks partly by wages, and partly on what is known as the tribute system—that is, the miner gets a certain percentage of what he finds.

1668. *Mr. Watson.*] What does the percentage generally amount to? They have increased the percentage lately. The company give 75 per cent., and take 25. They have a manager of course, and deputy managers, because they are working over a large extent of country. They are able to sell better. They keep a classer—a man who judges the quality of the opal, puts each class by itself, and values it, and then they are able to deal much better in that way with buyers, and get a better price than would be the case if each miner were selling the opal independently. The result is, that in many cases the 75 per cent. is almost as good to the miners as if they were working the mine entirely "on their own." Now, I think they have shafts down over 100 feet. You may get opal anywhere—you may get it 1 foot from the surface, or 2 feet, or any distance down; and you will come on it, especially near the surface, in patches—that is, until you really get on to it you will have no indication that it is there. You may get a patch a foot down, and may turn over the whole of that country and not get any more for many feet or yards at that depth. But when they have got down into settled country, it is proved that there the opal runs in a sort of layer or stratum—flat, on the same principle as a coal seam,—and they are able to follow it by means of tunnels; and although they may be on the seam of opal, that opal may be valueless, because there is any quantity of it that has no colour—what they call locally "potch" opal. Then, of course, there are all different qualities from that up to the very highest value.

1669. *Mr. Trickett.*] What stone is it found in? It is like a soft, limy, sedimentary deposit. That denotes opal-bearing country. You get it in all forms. It is a most peculiar thing. Sometimes, perhaps, you will get a round water-worn boulder, and if you break that boulder, you will find inside it a very valuable piece of opal. You get it in all sorts of ways; but, generally speaking, in the soft country, it is lying flat. Sometimes it is got in harder country, and then generally it is in larger pieces, and of very good quality, too. The extent of that opal-field runs from White Cliffs right away up to the back station of Momba, Purnanga,—which is close to the Paroo. It extends about 40 miles from White Cliffs. Then, in a north-westerly direction, it goes about 17 miles, I think, from White Cliffs to a place known as The Bunker. They have been finding opal there for a considerable time, and there have been a number of men there for the last three or four years, and I have had information since I gave evidence last before this Committee, that there are over 100 men employed there now, and that they have got some excellent opal. It is all opal-bearing country all round that area. Of course, as to the quantity of opal which that country may hold, no one can form any idea.

1670. *Chairman.*] The same country extends right to Cooper's Creek, does it not? Practically, the same country, and in a portion of that country, which has been thoroughly prospected, they have got a better quality of opal at a depth than they have got on the surface, and the small portion that has been developed has proved exceedingly rich in opal.

1671. *Mr. Dick.*] How deep do you go, as a rule, for opal? I think that in Hungary they have worked it to a depth of 5,000 feet.

1672. And how deep at White Cliffs? The last time I was there I think they had tested it only to a depth of 100 feet. To start with, they used to take it in what they called paddocks. They dug a little shaft, and if they did not get anything after going down 10 or 12 feet, they dug another shaft alongside, and kept on going along like that on the surface. But they found that that was the worst possible method they could adopt, and so they have adopted a system of regular mining. I may say that just at the back of the township of White Cliffs there is a high hill—in fact a mountain—of this sort of limy deposit, and they are really turning the whole mountain over.

1673. *Mr. Watson.*] After opal? Yes; it is all opal-bearing, and they are digging into the face of the mountain as you would in making a railway cutting, and are filling it into waggons and tipping it over an embankment. Then, to the north-west of White Cliffs—more west than north I should think—there is the Nuntherungie copper and silver field. Some twenty years and odd ago, it was worked rather extensively. Mr. Quinn, who was a Member of Parliament here, I think, was very successful in his dealings with that. He was one of the first to open it up, and I believe he made a lot of money out of it. Then, the cost of carriage stood in the way, and they could work out only the rich veins of copper. They could not deal with an ordinary copper-lode, such as there is at Cobar or Girilambone, and other copper-fields. They simply dug it out from rich patches, and carted it down to Wilcannia, and sent it away. A company was formed, but for some reason or other they gave it up.

1674. Would it not require to be rich ore to be carted down from the mine to Wilcannia, and sent thence by steamer to another place for treatment? It would require to be particularly rich. About six years ago, I think, there was a rush there for silver. Those of you who remember it will recollect that all the metropolitan papers declared that it was a second Broken Hill—in fact that it was going to be greater than Broken Hill,—and at one time I suppose there were 2,000 men on that field; but the cost of carriage then killed them. They were working then, not so much for copper as for silver. Most of the claims then were held and worked for silver, and a great number of parcels were sent away—that is, a great many parcels of 5, 10, or 20 tons were sent away to Adelaide, Sydney, and elsewhere for treatment—and they returned a very high percentage of silver, and in some cases a fair percentage of lead.

1675.

R. Sleath,  
Esq., M.P.

19 April, 1899.

R. Sleath, Esq., M.P.  
19 April, 1899.

1675. *Mr. Shepherd.*] Is that the Corona country? No. Corona is on the western boundary, about 16 miles from Tarrawingie. Nuntherungie lies almost in a direct line between White Cliffs and Mount Browne—I suppose, about 40 miles from White Cliffs. A great many of those parcels averaged 60 or 70 oz. of silver. It was not a silver ore that went very rich in lead. Most of those who had those claims were poor men. It is a very difficult country for mining experts or capitalists to reach when you have no railway, because you have to travel from Cobar to Wilcannia by coach, and also from Wilcannia up to there; and owing to the heavy carriage the field had practically to be deserted. A few months ago a number of men there again took up those claims, and started to work. I think that, the week before last, there were applications lodged in the local warden's office at Wilcannia for six 40-acre blocks to be worked for copper, and there are a number of men actually working there now, and have been. Going further north, but more east—much in the same direction—there is Kandie Peak. I think I have already given evidence in reference to that. There have always been a few men prospecting there, but not very many.

1676. *Mr. Watson.*] You said it was something similar to Peak Hill? Yes; the reef or lode is exactly the same as that at Peak Hill. The gold is held in an ironstone formation. It is all good country round there. I have myself many a time dollied a piece of the stone, and got a very fair prospect indeed; and even if you take the surface soil and wash it off, you can always get a prospect all round that country. As to the Kooningberry Range—a range that rises very abruptly nearer to White Cliffs than Mount Browne—a great deal of fuss was made about the place some years ago, and several people visited it and reported favourably, and floated a company; and, if I recollect rightly, after a little work had been done the local manager was missing.

1677. Also some money? Yes, I think so. However, they had not done any considerable amount of work. They had simply been tunnelling into this high mountain that rises very abruptly. When I was up there recently I found that some of the station-holders round there had gone in halves with a number of working miners, and were forcing this tunnel through with the expectation of cutting a very rich gold reef. Whether those expectations will be realised or not, I cannot, of course, say, but we can see a reef, that may be gold-bearing, outcropping right through the range.

1678. *Dr. Garran.*] Is it gold-bearing where you see it? Certainly it is not payable where it is outcropping; but we know by experience that you may get almost a barren reef in the outcrop, and a very short distance down it may be very rich.

1679. And sometimes the other way? Quite so; but the fact that the reef is there, and that it is gold-bearing, although not in payable quantities, is a very good indication that it is worth trying.

1680. *Mr. Watson.*] It is the usual thing that if they see indications they have a prospect? Yes. Of course when we get the gold on the surface it is much handier.

1681. *Mr. Shepherd.*] Sometimes you get a good show on the surface and none down below? Quite so. I myself do not care very much about these very sensational things on the surface. Then, going north, of course, we come on to the Mount Browne field. Mr. Slee, the Chief Inspector of Mines, was the first warden when that field was opened. He was there at the first rush, and remained there for a considerable time, and I think he ought to have as good an idea about it as any man in the Colony.

1682. *Mr. Dick.*] Can you give us any opinion about Cobham Lake? It is a very large lake. It was never known to be dry until, I think, 1892 or 1893. It has been pretty low, and the water has not been very good. The water gets a little salty when it is very low. The reason for its getting dry on that occasion was that the main creek which runs into it—Evelyn Creek—gathers the whole of the water from the north-western corner, practically, and after rain it comes down with terrific force. They had been cutting some big gums that grew on the banks of the creek, and had left portions of them lying about, and a small quantity of water coming down caused the place to silt up, and then a heavy fall of rain coming, the loose soil on the banks of the creek gave way, and the water spread itself over a big plain lying to the east and did not go into the lake.

1683. *Mr. Levien.*] How far is that lake from the town? About 30 miles from Mount Browne in a direct line.

1684. *Mr. Watson.*] That was an accidental diversion of the whole source of supply? Yes.

1685. *Mr. Levien.*] What is the area of that lake? I cannot tell you, but it is very large; it is a sort of double lake.

1686. Is it deep? The last time I was there, about twelve months ago, there was 15 feet of water in it, and that was after February, when we had had 2 or 3 inches. They reckon the evaporation there at 5 feet a year. From Mount Browne to Tibooburra, or a distance of 35 miles, is one mineral belt. It is alluvial as well as reefs. One peculiarity about it is that a good many men are making a very good living indeed, simply by washing the surface soil. They have wash-dirt right on the surface, and when they can get a supply of water they do very well in puddling it. The deepest lead proved at Mount Browne is, I think, at a depth of 240 feet. It was worked by a Melbourne company for a few years, and when they had any surplus cash in hand they paid dividends, and when they did not have sufficient to pay wages the men had to go without. They got very sick of that, and the company got in debt, the miners sued the company for wages owing, and the whole of the plant was sold, and the shaft of that deep lead is used now for a public watering place. That is at Mount Browne proper. Then there is what they call the "One Mile,"—that is a mile nearer to Milparinka. They are working there at a depth of from about 100 feet to 120 feet, and at the "Four Mile"—that is 4 miles further towards Milparinka—I think at a depth of from 60 feet to 80 feet; but as they go out to the south-west, which is the trend of the lead, the sinking gets deeper. Then, about 5 miles from Milparinka towards Tibooburra is where the reefing field begins—what they have called Little Bendigo. They treated a quantity of the stone at a local battery, and I think the first 150 tons that were treated from one claim gave a return of something over 6 oz. to the ton. They sent me down some of the tailings, and when I was there some time ago I carefully selected samples from the different tailing heaps, and the tailings averaged from 1 oz. to 3½ oz. The battery is an old 10-head battery that was really done for when it was placed there some fifteen or sixteen years ago. W. R. Wilson was the man who placed it there, and it was so useless that, I think, he sold it for £40 or £50 as it stood. From there right on to Tibooburra there is Waratta East and West, Evan's Gully, and what are called the Waratta main reefs, and right away from Little Bendigo into Tibooburra, a distance of about 20 miles or more, there are reefs exposed, which have been opened up to some extent. But the great difficulty that miners there have had to contend with has been the difficulty about getting machinery for

for treating the ore. However, some of it has proved exceedingly rich. Some of the leaders have in places been almost solid gold.

1687. *Mr. Watson.*] Narrow leaders? Very narrow, perhaps only half an inch thick. But I have seen pieces weighing half a pound or 1 lb. almost all pure gold—with scarcely any quartz at all. The reefs have never been properly prospected there. It is only about two years since they first discovered those reefs, and owing to the dry seasons and other things the reefs have never been properly prospected. Now a company from Bourke is working there, and I believe they are going about things in a more business-like manner than was done before. The alluvial around Tibooburra is much the same as the alluvial around Mount Browne.

R. Sleath,  
Esq., M.P.

19 April, 1899.

1688. *Mr. Dick.*] Taking a general view of that district, would you describe it as rising, stationary, or falling in the matter of prosperity? The population has gradually increased. Sometimes it becomes a shifting population on account of drought. Two or three months ago it was supposed that the whole of the population would have to leave White Cliffs on account of want of water. Sometimes people have to leave Mount Browne for that reason. I have seen 300 or 400 men on Mount Browne—not that they had any richer patches to work than they have now, but because they had had a good rainfall for a year or two, and there was plenty of water available. Now, I do not suppose that there are more than fifty or sixty miners on Mount Browne—that is, Mount Browne proper. I do not refer to the country east or north-east of Milparinka.

1689. Do you think many of these fields are likely to prove permanent? Well, Mount Browne broke out fifteen, sixteen, or seventeen years ago, and it has been a permanent field ever since, and there has been a great deal of development since then—that is, the reefs were not discovered just then. The leads round about Tibooburra were not discovered then; so I think there is every prospect of its being a permanent field. Of course, they labour under many disadvantages, but it is a field that will always carry a fair population for a great many years.

1690. What will be the general effect of a railway to Wilcannia upon the mineral operations in that district? It is not very long ago when the people at White Cliffs, and right up the line, had no flour for a week—they could not get it. A team was going through from Broken Hill, or somewhere else, the horses died, and the people had to eat what they could get. They had no vegetables or flour, and they had to subsist as best they could on meat, Nestle's food, and anything else they had. People, once they have had such an experience as that, do not care for it again. But if a railway to Wilcannia were constructed, they would be able to get flour and that sort of thing at very short notice.

1691. That would induce a considerable increase in the population? Yes.

1692. And a corresponding increase in material wealth? Undoubtedly.

1693. *Mr. Levien.*] How many people do you think there are, roughly speaking, at Mount Browne? I think there are only about fifty or sixty miners there now. Of course, there are their wives and families.

1694. *Mr. Dick.*] Then, in a bad season, you could have got food from Wilcannia to the northern places when you could not get it from other towns, such as Broken Hill? Yes. The road from Broken Hill is a bad one, from a teamster's point of view, in many ways. First of all, you have the Euriewie Range to contend with, and that is a serious matter for a teamster with anything like a decent load, and then that road from Broken Hill is hardly watered. The bores put down there have not been a success. But from the first stage from Wilcannia out towards Mount Browne it is a fair road.

1695. With a railway to Wilcannia, food could always be sent to them? Yes.

1696. *Mr. Levien.*] What are the stations right out to Mount Browne? The largest station is really where White Cliffs is—Momba. It consists of about 3,000,000 and some hundreds of thousands of acres.

1697. How many sheep? That country does carry about one sheep to 8 acres. Of course, in a good season it would carry many sheep to one acre; but they have to stock the country rather lightly, so that if there are two or three bad seasons there will be some grass left, and the stock will not all perish.

1698. All the people at Mount Browne must be making a living there? Yes; they send a lot of gold down to Sydney.

1699. They must be making a fair living, or otherwise they would not stop there? Yes; when they have plenty of water they make a good living, and when they have not they do not do very much.

1700. *Mr. Dick.*] In reply to a question, Mr. Harper makes this statement, referring to White Cliffs:

That is an opal field, about 60 miles from Wilcannia—a place of doubtful permanence, carrying a population of about 1,000.

Do you agree with that? Mr. Harper makes many ridiculous statements, and that is one amongst the many. The Rev. Father Curran, admittedly a geologist of some standing, and Mr. Pittmann, and also the South Australian Government Geologist, and many visiting geologists from America, Germany, and other countries, have visited that field, and have declared that it is one of the largest and best opal-bearing deposits they have ever seen. As a matter of fact, it stands to-day the largest opal-mining centre in the world.

1701. *Chairman.*] Have you heard of tin being found in that district? Not outside of Euriewie. There are some of the largest tin deposits in the country there, but that is some distance from Wilcannia.

1702. *Dr. Garran.*] Does that range run east and west, or north and south? It is not a continuous range; it is volcanic.

1703. Due north of Tarrawingie? No; I think it is a little to the north of east.

1704. The teamsters have to cross it? Yes.

1705. Can they not go round it? No; it is all broken country right down on to the Purnamoota Creek.

THURSDAY,

THURSDAY, 20 APRIL, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.The Hon. WILLIAM JOSEPH TRICKETT.  
WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Richard Sleath, Esq., M.P., sworn, and further examined:—

R. Sleath,  
Esq., M.P.  
20 April, 1899.

1706. *Dr. Garran.*] Your electorate of Wilcannia is a very wide-spreading one? Yes, it is.
1707. How near does it go to Broken Hill? I suppose 30 miles.
1708. And its western boundary is nearer to Broken Hill than to Wilcannia? Yes, it is.
1709. How far up the river towards Bourke does it go? Just the other side of Tilpa; about 100 miles.
1710. The people in a small portion of the south-western part of your electorate would naturally trade with Broken Hill? Yes.
1711. And those living in a small portion of the north-eastern part would trade with Bourke? I think they would rather trade with Cobar. The people in that portion would not trade with Wilcannia. It is nearer, right across from the river, to Cobar than it is to Wilcannia. It is 79 miles from Cobar to Louth, and it is about the same distance from Bourke to Louth.
1712. Does any of the trade of your district cross the river at Louth and go to Cobar? No; I do not think so.
1713. If it gets to the river it goes down the river? Yes.
1714. With the exception of those outlying portions, then, the bulk of the trade of the electorate concentrates in Wilcannia? Yes.
1715. That is the natural commercial centre of the district? Yes; it has always been.
1716. Is Wilcannia nearer to Broken Hill than it is to Cobar? Yes.
1717. How many miles? Wilcannia is about 40 miles nearer to Broken Hill than it is to Cobar. I think it is 120 miles from Wilcannia to Broken Hill, and 160 miles from Wilcannia to Cobar.
1718. I presume you are pretty well acquainted with the views and opinions of your electors? Yes.
1719. Supposing the Government were to offer them their choice of a connection with Broken Hill, or with Cobar, by railway, which do you think they would prefer, seeing that they are 40 miles nearer to Broken Hill? They would prefer a connection with Cobar.
1720. They are nearer to the sea-coast at Port Pirie than they are to the sea-coast at Sydney? Yes; but then there are so many obstacles in the way. There is, for instance, a private company's tramway which somewhat interferes.
1721. That would raise the cost of carriage a little over that length of line? Considerably. They charge nearly as much over the 40 miles of private tramway as is charged for the whole distance of 200 miles on the South Australian Government Railways.
1722. You are pretty clear that they would prefer connection with Cobar to connection with Broken Hill? Yes; the general opinion out there is that, as they are part of New South Wales, they would like to be connected with the capital of New South Wales.
1723. That is more than a sentimental idea, you think? It is. They seem very strongly in favour of that.
1724. To put the question in another way: Supposing that a railway from Cobar through Wilcannia to Broken Hill had been made, and it was nearer to Port Pirie from Wilcannia than it is to Sydney, do you think that such trade as went by railway would go mostly to Port Pirie or mostly to Sydney? Of course, that is a very difficult question to answer, but one reason why a good deal of the trade would go to Sydney is this: Sydney is a very large distributing centre—a large commercial centre. Port Pirie is not. To get or to send goods via Port Pirie you would require, practically, to get them from Sydney to Port Pirie, or to send them from Port Pirie to Sydney. I admit that the sea-carriage would not be very heavy, but it would mean a great delay in time; and, as regards ordinary goods, I think the feeling amongst the business people and the general community up there is as to being able to deal quickly. They seem to attach great importance to that.
1725. Do you know enough of the details of the trade to say whether Wilcannia storekeepers can buy more cheaply in Sydney than in Adelaide? From personal experience I cannot say, but they all profess that they can buy much better and more cheaply in Sydney.
1726. Does that arise from the fact that Sydney is the larger market, or that we have so much freetrade in Sydney? It may be a little from both. Sydney, of course, is the great terminus for many of the big sea-going vessels, and I suppose that it is as large a distributing centre as any other town in Australasia, if not larger; and probably on account of the fiscal policy of this Colony, also, the people there are able to buy more cheaply in Sydney. The firm opinion amongst the merchants up there is that they can buy more cheaply in Sydney.
1727. Then, if there were a railway right through to Broken Hill, which would really make a continuous railway from Sydney to Port Adelaide, you think that the Wilcannia buyers would take the longer way of journey for their goods and get them from Sydney rather than from Port Adelaide? That seems to be the impression amongst them—that is, in accordance with their own statements.
1728. That is the impression you gathered? Yes. They prefer to deal with Sydney if they can possibly manage to do it at all.
1729. Supposing that the river were regularly locked right away from Wentworth to Bourke, so that steamers could go up and down with full cargoes during the whole year, then the water-carriage either down the river or up it would be cheaper to Wilcannia than any land-carriage by either railway? No doubt it would be.
1730. Do you think if it were put to the people: "We will spend about £500,000 in making a railway to Wilcannia, or we will spend the same amount of money in locking the Darling," which would they prefer? They would prefer the railway.
- 1731.

1731. You think they would? Yes. The reason for that is that even if they had continuous water-carriage by the river being locked, it would take a long time for them to get goods shipped from Sydney, because they would have to bring them to Adelaide and take them by rail from Adelaide to Morgan, and then by the river. And even if the river were locked it would take a considerable time to get them from Morgan to Wilcannia. R. Sleafth,  
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1732. But the rates for insurance would be much lighter, would they not, if the river were fully locked? They would be much lighter than they are now, I presume; but still there would be no insurance on the railway travelling, whereas, on the river, they would still have insurance and loss of time, and also an outlay of capital on which they would be receiving no return while the goods were in transit; and I suppose in all classes of business you sometimes find it necessary to get goods quickly.
1733. Still, the people of Wilcannia, and along the Darling generally, do, I suppose, look forward to the locking of the Darling? They think that that is a thing which will ultimately take place, but I think the general opinion just now is, and they are afraid, that the expense would be considered too great.
1734. They hope that it will come under Federation? Yes; they hope it will be done some day.
1735. It is an idea that is in their minds? Yes.
1736. They will always press for it? Yes. A good many years ago a syndicate was formed for the purpose of carrying it out as a private work. I think they had some difficulty in getting legislative sanction, and they allowed the idea to drop. That was in the days when money was more plentiful out west than it is to-day.
1737. Did they ever have the idea that the thing would pay on its own footing? They thought it would pay. A private company was prepared to carry it out, if they could get legislative sanction.
1738. Supposing we had had this line from Cobar to Wilcannia during the last four years' drought, I suppose there is no manner of doubt that we should have got the bulk of the business at Wilcannia? Yes; you would have had the trade of all that country lying west and north of Cobar.
1739. Nothing would have come overland in drays from Broken Hill to Wilcannia as against the railway from Sydney? No; the freight from Broken Hill to Wilcannia, a distance of 120 miles, at the lowest charge, is 1s. a ton per mile, and during the drought, when it was very difficult to get either feed or water for their stock, the teamsters had to raise the charge for carriage to double and treble that.
1740. Then the cost of land-carriage would be practically prohibitory? Practically it has been.
1741. It could not compete against the railway? No; not at £15 or £20 per ton from Broken Hill.
1742. Not even if the Commissioners, feeling they had a monopoly, put on the usual full charge? That would be a mere moiety of what the team charge would be from Broken Hill to Wilcannia.
1743. Supposing we have the river open half the year, and closed half the year, then, by parity of reasoning, we may assume that during the half-year when the river is closed, whatever traffic goes to Wilcannia must go by the railway? If the river is closed, the whole of the traffic must go by rail, of course.
1744. When the river is open, will the traffic go by water or by land? There is no doubt that some of the traffic would go by water—at least, that is my opinion.
1745. You say "some";—do you think half would? It is very doubtful. If the river were very high—an excellent river—and if plenty of steamers were available, they would probably get half of the trade.
1746. But the river being in its present state, the Railway Commissioners would always have an advantage over their competitors, because, in the case of the last-named, the insurance would be heavy? Yes.
1747. It appears from your evidence, as well as from that of others—Mr. Resch, for instance, I think—that it is the custom of the storekeepers to load up wherever the river is good? That is so.
1748. Because they know that for six months of the year it will not be good? The future is always a glorious uncertainty. Sometimes the river may be down twelve or fifteen months.
1749. There have been times, I suppose, when the river was navigable all the year round? Yes. After the big flood of 1890 the river was navigable, I suppose, for eighteen months or two years.
1750. They are accustomed to load up in six months to meet the demand for the twelve months? Yes.
1751. Would they not continue that custom, even if the proposed railway were made? No.
1752. You think not? I do. I am taking the matter on their own showing. They say they have to pay insurance on the goods when they store them. The value of those goods is simply so much money lying dead to them, and they run a great risk of depreciation—that is to say, for the goods that may be fashionable and in demand for this year there may be very little demand a year or two hence, and the storekeepers may be left with them as dead stock on their hands.
1753. That would not apply to the regular stock class of goods? No; it would not apply to many lines, of course.
1754. You think, then, that during the six months when the river was available, fully half of the trade would go up and down the river? I think that probably about half the trade would.
1755. Therefore, the Railway Commissioners could not calculate on getting more than half the year's trade? No. Going back a number of years, I think that, on an average, the river has been up for three or four months in the year. During that time I do not think the Railway Commissioners could safely calculate on getting more than half the trade—that is, at least to start with. During the other portion of the year, of course, there would be no competition, and they would be bound to get the full volume of trade.
1756. Do you think that they would be able to shift their rates about—altering them to six months high and then to six months low? I do not think so.
1757. That is not a usual thing for Governments to do? It is not.
1758. They would have to face the full force of the competition during the river season? Yes.
1759. And they would have to adjust their rates to that competition? Yes; but they would have an advantage, of course, in the quick means of transit.
1760. I quite understand all that; but still we have the railway to Bourke, on the Darling, and therefore we are not in ignorance of what is happening or what is likely to happen? Just so.
1761. And, as you will admit, Wilcannia being lower down the river, and navigation being open there sometimes when it is not open to Bourke, the competition at Wilcannia would be rather more, than less, severe than the competition at Bourke? I do not think there would be much difference, because no water of any importance comes into the river between Bourke and Wilcannia; and although the river may be open at Wilcannia when it is not open at Bourke, still the river is open about the same number of days at Bourke as it is at Wilcannia.

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1762. But a fresh coming down often leaves the river very dry at Bourke while it is a good river at Wilcannia? Still, even if it is a strong fresh, it will, perhaps, take four or five days to travel from Bourke to Wilcannia.

1763. We have it in evidence that a boat may get to Wilcannia, and not be able to get to Bourke? That is so.

1764. All I mean is that the competition at Wilcannia with the steamers would be rather more severe than it is at Bourke? I do not think that there would be much difference.

1765. Then the length of line to Wilcannia from Sydney is longer than the length to Bourke? Slightly longer.

1766. That from Nyngan to Wilcannia is longer than from Nyngan to Bourke? Yes.

1767. It would be 70 or 80 miles more? Yes; I suppose so.

1768. Then, if they were to go by mileage—at either a low or a high rate—the Railway Commissioners' rate to Wilcannia would be greater than their rate to Bourke? Yes.

1769. That, again, would make the competition of less advantage to them? Yes.

1770. We have it in evidence from Mr. Harper that the Commissioners have been obliged to reduce their ordinary rates one-half in order to get the trade at Bourke;—therefore they would not be able to get the Wilcannia trade with a smaller reduction than that, would they? Of course I am not in a position to express an opinion from my own personal knowledge in regard to the management of the Sydney to Bourke line; but I know that there seems to be grave dissatisfaction amongst the people there because of the difference in freight from Sydney to Bourke. A small quantity—less than a truckload—is charged for about twice as much as a larger parcel is charged for, in proportion.

1771. Is not that the difference between a wholesale and a retail customer? Yes, it may be; but then the people there contend that fifty retail customers, sending 5 or 6 tons each, are just as good as one wholesale customer sending the lot.

1772. But is not this truckload business thrown out as a bait to catch the large wool-shippers and the stock trade;—do not the Commissioners give this rebate for that purpose? That may be the idea; but in regard to sugar, I know that the cheapest method of sending sugar would be by rail, even if they charged practically the full rate.

1773. If you were managing the railway yourself, would you not give special facilities to large customers in order to get their trade? I do not know that I should make much difference between 6 tons and 60 tons. If one wholesale merchant in Bourke gets up 60 tons of sugar at £2 a ton, and then he, in distributing that out to the smaller firms, charges the price of the sugar, and also freight at the rate of £4 a ton, the wholesale buyer in Bourke is getting the advantage instead of the Railway Commissioners.

1774. Could not three or four storekeepers combine and get a truckload if they did not each want a whole truckload at a time? Yes; no doubt they could if they so desired.

1775. At any rate the carriage to Bourke now by the railway is a trifle compared to what the carriage by dray would be? Yes.

1776. The people who grumble most forget that, surely? No; they do not grumble at paying the higher rate, but at one or two firms getting a lower rate, because these firms are thus enabled to trade without any competition in supplying the outlying country.

1777. Do they grumble because the freight to Nyngan is as low as the freight to Bourke? I do not think it is.

1778. Not quite? I think it is much higher to Nyngan and Cobar than it is to Bourke.

1779. Then the Railway Commissioners have to contend also with the fact that goods going from Bourke to Queensland have to bear all the border duties? Quite so.

1780. So they have competition all round the compass, and they are forced to meet the circumstances; finding that we have that severe competition at Bourke, I want to get your opinion as to whether we shall not have at least as severe a competition in trying to get the trade at Wilcannia? Judging from the experience at Bourke, it would appear that there is every likelihood of having practically the same competition at Wilcannia, although the country which Wilcannia would supply is somewhat differently situated from that which would be supplied from Bourke. The Railway Commissioners have got, I think, in one direction perhaps, a greater handicap at Bourke than they might have at Wilcannia. Take it that Wilcannia is the distributing centre for the whole of that north-western corner; then, when the river is up, the Commissioners would have an equal, if not greater, competition there than they would have at Bourke.

1781. Although they have a longer journey to go to Wilcannia than to Bourke, they will not be able to get more freight at Wilcannia than at Bourke? I think so. But I suppose that when the matter becomes one of competition every merchant will look after his own interest. That is only natural.

1782. That is precisely what we have to face? It is in his power at the present time, I think. The Railway Commissioners, in charging fair rates, would be able to get the great bulk of the trade, or at any rate a very large portion of the trade, even when the river was up—quite half of it, I should think.

1783. When the river was up, they would have to fix the lowest rate at which they could afford to take goods, in order to get the trade? Yes.

1784. Then they could hardly put on any other rates for the rest of the year? No; I do not think they could.

1785. Then it comes to this: That their busy season will only be when the river is down? That would be their busy season.

1786. And even when the river was down they would only get the same rates for their carriage as they would be able to get when the river was up? Yes. I do not think it would be advisable for them to shift the freight charges.

1787. We must assume that they would not shift them? Yes.

1788. They will have a good trade only for six months in the year, and even when they are not exposed to competition they will have to do that which monopolists are very slow to learn to do, namely, to act as if they were subjected to competition? Yes. If there were railway communication from Wilcannia the competition with the river would not be so severe as many people imagine, because, under present conditions, the whole of the trade being dependent on the river when it is up, there are a great many boats which are kept there, the owners of which are really not making much profit out of keeping them here, because they are laid up so often, and if they had to compete with the railway, a number of them

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them would give up the river trade altogether, because the contention that the boats would reduce their present freights in order to compete with the railway is a contention that cannot hold good at all, for the reason that the present competition between the boats is as severe as it could be, and the construction of the railway would not make the competition any greater.

1789. That might any day be ended by their all forming one company? Well, that is hardly likely.

1790. Do you not think such a thing would happen? I do not think so.

1791. Cut-throat competition has often led to combination? It has; but, viewing the peculiarities of this trade, I do not think that is possible here.

1792. Have you seen a copy of the petition that was sent to the Committee the other day by some people living in your electorate? I have not.

1793. The good people of Wilcannia, who are very enthusiastic, make out that the traffic on this railway will return  $7\frac{1}{4}$  per cent. on the capital invested in it, after deducting the working expenses and interest on the cost of constructing the line; that would make it the most profitable line in the whole of New South Wales; do you think there is any likelihood of its being the most profitable line in New South Wales? I do not think so. I understood from what I saw in the papers that they calculated it would pay 11 per cent.

1794. Yes, without deducting the working expenses, £12,400; but after deducting that amount they say it would pay  $7\frac{1}{4}$  per cent.; Mr. Harper and the Commissioners estimate a loss of about £20,000 a year on this line; now, there is a great difference between a loss of £20,000 and a profit of  $7\frac{1}{4}$  per cent.? Personally, I do not quite agree with either. I think that Mr. Harper is even farther out of it in his way than the good people of Wilcannia are in theirs.

1795. Do you think that if from the start it paid interest on the cost of construction, and working expenses, it would then be a legitimate enterprise? I should think it would, if it paid anything like that from the start.

1796. You would be content to let the  $7\frac{1}{4}$  per cent. remain? I would, because I am perfectly satisfied, even if the traffic produced a considerable loss to start with, that in the very near future the volume of trade would be bound to increase, and in a few years it would probably pay all working expenses and interest on capital invested.

1797. Then you think your worthy constituents of Wilcannia have taken rather too rosy a view of their prospects? I think so; but of course they, no doubt, think they have placed the matter fairly.

1798. Judging from their petition, it seems to me that they assume that nearly the whole trade of Wilcannia will come by the railway? Probably they may be right. I would not like to offer an opinion in contradiction of that.

1799. You have said, in your other answers, that you think half of the trade would be a fair estimate? Yes, when the river is up. That is my opinion; but some of these gentlemen have carried on business there many years, and, as business men who will really pay these freights, I think their opinion is of much more value than mine in a matter of that sort.

1800. You gave the Committee yesterday a very interesting statement of the mining ventures between Wilcannia and Mount Browne—the best statement I have heard as yet; but do you think that any one of those mines, or the whole of them together, would justify the construction of a railway from Wilcannia to Mount Browne? If the railway was to serve no other purpose than that of mining, I do not think that it would be justifiable at all to construct it; taking into consideration the development that has taken place, I do not think it would be justifiable purely for mining.

1801. You have visited most of those mining centres personally? I have been over them many times.

1802. Do you think that any of them are likely to turn out really great mines? Of course that becomes practically a matter of opinion; but from all indications at Nuntherungie, I believe that when that field is thoroughly tested, sufficient claims will turn out payable to employ a great number of men, both in silver and in copper.

1803. I understand you to say that the road is fairly watered by wells, and so the teamsters can get along? Yes; that road from Wilcannia to Mount Browne, with the exception of the first stage from Wilcannia, is fairly well supplied with water.

1804. So that, even in these droughty seasons, the teams can get along, carrying the people's food to them? The difficulty, of course, is in regard to grass. Most of the teams are bullock teams, which cannot travel more than about 8 miles a day, and so the journey from Wilcannia to Mount Browne occupies a considerable time.

1805. You cannot carry food by bullock team as well as you can by horse team? No.

1806. But suppose we had a railway to Wilcannia, and that stores could always be in full supply there, and suppose we had a well-watered road right up to this string of mining townships, do you think they would be fairly accommodated then so far as supplies are concerned? So far as present conditions are concerned, they would be; but if a great development took place at Nuntherungie, as I believe it will, it might necessitate, if circumstances warranted it, the running of a railway up to that place, which railway would act as a feeder to the main line—I mean if there were, say, 3,000 or 4,000 men there, and circumstances warranted it.

1807. Of course, if another Broken Hill turned up, it would be worth while to make a railway to it, wherever it was? Quite so.

1808. But, so far as I can gather from your account, White Cliffs is the only mineral locality that has gathered anything like a population; and that has 3,000 or 4,000 people? Yes; of course, that population has been gathered there since 1891. For many and various reasons, as I explained yesterday, Nuntherungie has never been properly prospected. They have sent away small shipments of 10 or 20 tons, and the return has been very satisfactory; but they did it at great expense. They had to take the stuff to Wilcannia, where it had to lie for some months before they could send it away to be treated, and being poor men working the claims, they could not afford to wait for the return, and had to desert the claims.

1809. But still there are always capitalists looking for good investments, especially in mining country like that of Broken Hill, and the men could get help? But the capitalists did not "rush" Broken Hill until it was pretty well proved.

1810. The opal mine at White Cliffs has a natural limit to its attraction of population; you cannot produce more than a certain quantity of opals, I suppose, or you would smother the market? The demand

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demand to-day for opal is greater than it was some years ago. The gem has become more fashionable, and some of the best markets for it are, comparatively speaking, untouched yet. I am led to understand that the Siamese have a great fancy for that gem above all others, and that is a market which has not yet been exploited.

1811. Do you look forward to a rapid doubling of the population of White Cliffs? I do not know about a "rapid doubling"; but I look forward to a gradual increase. The population there has been gradually increasing during the last five years.

1812. Slowly, but steadily? Yes. Five years ago the population numbered about 500 male adults; from that it has gradually gone on increasing until to-day there are something like 1,000, or perhaps more than 1,000 male adults there. A great many have brought their families and wives to White Cliffs. I think the school attendance four or five years ago averaged only twenty-two; to-day it is something like 142.

1813. Is the White Cliffs locality fairly well supplied with goods now from Wilcannia? They have had very great difficulties to contend with; for instance potatoes have been 2s. 6d. per lb.

1814. Can they grow potatoes in an irrigated garden on the Darling? I do not think they have ever tried it. They have certainly not grown them to any extent.

1815. Have no Chinamen ever tried it? No; they devote their attention to pumpkins, water-melons, and fruit. There are not many Chinamen out there; only three or four, I think.

1816. Are there any white men who have irrigated gardens? Yes; but I do not think that they have taken the trouble to grow potatoes.

1817. Do you know what the population of Wilcannia is now? I could not really form anything like a fair estimate.

1818. In the latest *Statistical Register* I notice that it is guessed at 1,000? I think it is much more than that; not, perhaps, the town of Wilcannia. I think, in looking over the Electoral Roll, you will find there are 500 or 600 names on the Roll for the Wilcannia division—that is, Wilcannia, and within a few miles radius.

1819. What is supposed to be the population of the whole of your electorate? It is very difficult to get anything like a fair estimate, because if you take the Electoral Roll in a place like White Cliffs it does not give you anything like a fair estimate of the male population, for at White Cliffs you will always find 200, 300, or 400 men who have not their names on the roll at all.

1820. Are they new comers? Well, they have been away, perhaps, out on a station, and they have come into White Cliffs, and have never troubled about getting enrolled. From a great many of the outlying stations men have to travel 50, 60, or 100 miles to get electors' rights, and they will not do it. There are scores of men whose names never appear on the Roll at all, and it is most difficult to form anything like a fair estimate of what the population is, but I should say that the full population would be quite 10,000.

1821. Do you think that the expenditure of £500,000, which is what this railway would cost, would be justifiable for a population ranging between 5,000 and 10,000? Well, if the population were to remain stationary at that number, I should say, "No"; but believing, as I do, that the construction of the railway would mean, within a short time, doubling the population, and going on with a gradual but steady increase, I think it would.

1822. Do you know what the ratable value of the property in Wilcannia is? No; I cannot tell you. I saw it mentioned the other day, I think.

1823. The most recent figures that we can find are £100,800—that is, the whole ratable property—improved land and everything else put together;—do you think that is a fair valuation? I suppose it is.

1824. I suppose it is taken from the books of the town Council? I suppose so.

1825. During these bad seasons, I suppose the value of property has gone down rather than up? Yes.

1826. So this would be an outside estimate? I should say it would be a low estimate.

1827. Do you think it would? Yes. We have had bad seasons the last four years.

1828. But this is probably an estimate made before the drop in the values? I could not really say.

1829. Is Wilcannia a municipality that has been keeping its head above water, or has it been getting into difficulties like others? It has had some difficulties in the past, but I think it stands at the present time in the position of having met all its obligations, and that it owes nobody any money—a very satisfactory state of things for any of the municipalities as they exist now-a-days.

1830. *Mr. Watson.*] Not even the Government? No; they have paid the Government all their dues.

1831. *Dr. Garran.*] I gather from you that there is a number of mining properties between Wilcannia and Mount Browne that are suffering from want of water? Yes.

1832. The making of a railway to Wilcannia would not get rid of that difficulty? No, it would not.

1833. They want a constant water supply, as well as a railway, to make that mineral district fully developed? Yes; to get the full advantage of course that is required, but a railway would do much. They have water in the river, and if they get their stuff to the river, they can reduce it there if they choose.

1834. If they had a sufficient quantity of water, they could go ahead as a mining population, even if a railway were not made to Wilcannia? Well, it would be a very difficult matter, because the cost of carriage by team is so great. For instance, the cost from Nuntherungie, probably a distance of 60 miles, would be, on an average, £2 10s. or £3 a ton. But if you had to cart it on to Cobar—three times that distance—it would be from £8 to £10 a ton additional.

1835. But in a year when the river is good, they would not cart beyond Wilcannia? No; but you cannot carry on mining in a spasmodic fashion like that—you cannot employ men for three months in a place like that, and expect to get them again three months later when the river comes up. Your mine would be standing still, and there would be a loss on the machinery. The fact of its standing still, and not being worked, would depreciate it much more in value than if it were being worked.

1836. But if we were to get local water sufficient to work all those mines, they would all be able to get their product to Wilcannia when the river was up and send it down to Adelaide? Yes; but take, for instance, the last four years. Supposing there had been a company in a fairly flourishing condition, they would not have had a possible chance of getting their product away, and they would not have been able to get advances on it to any extent in Wilcannia, and unless the mine had been paying tremendous profits previously, they would not have been able to continue working.

1837. That implies rather that you want a railway from Wilcannia to those mines? Of course, if the mines would justify it, that would certainly be the best thing. The next best thing would be a railway only to Wilcannia.



1838. Supposing you had a fairly promising claim of your own at Nuntherungie, would you not rather have an abundant supply of water in preference to a railway to Wilcannia, if you could only have one of the two; you could go to work at once with water? You could, to a certain extent; but you require coke coal, and fluxes, and many other things for the treatment of ore, in addition to water. You might be able to reduce it (say) from 5 tons to 2 tons; you might reduce ore going only 20 oz. or 30 oz. of silver so that it would go 70 oz.; but beyond that I do not think you could treat it with water only.

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1839. We have it already in evidence that when the river is up there is no complaint of the dearness of carriage to Wilcannia as compared with what will be the case when the railway is there—the railway will not cheapen the carriage to Wilcannia? The complaint is not as to the dearness of carriage, but as to the difficulty of getting any carriage at all.

1840. During part of the year? During many years, at times.

1841. But the present is a most exceptional instance;—you have not known a similar one before? No; there have been four bad years this time; but previously they had a like experience of three years' duration.

1842. But is not the immediate want of all that mineral district water rather than a railway? I think the two would be absolutely necessary.

1843. Supposing the State could give only one;—is not water more essential to that district than railway carriage, seeing that it already has water carriage? Of course, if you had plenty of water it would make the railway more necessary than now.

1844. No doubt it would make it more profitable, but could not all the claimholders keep on working if they had plenty of water? No, I do not think so. If they had a continuously open river, it certainly would be of great assistance to them—if they had any guarantee that when they got their ore to Wilcannia, they could get it away to somewhere else. But they might start working, and spend all the capital they have in raising their ore to grass, and paying the carriage to Wilcannia, and when it got there the river might be down, and it might lie there twelve months, and then they would be beaten; they would simply have to give up working. The men would scatter all over the country, and when the river came up again, it would be a long time before they could get back, and in the meantime, perhaps, someone would have jumped the claim.

1845. If they could always get to Wilcannia, and the river was open for six months, could they work all the year round? They could work all the year round if the river was never down; but if the ore is to lie at Wilcannia for six months in the year, they can get no return from that when they want it, and are kept out of the money they require to pay for the working of the mine.

1846. I suppose we may look forward to the time, some day or other, when the Darling will be locked? That seems to be the general impression.

1847. And if this railway be made, do you think that when the river is locked it will be a less profitable line than before the river was locked? No, I do not think so, because I am satisfied that before the Darling is locked from Bourke to Wentworth, many years will elapse. Even if the work were about to be started, it would take considerable time, and, with the construction of this railway, I am sure settlement would increase sufficiently to more than compensate for the loss of any carriage that might afterwards go by water.

1848. You do not think the profit of the line would be decreased? No; I think the altered conditions would be such that when the railway was constructed, the trade on it would gradually increase, even if the river were locked. Of course, if you were to do the two simultaneously, perhaps it would.

1849. You think that the permanent locking of the river would so stimulate settlement and production that the railway would get as much traffic then as previously? I think it would get much more than previously.

1850. *Mr. Trickett.*] There is one feature of the inquiry which entered largely into former inquiries: how about the rabbits? We might find a good deal of traffic for the railway in sending them away.

1851. But are they as bad as they were? No. It is very hard to say what is the reason, but I am rather of the opinion that it is owing to the dry season; they have not been able to stand it any better than any other animals have. There is one thing you may, perhaps, permit me to say, namely, that I believe that there would be a large traffic in fat stock from Wilcannia if the railway were constructed. I heard Mr. Harper give his evidence, and he stated that it was not a fattening country at all. I regret I cannot accept Mr. Harper as an authority on that, because it is the best fattening country, I suppose, in Australasia in an ordinary season. Under present conditions, they have to travel the sheep either to South Australia—they travel them very often to Cockburn—or to somewhere down there and then truck them to Adelaide, and they also travel them to Hay and to Bourke; but, as you know, it takes sheep a long time to travel, and naturally they cannot possibly arrive at their destination in the same condition as they would be in if, say, cooling chambers were erected at Wilcannia, and the meat were killed there fresh—in excellent condition—and sent in cool cars to Sydney. I think that the country which would be practically served by the railway carries something like 5,000,000 sheep—that is, under ordinary conditions. I do not say that there is that number there now, because the bad season has reduced the increase, and a very great many of the stock have died.

1852. *Mr. Watson.*] Dr. Garran asked you a question in regard to the probable effect of locking the Darling to Wentworth—do you think if the Darling were locked from Bourke to Wentworth you could then secure permanent navigation all the year round down the Murray? No, you could not; but, taking it as a general thing—unless the season is a very dry one—the Murray, as a rule, is navigable. However, on many occasions in my experience I have seen it dry. At Murray Bridge I have often seen river steamers lying high and dry.

1853. So that anything that the Government of this Colony could do in regard to locking the River Darling would not guarantee an absolutely permanent water-way? Certainly not.

1854. They could ensure it in moderate seasons? Yes.

1855. If the river were locked as far as our western boundary—that is, the junction with the Murray—they would only absolutely secure navigation in moderately good seasons? Yes.

1856. Not in really bad seasons? No. I think the locking of the river below the junction with the Murray is almost impracticable.

1857. Very difficult, because of the conformation of the country? Yes; the Murray below that is sometimes miles wide.

1858. What constitutes the difference between the Darling and the Murray with regard to the desirability of locking? The banks of the Darling are very nearly perpendicular, and they are firm and solid; the Murray

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Murray is very different. Below Wentworth, the river spreads out all over the country in a sort of morass, with a main channel somewhere near the centre, but it is hard to find it.

1858. Therefore it would be difficult locking there, except at vast expense? Yes.

1860. The channel would have to be arranged first, I suppose? Yes, I think so.

1861. You were asked whether the people at Wilcannia would be served if the river were locked, and the navigation thus secured; but that would not provide either for stock or for passengers, would it? No; it would be no good either for passengers or for stock.

1862. Practically, they cannot carry stock on the river sometimes, because of the time it takes, and the impossibility of feeding them? Just so.

1863. And passengers would not go that way, but would prefer to go by ordinary coach roads? They would not go that way.

1864. So, as a matter of convenience to the people of Wilcannia, the river, even if locked right through to the ocean, would not afford facilities other than for the carriage of ordinary goods? Just so.

1865. It would not meet their requirements in the way of stock and passenger traffic? No. That is the opinion of the people out there too, I may say.

1866. You were asked a question with regard to the possibility of having at Wilcannia to meet with the same competitive conditions as at present exist at Bourke, so far as railway traffic is concerned; is it not a fact that the Queensland railways compete for a portion of the traffic which geographically should go to Bourke—that is by means of the line which ends at Cunnamulla? Yes.

1867. I understand that an export duty on wool was put on by the Queensland Government with the object of forcing the wool and cognate traffic towards Brisbane via Cunnamulla? Yes.

1868. If that is so, the competitive conditions would be intensified at Bourke, so far as a great portion of the country immediately north of Bourke is concerned? Yes; I think I said that in answer to Dr. Garran. The railway to Wilcannia would not have the same competition to contend with as the railway to Bourke. The Queensland people have been pushing their railway system over to catch that trade. Competition with Queensland would not affect the north-western portion of our territory in the same way as it would affect that in the direction of Cunnamulla.

1869. You said also that you thought that there would be an inducement for extra population if the railway were constructed to Wilcannia;—in what way do you think that extra population would be induced—by a reduction in the cost of carrying the means of existence, and by the greater certainty of communication, or in what way? Well, it would give an outlet to the products of a great many industries that might be established there, where there is no possible outlet at the present time. It would induce a great many men to take up smaller areas,—homestead leases. Instead of having pastoral holdings of over 3,000,000 acres, we should have a great many smaller holdings of, perhaps, 10,000 acres each. The land would be more highly improved in regard to both fencing and provision for the conservation of water, and that would mean the carrying of a great deal of additional stock.

1870. And any reduction in the cost of living consequent on the better means of communication, I take it, would facilitate settlement there? Undoubtedly it would be of great advantage.

1871. And giving a greater certainty to the people of being able to get something to eat,—which is not always the case now, I understand—would work in the same direction? Quite so.

1872. If settlement were encouraged in that way, would it not induce greater competition for the small blocks the Crown now has open for occupation in the way of lease? Yes.

1873. And that would mean an increased amount of rental for Government lands? Undoubtedly the construction of this railway, giving the people a certain means of getting their products to market, would also mean the fixing of an increased rental at the first reappraisal.

1874. Is there land in the district now which is open for homestead lease in any quantity? Yes; of course the reserved area has been added in some cases.

1875. But in many cases the land is still open for homestead lease? Quite so.

1876. How do the rents payable by the homestead lessees for their 10,000-acre blocks compare with the rents paid by the pastoral lessees for much larger areas, which, if any, are the higher? I think the homestead lessees have been treated rather badly, for in some instances they pay double the rent of the pastoral lessee.

1877. In an inquiry held in 1891, Mr. Wilkinson, who was then the Government Geologist, gave evidence before the Committee? Yes.

1878. He was asked by Mr. Copeland:—

From the official records in the Department, do you know of any mineral country between Cobar and Wilcannia that would warrant the extension of the railway beyond Cobar? From specimens which I have received from various correspondents, I conclude that nearly the whole of the country between Cobar and Wilcannia is of metalliferous formation, with patches of sandy areas between which, no doubt, cover up metalliferous ground.

You heard Mr. Pittman give his evidence yesterday? Yes.

1879. I was asking you whether you had read that portion of Mr. Wilkinson's evidence—given in 1891—where he expresses his opinion that the country between Cobar and Wilcannia will probably be found to be metalliferous right through? Yes.

1880. Do you agree with that idea, from your knowledge of the country? Yes.

1881. You have had considerable experience in mining in connection with different kinds of minerals? Yes.

1882. And do you think from your knowledge that it is likely that there will be mineral deposits found there? Yes; from every indication which one can see in travelling over the country, one must come to that opinion; for in the small ranges there are some little upheavals all highly mineralised, and you can get both copper and silver-bearing stone. I do not say you can get it in great payable quantities without any prospecting, but you can get sufficient to prove it is there—of course in what quantities, only development can prove.

1883. That is distinctly between Cobar and Wilcannia? Yes.

1884. Do you know of any instance of that close to the line, or north or south of it? Yes; in nearly every range, where there has been an upheaval—a blow—you will find indications of either silver or copper.

1885. Of course those deposits of soil on the top would be confined to the gulleys, would they not, and to the lower ground; what you say would apply to outcrops or hills which occur here and there along that line? Most of it is flat country. For instance, take the Wyalong gold-field. You have no outcrop there. In connection with the best of the claims there, there was no indication on the surface that there was anything beneath, simply because the soil had been washed over the original surface.

1886.

1886. But I believe that between Cobar and Wilcannia there are small hills jutting out? Yes; little upheavals.

1887. And these, in the nature of things, would not be covered by that deposit of sedimentary stuff? No.

1888. In any case, you think that there are mining possibilities along that line? Yes; it is all mineral country. Whether there will be payable minerals there or not is a question I cannot answer.

1889. There is another question bearing on the mining matter generally; I believe that at Lithgow, within the last few years there has been a considerable increase in the erection of works, or in the works used for the treatment of ores? Yes.

1890. And at present some of the ores from Cobar go there for treatment? Yes; a great deal.

1891. For refining? Yes, and for smelting. The Cobar people have works there of their own.

1892. If a railway were constructed between Cobar and Wilcannia and those deposits were found to exist in anything like large quantities, the connection with Cobar would be of distinct advantage, because they could get from there to Lithgow, where arrangements are already made? Just so. They would gain greatly in two ways: first, they would not require really to send their ores on to Sydney; and, secondly they would get coal at the cheapest possible price at the pit mouth.

1893. The price of coal at Lithgow is lower than it is anywhere else in the Colony? Yes; one-third lower.

1894. Than it is at Newcastle? Yes; more than one-third probably, but at least one-third lower.

1895. So that Lithgow would be a very desirable place to reach from the point of view of ore reduction? Yes; there is any amount of water and fire available—the two necessities to treat any kind of ore with.

1896. *Mr. Shepherd.*] I think you have had a great deal of experience in mining? I have had a good deal of experience.

1897. How do you arrive at the value of opals? Opal, of course, is a gem that is judged according to its quality. The quality is in the quantity of fire it contains, and the various forms of fire. Take two pieces of opal of equal size and of equal weight; one might be worth £500, and the other not 500 pence. You have to judge as to the value of it from what it will bring in the market. There is a sort of standard value in regard to quality. Experts will value opal much the same; that is to say, if one piece of opal is submitted to one expert, he will tell you what it is worth. He may say that he will give you £100 for it, and if you submit it to another expert, he may, perhaps, offer you £99 or £101, or something like that; but there is really no standard by which you can arrive at the value. You would really have to be an expert to be able to judge either in the selling or in the buying of opals.

1898. The reason I asked you that question was because you heard Mr. Pittman give evidence yesterday, and he said that there was no marketable value for opals—that the value was merely a fancy one? I think that what Mr. Pittman meant was that there was no standard value.

1899. *Mr. Watson.*] He said that there was no intrinsic value, that opal in itself was not worth anything, and that its value depended on the fancy of people? Yes; that is how I understood Mr. Pittman.

1900. *Mr. Shepherd.*] I wished to ascertain how the value was arrived at, for you said yesterday that the opals were of greater value at a depth than at the surface? Yes; because they are of better quality—with more fire and more variations in the fire and the colour.

1901. Have you any idea what the value of the output has been the last four or five years? It has been a very difficult matter to arrive at anything like a fair return. I think the warden in his report gave the value last year at £125,000.

1902. For the one year? Yes; but there has been a great deal of opal got by individual miners. They have a system of mining there much the same as mining in alluvial, where one man can hold 4 acres under a mineral license really, and perhaps two, three, or four men each take up 4 acres, and they work it by themselves, and send their opal away to London, or Germany, or Sydney, or Melbourne, and there is no record kept of the transaction, and consequently the returns that came to hand last year were principally the returns from the one large company.

1903. You also said that at a depth the country seemed more settled? Yes.

1904. And the opals were found in greater quantity? You can trace them better.

1905. Are you aware if the miners have touched what is generally termed the bedrock? No; they have not.

1906. Have they touched anything like a lode? No; it seems peculiar country. It appears to be a sort of limy, sedimentary deposit, like all made country. There is a sort of diorite walls running through it, but beyond that it seems a formation peculiar to itself.

1907. Are you aware if these opals have ever been found in conglomerate, or are they always separate? I have never heard of their being found in conglomerate, and I do not think they ever would be, because of the nature of them. They run in one continuous layer or seam, and close to the surface you are not able to trace that seam; they are patchy. When you get a certain depth you are able to trace the seam for, perhaps, hundreds of feet, though, perhaps, only a portion of it is good opal, and the rest is colourless.

1908. I thought, perhaps, that the nature of the opal in this deposit would be something similar to that of the emerald? No.

1909. Emerald you find in an exceedingly hard conglomerate? Yes; in Queensland you have to break through a very hard matrix to get the opal; but our opal is altogether different.

1910. I understood you to say that this opal-field extended something like 50 miles? Yes.

1911. Has it been prospected to that extent, or is it judged only from surface appearances? It has not been prospected all over; but at Purnanga, about 40 miles to the east or south-east of White Cliffs, they have prospected, and a number of men are working there, and getting very good opal. The country right out to there is all the same sort. Then to the north-west of White Cliffs, some 17 miles, at the Bunker, it has practically been prospected; opals have been got all the way from White Cliffs to the Bunker, and at the Bunker there are over 100 men employed, and they are getting very good opals. So, I think, it is fair to assume that all the country lying in between is opal-bearing country.

1912. We have been told that there is some very good agricultural country out in that neighbourhood; is that so? Of course, if we get a fair average rainfall it certainly is excellent country, but the rainfall is not quite sufficient, with the result that I am afraid you could not say it was first-class agricultural country.

1913. I was doubting that;—you say that potatoes sometimes fetch 2s. 6d. a lb. out there, and that is £280 a ton; that does not speak much for the country? The quality of the soil is certainly excellent, but the climatic conditions are too severe.

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1914. From your knowledge of the country, do you think it would be possible to run a line of railway in a more direct line from Cobar to Wilcannia than that shown on the plan? So far as my memory serves me I do not recollect any obstacle being in the way at all. There may be one or two of those small hills, but the great bulk of the country is almost a dead level. There are no waterways to contend with; there is not even a creek that would be flooded in case of a heavy rainfall.

1915. It appears to me that it is always of immense advantage to run a line as straight as possible, and on as even a grade as possible? Yes; where you have no engineering difficulties to contend with, in my opinion, it is of great advantage to run the line straight.

1916. There would be a saving of about 10 miles in that line? I cannot believe that there is any engineering difficulty in the way.

1917. And I understand that an ordinary train costs something like 4s. a mile to run it, and that would mean £2 a day for every train they would run on that line? Yes.

1918. That would come to an immense amount in the course of a year, and, seeing that a railway is laid for all time, it seems to me that unless there is some very great obstacle indeed it would be of advantage to run the line perfectly straight? Yes. I do not know of any engineering difficulty in the way, because the country is not rough or difficult at all.

1919. There would be a saving of some 23 miles if the line were run from Condobolin to Wilcannia? Yes.

1920. Is there any reason why the line from Cobar to Wilcannia should be adopted in preference to the line from Condobolin to Wilcannia, seeing that there would be a saving of 23 miles in the case of the last-mentioned line? The distance of construction would be something over 100 miles, I think.

1921. No doubt there would be a considerable amount to construct;—but do you know of any reason why, so far as the character of the country is concerned, the Cobar line should be adopted in preference to the Condobolin line? No. Going back from the river towards Condobolin, the country is much of the same character as that towards Cobar. I believe that there would be some engineering difficulties to contend with in coming into Wilcannia from the direction of Condobolin.

1922. There is a considerable curve there, you will, perhaps, have noticed? Yes. I think that they would have some engineering difficulties in regard to water channels there, but, so far as the nature of the country is concerned, I think there is not much difference. The rainfall is much the same, and also the nature of the country.

1923. You seem quite convinced that the railway would be adopted in preference to the river? Yes, by the people. They look upon the railway, when they once have it, as a certain means of transit. As to the river, they say that no matter what may be done, the river will always be doubtful.

1924. We have had evidence here to show that goods have sometimes been delayed on the river for twelve months? Yes, I have known that myself.

1925. That would be of immense disadvantage to river-carriage? Yes.

1926. Mr. Resch said he had had goods delayed twelve months on the river? Yes.

1927. If such cases were likely to occur frequently, there is no doubt that the people would adopt the railway in preference to the river under any circumstances? Yes; of course, even the locking of the river to Menindie would do nothing to make the river navigable right through to Morgan. The locking of the river to Menindie would be of great service, no doubt, to the people about Menindie, and those along the banks of the river and back a considerable distance; but even the locking of the river to Menindie would do nothing to give an outlet any more than there is at the present time.

Edward Fisher Pittman, Government Geologist and Chief Mining Surveyor, Department of Mines, sworn, and further examined:—

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1928. *Chairman.*] You were asked yesterday to put in a map showing the geological features of the country out west; do you produce it? Yes. The dark areas are the metalliferous areas I spoke of yesterday. They run more or less in a north and south direction through this country north of a line between Wilcannia and Broken Hill. This map also shows approximately the limit of the artesian water basin, which is coloured green on the map, and I have also shown on this map a considerable number of bores with the flows marked in figures.

1929. So it is quite possible to get artesian water out where those mines are? You will notice that some of these bores are failures.

1930. *Mr. Watson.*] You have indicated on the map which are failures? Yes. Where they are marked simply as a circle, and the word failure is not written, the bores must be understood to be successful. But there are two failures—the first is 5 or 6 miles south-west of White Cliffs, and the other is 23 miles east by south of Cobham Lake.

1931. Have there been any other failures there? No.

1932. In giving your evidence yesterday, I understood you to say, in reference to the possibility of mineral development between Cobar and Wilcannia, that it was quite possible there were mineral deposits there, but that sedimentary alluvial had been placed on it which had the effect of hiding it for the time being? Yes.

1933. Do you know of any evidence in your Department that goes to show that there are any mineral deposits between Cobar and Wilcannia? No; I do not.

1934. Or anywhere near the vicinity? No.

1935. Have you noticed the evidence given by Mr. Wilkinson in that connection some years ago? Yes.

1936. It would appear from what he said that he had received something indicating that discoveries had been made by way of outcrop along there? Yes; possibly he may have had something that looked promising, but if he had, it has never been proved to be a workable deposit since, and I am not aware of it.

1937. At any rate, there is nothing in the Department since that you are aware of? No.

1938. *Dr. Garran.*] Then there is no known indication of mineral deposit? There is no known occurrence there.

1939. What may be underground you cannot tell? No.

1940. *Mr. Watson.*] Mr. Wilkinson said:—

From specimens which I have received from various correspondents, I conclude that nearly the whole of the country between Cobar and Wilcannia is of metalliferous formation, with patches of sandy areas between, which, no doubt, cover up metalliferous ground.

He

He would not have given that answer unless at the time he had received in correspondence indications and specimens, and so on? I think that Mr. Wilkinson's statement was probably based on the fact that the Silurian rocks extend to about 80 miles west of Cobar in the direction of Wilcannia, and that he really meant that the occurrence of those rocks was in itself an indication that metalliferous deposits might be expected to occur there.

E. F. Pittman.  
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1941. Then for that 80 miles it appears the Silurian is not covered up to any extent—that is, it crops out sufficiently to let you ascertain where it is? Exactly; but over a considerable portion of it there are superficial deposits.

1942. Still that does not get away from the evidence given by Mr. Wilkinson in a direct fashion; he said "From specimens which I have received"? Those might have been specimens of rock—I cannot say; but that is my impression. I know of no specimens of deposits that have come from there.

1943. And you think the records would not have disappeared? No. If they had been of any importance within the last seven years, I should certainly have known of them.

1944. So you think it is probable that what Mr. Wilkinson received were specimens of rock which went to fix the character of the rock found? Quite so.

George Charles Yeo, Draftsman, Stock Branch, Department of Mines and Agriculture, sworn, and examined:—

1945. *Chairman.*] Do you produce a map showing the stock routes in the district affected by the proposed railway? I produce a map showing the area which I think would be affected by the construction of the proposed railway; also showing the stock routes. I have also a statement of the number of stock in that area, and other information.

G. C. Yeo.  
20 April, 1899.

1946. Will you read that statement? Yes, it is as follows:—

No of stock in area tinted pink on map A containing about 26,700,000 acres.

Year.	Cattle.	Sheep.
1894.....	23,881	3,600,129
1895.....	20,809	2,893,322
1896.....	22,902	2,439,235
1897.....	20,135	2,192,620
1898.....	23,586	2,097,524

WEIGHT of clip in area tinted pink.

Year.	Weight in lbs.	or	Tons.
1894.....	18,532,500		8,273
1895.....	15,482,000		6,912
1896.....	13,232,000		5,907
1897.....	11,582,504		5,171
1898.....	11,166,388		4,985

Average weight of fleece in northern part of area for 1897 and 1898, 3 lb. 13 oz.  
Average weight of fleece in middle part of area for 1897 and 1898, 5 lb. 13½ oz.  
Average weight of fleece in southern part of area for 1897 and 1898, 6 lb. 3½ oz.

*Stock Traffic.*

	Cattle.	Sheep.
1895—Wompah to Wilcannia.....	5,850	187,700
Wompah to Broken Hill.....	11,000	120,000
Wilcannia to Broken Hill.....	.....	70,000
Broken Hill to Wilcannia.....	.....	14,900
1896—Wompah to Wilcannia.....	2,894	100,420
Wompah to Broken Hill.....	8,800	105,000
Wilcannia to Broken Hill.....	.....	60,000
Broken Hill to Wilcannia.....	.....	27,380
1897—Wompah to Wilcannia.....	1,609	26,000
Wompah to Broken Hill.....	17,000	85,000
Wilcannia to Broken Hill.....	1,000	20,000
Broken Hill to Wilcannia.....	.....	18,984
1898—Wompah to Wilcannia.....	2,100	6,500
Wompah to Broken Hill.....	16,000	130,000
Wilcannia to Broken Hill.....	1,305	67,272
Broken Hill to Wilcannia.....	.....	10,000

Stock passing from New South Wales into South Australia at Cockburn.

Year.	Cattle.	Sheep.
1894.....	8,987	154,000
1895.....	4,638	196,634
1896.....	8,621	38,609
1897.....	9,296	81,930
1898.....	7,306	195,909

Stock passing from Queensland into New South Wales at Wompah.

Year.	Cattle.	Sheep.
1896.....	20,000	50,000
1897.....	14,884	46,630
1898.....	24,351	44,960

I may say that a lot of the clip in that part of the Colony is scoured.

1947. Can you give the Committee any information in reference to the effect of railway construction on the movements of stock;—supposing a railway be constructed to Wilcannia, will the movements of stock be greater than they are at present, and in the direction of bringing traffic to the railway? I do not think so. I think the traffic would still go to South Australia.

1948. Most of the stock goes to South Australia? Yes.

1949. Supposing that the season was very dry in the western part, and there was good grass from Cobar out towards the eastern part, do you think there would be any movement of stock from that direction which would bring a payable traffic on to the railway if it were constructed? There might be in a case like that; but, as a rule, travelling stock, such as store and breeding, are taken by road in preference to the railway, on account of the railway freights being so high.

1950. So it would be an exceptional case that would bring stock to the railway? In my opinion it would.

1951.

- G. C. Yeo. 1951. The country out there is, in fair seasons, good fattening country, I suppose? Personally I do not know much about the country.
- 20 April, 1899. 1952. Have you no records in your office to show it? I did not look up anything to answer definitely in regard to that.
1953. Does not fat stock find its way from that district into Sydney now? I do not think so.
1954. If the proposed railway were constructed, do you think it would? I daresay there would be a few coming in if a railway were constructed there; but I do not know that there would be a great many. The owners prefer to travel their stock along the roads if there is anything like a good season.
1955. With plenty of grass along the stock routes they would be taken along them in preference to the railway? Yes.
1956. *Mr. Watson.*] You notice the area tinted red on the map you have put before the Committee? Yes.
1957. In a north-easterly direction from Wilcannia towards the Paroo, how far have you reckoned to be within the influence of Wilcannia? Sixty-four miles from Wilcannia—to the edge of the area tinted red, in the direction of the Paroo.
1958. It has been given in evidence here that the trade for Wilcannia in the direction of the Paroo begins a little south of Wanaaring on the Paroo? Yes.
1959. How much further is it from the edge of your red tinting—that is the area which you consider to be within the influence of Wilcannia—to Wanaaring? Sixty-four miles. The edge would be about half-way from Wilcannia to Wanaaring.
1960. So if the evidence which we have before us is that the trade coming to Wilcannia starts a little south of Wanaaring, we may extend your red tinting another 50 miles in that direction? Exactly.
1961. And that would proportionately, of course, increase the number of stock, and also the general trade to be considered? It would.
1962. Can you tell me how far from the north-western portion of the Colony towards the east you have taken your sphere of influence to extend? About 100 miles.
1963. How far would that bring us? To a place called Adelaide Gate.
1964. How far is it from Hungerford or Berawinnia to where your tinting leaves off towards the east? 115 miles approximately.
1965. Wilcannia's sphere of influence comes much closer to Berawinnia than is shown by your red tinting—to the extent of, perhaps, another 50 miles? Yes.
1966. So, taking those two last questions together, there would be, according to the evidence we have on that aspect of the matter, a considerably increased area to be accorded to Wilcannia as being within its sphere of influence? Yes, so far as sheep depasturing is concerned, there would be; but not so far as the stock movements are concerned, for the routes I have mentioned would not affect that at all.
1967. Only the amount of stock there and the supplies required for the population? Yes.
1968. With the increased area I have spoken of, it was estimated there were in good seasons about 5,000,000 sheep; do you think that that would be an exaggerated estimate; I think your estimate is 3,600,000 sheep during a good season there? Yes, it is.
1969. Well, allowing for the increased area to which I have referred, do you think that 5,000,000 sheep in a good season would be an exaggerated estimate? Yes, I think it would. It would be too much altogether for the area.
1970. What do you think would be a reasonable number to add for the additional area which has been suggested? About 300,000 more sheep.
1971. *Mr. Trickett.*] That would increase the area to about 30,000,000 acres? Yes.
1972. *Mr. Watson.*] In a good season it would bring it up to about 4,000,000 sheep? In a season like 1894 it would bring it up to something like 4,000,000 sheep.
1973. *Chairman.*] What guided you in marking that area? The information as to the trend and drift of stock coming into Wilcannia.
1974. And if you extended that boundary as suggested do you think you would be justified in extending it? No, I should not.
1975. As to the trend and drift outside of that portion treated by you, where does the stock go to? Bourke.
1976. Would the construction of this railway divert to Wilcannia that which is now going to Bourke? No; I do not think it would. The rail freight from Wilcannia to Sydney would be more than from Bourke, and they would have to consider that extra freight.
1977. The railway from Bourke to Sydney being very much shorter than from Wilcannia to Sydney, you think you would not be justified in extending that traffic area as shown in pink? No, I should not.
1978. *Mr. Watson.*] Evidence has been given that once you get south of Wanaaring, on the Paroo, the facilities for stock travelling, or any other sort of travelling, towards Bourke, are extremely limited owing to the lack of water? Yes; but bores are sunk along the Bourke to Wanaaring route, and they are extending the bores from Wanaaring to Tibbooburra, on the Milparinka way.
1979. I said, once you got a fair distance south of Wanaaring, then the traffic ceases to go via Bourke, owing to the lack of facilities for water? Yes. You could go up the Paroo.
1980. You would have to get to Wanaaring first? Yes.
1981. You would have to add an angle on and go first to Wanaaring? Yes; but that would be on the road, and there would be nothing much in the way of expense in travelling along the road.
1982. But the longer you travel fat stock, the worse its condition gets? Yes.
1983. It is not a usual thing to travel fat stock any considerable distance? No; they truck them as much as they can.
1984. So a saving, perhaps, of 50 miles of railway carriage would be nothing as compared with the saving of 40 miles by the stock route—I mean in the case of fat stock only? No; it would not.
1985. Would it pay a man better, who had fat stock to dispose of, to take a rail journey a little longer distance rather than a road journey a little longer distance? Yes; it would pay him better; but there is not a great deal of fat stock drawn from that part of the country.
1986. Do I understand that, so far as the area adjoining the river is concerned, it is a good fattening country in a decent season? Yes.
1987. *Dr. Garran.*] I gather from the general trend of your evidence that you do not think this line will carry much live-stock travelling traffic? No; I do not.
1988. We could not look to that as a source of revenue? Not in my opinion.

1989. The natural market for all the fat stock in that district is South Australia or Broken Hill? Yes. G. C. Yeo.
1990. *Mr. Trickett.*] Excepting in bad seasons, when the owners would want to get their stock away quickly? Well, according to the returns last year, which was a very bad year, the stock traffic towards South Australia seems to have increased. A great deal of it comes through from Queensland. It enters this Colony at Wompah, and goes out again at Cockburn. 20 April, 1899.
1991. *Dr. Garran.*] I see by your figures that the stock in this district has never fallen below 2,000,000 sheep? 2,097,000 was the number last year—that was the estimate made in December, 1898.
1992. Have they got that number now? Yes.
1993. So that, after four years' drought, that country still carries 2,000,000 sheep? Yes.
1994. We are told that the country is as bare as a board? So I believe.
1995. Still, the sheep manage to live there? They have been reduced in numbers since 1894 by 1,600,000.
1996. Have they been mostly sent away, or have they died? I think they have mostly died. The facilities were not great enough to send them away. They have to travel along the road, or avail themselves of the stock routes.
1997. Some people are of opinion that this line would assist the sending of starving stock to the eastern portion of the Colony? Yes; but it has been proved that the carriage of starving stock does not pay the Railway Commissioners; therefore that would not be a source of revenue to them.
1998. Has it paid the squatters? It would benefit them by getting their stock to good grass.
1999. Has it paid them? I do not know whether it has paid them. Of course it has been money out of pocket all the time.
2000. Is the quality of the sheep up there very inferior to that of the sheep we have between the Murrumbidgee and the Murray? I could not say. I have not been in that part, nor seen any sheep from there.
2001. One witness said that the stock south of the Murrumbidgee was so superior that it would pay to truck it away in times of drought; but that the stock in the north-west was of inferior quality;—is that so? South of the Murrumbidgee, stock-owners go in for breeding pure bred stock for stud purposes, which they supply to people in the northern part of the Colony.

FRIDAY, 21 APRIL, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD,  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Charles Edward Rennie, Chief Draftsman, Department of Lands, sworn, and examined:—

2002. *Chairman.*] You produce a map? Yes.
2003. Will you explain it to the Committee? The map has been prepared to show the tenure of land within 20 miles of each side of the proposed line from Cobar to Wilcannia. The blue tint shows alienated land. That amounts to 51,000 acres. Settlement and homestead leases are shown by the blue hatching, and they amount to 381,000 acres. Then there are reserves, tinted green—all those green patches represent reserves of different classes, and they amount to 476,000 acres. The Crown lands are shown by the brown tint, and they amount to 3,453,000 acres. Those Crown lands are held under the following tenures: Leasehold areas, the leases of which expire in the year 1918, 1,995,000 acres; held under occupation license, 1,433,000 acres; not held under any recognised tenure, 25,000 acres—practically untenanted. Those are the different classes of tenure of the areas along the line within 20 miles of each side of it. C. E. Rennie.  
21 April, 1899.
2004. *Dr. Garran.*] Has the alienated land been mostly purchased at auction, or pre-emptive, or how? A portion of it would be by improvement purchase, and some, particularly land adjacent to the towns, would be most likely auction.
2005. Have the improvement purchases been recent purchases or made many years ago? There have been no recent improvement purchases in that district; they would be under an old, repealed Act.
2006. Under Sir John Robertson's Act? Yes; or the immediately Amending Acts.
2007. I suppose that constitutes some of the best land about? These improvement purchases are generally the picked spots on the runs; but of course when they were taken up there was very little settlement there, otherwise probably more land would have gone—that is to say, under corresponding circumstances in the Central and Eastern Divisions much more land would be taken up under other tenures.
2008. Were they taken up to protect water, or for special goodness of the soil? I could not say without looking into every case; but, as a general rule, those spots are taken up for water supply purposes.
2009. I see there are 381,000 acres under settlement and homestead lease;—are the lessees prospering on that land? I cannot say.
2010. Would the forfeitures come under your notice? Yes.
2011. Have you had many pass through your hands? I could not answer that question without looking the matter up.
2012. You cannot say whether, in spite of the bad seasons, the lessees have been able to hold on to their holdings? Well, to the extent that is shown there. All those stand good that are quoted there. Those show the leases that now stand good within those limits.
2013. And are these leases mostly along the line of water frontage? They are about equally divided, I think, because there is no water frontage near Cobar. A large portion of those near Wilcannia are on the water frontage.
2014. Is any rapid extension of the settlement or homestead leases going on? Not at present in the Western Division, I think; at least not within that area.
2015. There is plenty of land open for settlement lessees to choose from, is there not? Yes; there is plenty. But the areas for settlement lease are set apart specially by the Department. It is not like the old conditional purchases, where men could settle down where they liked.

- C. E. Rennie. 2016. What I mean is, there is still plenty of land open for settlement lease if they want it? All that resumed area quoted there is now open for new settlement.
- 21 April, 1899. 2017. Which do you call the resumed area? The occupation licenses, I mean.
2018. Then, out of the 1,433,000 acres, the Minister can, from time to time, declare any portion he likes open for settlement lease? That is so.
2019. The lessees are not debarred at present for want of land to choose from? No.
2020. The Minister always keeps a certain quantity of vacant land ready for them? Yes.
2021. Do you know what the lessees mostly do;—do they graze or cultivate? It is mostly grazing tenure, nominally so at any rate.
2022. Have you any idea of the fair minimum quantity of land a man could keep himself and family on in that country? The homestead leases are limited to 10,240 acres.
2023. And the settlement leases? They go up to the same extent—10,240 acres.
2024. Do you know whether these leased lands are fenced in? I cannot say.
2025. The reserves, I presume, are mostly for the preservation of water supply? Travelling stock largely. Those long strips are travelling stock routes, and there are camping and water reserves at intervals along the routes.
2026. The reserve on each side of the line is a railway reserve, I suppose? Well, that was reserved in anticipation of a railway being made.
2027. It is really a reserve at the present moment? Yes.
2028. Not open to selection? No, it is not.
2029. How much in width? About 2 miles.
2030. A mile on each side? Yes.
2031. Those untenanted 25,000 acres, I suppose, are comparatively worthless land? Probably the most inferior.
2032. In a good season I daresay somebody's sheep run over it? It is probably made up of little remnants scattered here and there through the whole extent.
2033. What rental are we getting for this block you have got tinted there? The rents running from Cobar westerly are as follows:—One penny an acre; 77–100ths of a penny; 75–100ths of a penny; 89–100ths of a penny; one penny and 5–100ths of a penny; 80–100ths of a penny; 70–100ths of a penny; and, immediately north of Wilcannia, 88–100ths of a penny. Those are the rents of the pastoral holdings in succession running westerly from Cobar.
2034. Now, the lowest rental of that lot is 70–100ths of a penny? Yes.\*
2035. Those rents have all been settled by the Land Board? Yes, all appraised.
2036. How long ago? They were reappraised not very long ago.
2037. *Mr. Watson.*] Under the 1895 Act? I believe so.
2038. *Dr. Garran.*] Do you think that the construction of the proposed railway would make any considerable difference in the tenure and occupation of land 20 miles on either side of that line? It would be hard to say. Of course, increased communication always helps settlement.
2039. You see that the settlement and homestead lessees are clustered at the two ends of the line—one where you have the railway terminus, and the other where you have a navigable river;—do you think that the making of a railway right through there would multiply them within easy reach of the railway? It is, perhaps, doubtful, because the character of the country there is dry, and it is not a high-class country, as a rule. Therefore, I think that settlement would never be likely to be as thick there as farther east.
2040. What do you consider the average number of acres per sheep in that locality. I cannot say. It varies very much, and I am not familiar with the data.
2041. Supposing it is 10 acres to a sheep, then a man with 10,000 acres could only keep 1,000 sheep? Precisely.
2042. Is that considered about the minimum a man can live upon? I cannot answer that question. Of course it varies in different localities.
2043. Can you tell whether the pastoral lessees are at all behind hand, any of them, with their rents? I cannot answer that question.
2044. Has the drought covered the whole of that district? Practically, the whole of it.
2045. It has not been particularly bad, nor particularly good, as regards the drought? Speaking off-hand, I believe it has been severe all over that tract.
2046. You have no information of the population within that belt of country, I suppose? None at all. But it must be very sparse.
2047. Do you know how many different pastoral properties the line runs through? I could not be sure of it from this map, but I can find out, and give you that information.
2048. Are they large pastoral properties, or are they mostly moderate-sized ones? They are mostly large properties.
2049. And there are no townships along that line of route? I think there are none at all.
2050. Have you been over that country yourself? No; I have never been further west than Bourke.
2051. *Mr. Watson.*] Do you know whether the resumed areas are open for homestead lease; of course I know they have to be declared as homestead lease areas before they can be taken up in that way; but do you know whether the fact of their being merely under occupation license would leave them open for homestead lease? The resumed areas are open for homestead lease.
2052. There does not seem to be any great rush all this way back from the river frontage? No.
2053. *Mr. Trickett.*] With regard to the homestead leases, have many of them been abandoned? I could not answer that question without looking the matter up; but all those quoted are standing good at the present time. That area represents those that now stand good within the limits of the map. I could get that information for the Committee if you wish it.
2054. Can you furnish us with the number of homestead leases that have been taken up within the last five years, and how they stand—whether they have been abandoned or not? Yes, I can do that.†

2055.

\* NOTE (on revision) :—It is found on inquiry that there are rents as low as 36–100ths of a penny on the southern side of the line.

† NOTE (on revision) :—Nineteen homestead leases comprising 133,117 acres have been applied for since 1885 within the limit of 20 miles on each side of the proposed railway line, and are not now in force, some having been forfeited and the others either withdrawn or not accepted.



2055. Are there any improvements going on upon this land? I cannot answer that question. Of course there must be a certain amount of improvement, otherwise they could not hold their tenures. C. E. Rennie.
2056. Have many applications for permission to ringbark been received? I have no knowledge about that. It could be found out; but those are dealt with mostly at the local offices, and would not pass through my hands. 21 April, 1899.
2057. Is it timbered country to any great extent? I do not know the country sufficiently well to answer that question.
2058. Do you know anything about the common around Wilcannia—there is a very large common there, is there not? I only know there is a common; I cannot give you any particulars about it offhand. This green patch shown here round Wilcannia is common land.
2059. Does it state the acreage on the map? No, but I could easily find that out for you.
2060. This large common area round Wilcannia, do you know whether it is country of good character which would be taken up if it were thrown open in small areas? I cannot say. I do not know that country at all. I have not been there, and I have not seen any reports on the subject. You could get that information from the district surveyor.

William Henry Hall, Sub-editor, "Statistical Year Book," Government Statistician's Office, Chief Secretary's Department, sworn, and examined:—

2061. *Mr. Trickett.*] Do you produce some figures in regard to population for our information concerning the district between Cobar and Wilcannia? I do. W. H. Hall.
2062. Will you kindly read them to the Committee? Yes; they are as follows:— 21 April, 1899.

*Estimate of Population.*

Cobar .....	2,450
Wilcannia .....	1,050
Around and between Cobar and Wilcannia.....	2,060
White Cliffs .....	1,700
Mount Browne .....	330
Milparinka.....	360
Tibooburra } .....	710
Yalpunga } .....	
	8,660

2063. When was that got together? Within the last couple of months.
2064. You say White Cliffs; how many? 1,700.
2065. *Chairman.*] What is the area included in the Cobar return? Just the municipality; that is, both in the case of Cobar and Wilcannia.
2066. *Mr. Trickett.*] You say there are about 2,000 people between Cobar and Wilcannia? Yes; and round about those places.
2067. How far does that extend? I have taken an area of 25 miles on each side of the railway-line. As regards the estimate for White Cliffs, I may say there is a check upon that, inasmuch as the police collect these returns, and they furnish just about 1,700 as the estimate of the population of White Cliffs.
2068. *Chairman.*] You say the police check it; how is it first arrived at? By estimating in connection with the census returns, and the natural increase of population.
2069. How do you allow for the moving population—on a mining field, for instance? Then we have to rely, to a great extent, on the police estimate.
2070. And the actual return from the police comes out very near to what you estimate? Yes; for the whole district.
2071. *Mr. Watson.*] In that estimate of 8,000 and odd, you include Yalpunga, Tibooburra, and right down to White Cliffs;—do you allow anything for population outside those townships? Only in the immediate vicinity. For instance, I have not taken it to the junction of the Queensland and South Australian borders.
2072. *Dr. Garran.*] Do you take in the pastoral population? It is supposed to be included.
2073. You do include that? Yes.
2074. You estimate the men on the stations? Yes.
2075. *Mr. Watson.*] I understand you take the population of each of those townships and the immediate vicinity, right down to Mount Browne? Yes.
2076. But there is an area of country between White Cliffs and the South Australian border and between White Cliffs and Mount Browne;—have you made any allowance for the mining population at present there? No, I have not, because it was not asked for.
2077. You have taken the townships? Yes; the townships and the immediate vicinity.
2078. So it is possible there may be a fair amount of population in addition to that at those mining townships? Unquestionably there would be.
2079. *Dr. Garran.*] Have you any estimate of the ratable value of property in Wilcannia? I could obtain that, but I did not anticipate being asked for the information, and so I did not bring it. These returns are furnished every year to the office, and are prepared and published.
2080. *Mr. Watson.*] Do you know the boundary of the Wilcannia Electoral District? No, I do not.
2081. If the electoral roll, within the boundaries indicated on the map, contains 3,000 names, what would you estimate as the probable population, allowing something for the mining country? About 13,000, I should say.
2082. Would that be your estimate, including the mining country? Yes.
2083. Because there is always a fair proportion in a mining district which is not on the electoral roll? Yes.
2084. Men come and go, and do not bother about registering? Taking an average, the census discloses that the average would be a little over four to one.
2085. That is the general average for the Colony? Yes; and it would apply just as well to that district.
2086. You think that the shifting population would make good the deficiency in the number of children in some of the families? Yes.

W. H. Hall. 2087. So if there were 3,000 names on the roll there would be about 13,000 people in the district? Yes.  
 21 April, 1899. 2088. *Dr. Garran.*] Do you generally estimate the male adults one-fourth or one-fifth? Between one-fourth and one-fifth.  
 2089. You said, in reply to Mr. Watson, that you had included only the population around the mining townships, but I understood you to say to me that you had allowed for all the pastoral population? Only in the immediate vicinity. That was the requisition I received—the names of the places were given and the immediate vicinity.  
 2090. Then the pastoral population that fills in those blank spaces on the map you have not reckoned in? I have not taken that into consideration.  
 2091. And that estimate you made of the pastoral population between Cobar and Wilcannia was limited to 25 miles on each side of the projected line? Yes.  
 2092. What do you say the population of Wilcannia is now? 1,050—that is the Municipality.  
 2093. Have you any estimate of the population along the banks of the Darling from Bourke down to Menindie? It would have to be a very rough estimate.  
 2094. A good many of the homesteads cluster on the banks, do they not? That I cannot say.  
 2095. *Mr. Trickett.*] Have you any other information? Yes; I have a statement of the area under cultivation; but on account of the conditions of the twelve months ending in March last, I thought it only fair to the Committee that I should give them an estimate also covering the previous twelve months; therefore I have taken it out for the two years. It is as follows:—

Area under Cultivation.

District.	Date of Return.	Total area under cultivation.	Grain, Hay, and Green Crops.						Root Crops, Fruit, &c.											
			Wheat.		Lucerne.		Maize.		Potatoes.		Onions.		Vineyards.		Fruit Orchards.		Market Gardens.		Minor Crops (pumpkins and melons).	
			Acres.	Return.	Acres.	Return.	Acres.	Return.	Acres.	Return.	Acres.	Return.	Acres.	Return.	Acres.	Value of crop.	Acres.	Value of crop.	Acres.	Return.
Cobar .....	Mar., 1898	469½	397	352½	52	22	..	..	..	..	..	1½	4 tons	2	5	10	440	7	12	
	.. 1899	396	342	24	41½	Failure	..	..	7.	..	..	..	..	..	..	11½	820	1	6	
Wilcannia .....	.. 1898	719½	708	280	½	2	..	..	2½	11½	2½	5	3	1 ton & 400 gals. wine.	1½	20	2	40	..	..
	.. 1899	990	952	60	7	Failure	..	..	..	..	..	2	360 gals. wine.	..	..	29	653	..	..	
White Cliffs .....	.. 1898	283	280	70	..	..	3	Failure	..	..	..	..	..	..	..	..	..	..	..	
	.. 1899	207	207	58	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Mount Browne....	.. 1898	206	172	35	30	8	..	..	..	1	2	..	..	3	30	..	..	..	..	
Milparinka .....	.. 1899	241	230	35	6	Failure	..	..	..	..	..	..	..	..	..	5	165	..	..	
Tibooburra .....	.. 1898	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Yalpunga .....	.. 1899	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	

2096. Those figures would indicate pretty clearly that it is not an agricultural district? Exactly.  
 2097. With regard to the falling off in 1899, it is only fair to state that that is occasioned by the prolonged drought? Exactly.  
 2098. *Mr. Shepherd.*] The drought has been really for four years;—that is all against agriculture? But after all said and done, it is not an agricultural district, excepting in specially fitting places, where, perhaps, they might apply a little irrigation.  
 2099. Of course, it is hardly fair to gauge the agricultural capabilities of a district in such a year as the last year has been? Certainly not.  
 2100. *Chairman.*] Do you know if agricultural pursuits have ever been attempted there? There is nothing to show that there is any larger attempt than that indicated in this table, and, at the utmost, within that area there are only 3,000 acres under cultivation.  
 2101. *Mr. Shepherd.*] Have you any means of finding out the production prior to the droughty years—five years ago, for instance? The position we are in, in regard to this information, is this: It is obtained in a confidential way from the settlers on the distinct understanding that these returns will be destroyed as soon as the tabulations for the Department are complete. Consequently, the original returns have been destroyed. That guarantee has to be given to them, or we should be precluded from getting the information, and because the returns might otherwise be used for other purposes in connection with the public service.  
 2102. *Chairman.*] Is there an Act of Parliament to compel the settlers out there to give this information? Unfortunately not. It is a pure act of grace on their part.  
 2103. *Mr. Levien.*] Is there not an Act of Parliament under which they have to furnish some returns? Only stock returns.  
 2104. *Mr. Trickett.*] To put another test, as there seems to be some doubt about this country; comparing a similar tract in New South Wales, have you any other part that would return such a small area of land under cultivation? I should say not.  
 2105. So it is admittedly not agricultural country? Not under present climatic conditions.  
 2106. How does it compare with the Nyngan to Bourke country? I have not the details with me, so I cannot answer the question. I know nothing about the character of the two countries. I have been over the country from Nyngan to Cobar, but I know nothing of the country under discussion at the present time.  
 2107. *Mr. Watson.*] There is plenty of wheat grown at Nyngan? There is a little.  
 2108. *Mr. Shepherd.*] You have not been over this district personally? No.  
 2109. So you cannot speak from any personal knowledge of it? No.

2110. *Mr. Trickett.*] Have you another return which was asked for? Yes. It is as follows:—

W. H. Hall.  
21 April, 1899.

*Mineral Production.*

District.	Year.	Gold.		Silver.		Copper.		Opals.
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Value.
		oz.	£	oz.	£	tons.	£	£
Cobar .....	1897	26,211	105,067	120,860	9,765	2,461½	108,306	.....
	1898	22,254	78,808	170,704	14,556	3,514	178,900	.....
Wilcannia .....	1897	.....	.....	.....	.....	.....	.....	.....
	1898	.....	.....	.....	.....	.....	.....	.....
White Cliffs .....	1897	.....	.....	.....	.....	.....	.....	75,000
	1898	.....	.....	.....	.....	.....	.....	95,000
Mount Browne .....	1897	540	2,163	.....	.....	.....	.....	.....
Milparinka .....	1898	389	1,556	.....	.....	.....	.....	.....
Tibooburra .....	1897	815	3,314	.....	.....	.....	.....	.....
Yalpunga .....	1898	831	3,323	.....	.....	.....	.....	.....

2111. That return shows that there is an increase in the gold production of that country? Not altogether, because in 1897, at Cobar, there was £105,000 as against £78,000 in 1898.

2112. *Mr. Watson.* But, leaving Cobar out, there is a slight increase? No, there is a slight decrease. The production of gold is very small. The production at Tibooburra is much the same; but at Mount Browne and Milparinka, it was £540 in 1897, as against £389 in 1898.

2113. *Mr. Leven.*] Do you know how that information is obtained? It is gathered through the Mines Department.

2114. You know nothing of how it is gathered? No.

2115. What are the chief minerals in the district? Gold, silver, and copper, and opals at White Cliffs.

2116. You know of no other? No other has been reported.

2117. *Mr. Dick.*] Is the population in that district stationary or increasing, according to your return? It is slightly increasing.

2118. Is the increase fairly uniform over a long period? That I could not say without investigating the matter.

2119. *Mr. Shepherd.*] Have you any information as to the effect the drought has had on the production of minerals in that country? No.

2120. *Mr. Watson.*] I suppose you are aware that the drought does adversely affect the production of minerals in alluvial gold-mining? Yes.

2121. And in some cases stops reefing and other forms of mining? Yes; the Mines Department could give information better on that. We confine ourselves to the statistics, and not the reason why, unless there is some phenomenal reason.

Henry Chamberlaine Russell, C.M.G., Government Astronomer, sworn, and examined:—

2122. *Chairman.*] Will you make a statement as to the average rainfall in the district to be served by this railway? Yes; starting from Cobar, and going north to Bourke, and from Bourke westward half the distance to Wilcannia, passing through Louth, and then going down to the middle line between Cobar and Wilcannia, the average rainfall is 15·41 inches. Taking the other half of the country out here from Louth to White Cliffs, and back again to Wilcannia, the average rainfall is 11·78 inches. Then, taking a section of the country south-west from Cobar to Mount Browne, and westward of the same line, and down from Louth again, so as to divide it into eastern and western halves of the country affected, the average rainfall of this piece—say, from Ivanhoe to Cobar and Mount Hope—is 15·38 inches; and taking the other section—that is, from Ivanhoe to the Cobar line, and up to Silverton and back—the average rainfall is 11·46 inches. The information I have given relates to an area that comes down to within 20 miles of Menindie.

H. C. Russell,  
C.M.G.  
21 April, 1899.

2123. That would embrace the whole of the country to be served by the proposed railway? Yes; so far as I understand.

2124. Have you a station at Yalpunga? I have a station at Tibooburra. The average rainfall there is 8·73 inches. At Mount Poole, which is in the same district, and close to Tibooburra, it is 9·00; and at Milparinka it is 9·30. Then, going eastward, the nearest station I have is that of Elsinora, on the Paroo practically, and the average rainfall there is 14·29. At Wilcannia it is 11·13, and at Cultowa it is 12·36. Menindie is the driest place in the Colony, so far as the records go. The average rainfall at Menindie is 9·86, and at Wentworth it is 12·09.

2125. *Dr. Garran.*] Have you any stations north or south of Menindie? Tintinallong is about 30 miles north-east, and the average rainfall is 10·29. At Billila, 10 miles or so further north, on the river, it is 10·49, and at Culpaulin it is 10·74.

2126. What is the average at Broken Hill? 10·11; that is a nine years' record, which would be rather below the average. The record is for the last nine years.

2127. Have you White Cliffs? No; that is a station that has been going only about twelve months. There are a number of stations just to the west of Wilcannia. There is a station called Grassmere immediately west, about one-third of the way between Wilcannia and Broken Hill.

2128. That would be on the coach road, I suppose? Yes; the average rainfall there is 6·84, but that is a four years' record, of which three were drought.

2129. Then I understand that the extreme north-west of our Colony is not drier than Menindie? No; the rainfall in the neighbourhood of Milparinka is fair in amount, considering the district it is in; but it falls in violent storms. Often they go practically months without rain, and if they do not get rain in the first three months of the year it is highly probable they will not get any.

2130. They had 2 inches a few weeks ago? Yes, they had—rather more in some places. For instance, in the Hungerford district some of the stations had from 3 to 4 inches in that storm.

2131. Have you a record for Wanaaring on the Paroo near the border? Yes; Wanaaring is 13·28—an eighteen years' record, so that may be taken as a fair average. Urisino is 12·28.

2132.

- H. C. Russell, 2132. Do you know how many years Wilcannia has been established as an observatory? Twelve years. That would be about a fair average.  
C.M.G.
2133. Preceding this drought, when was the last bad drought? The corresponding drought to this was in the middle of the eighties—about from 1883 to 1886.
2134. That was a three years' drought? Yes; and speaking generally the rainfall was much less in those years than in the present drought.
2135. There is no part of the Colony, I suppose, where there is not some rainfall in each of these four years? No; but the rainfall is so small—half an inch in the month, and that sort of thing—that in that country it is perfectly useless.
2136. In those places where you speak of 8 inches, would that come in light showers, or 2 inches at a time? If it is in the west, the rain they get is nearly always in heavy showers.
2137. Is that the case at Menindie? Yes.
2138. Then the contribution to the Darling water from the Darling basin itself is really very slight? Yes; except in heavy storms.
2139. Then we are really indebted to the Queensland rain for the navigation of the Darling? Yes—perhaps more than half of it; but the tributaries to the Darling in this Colony, running from the main range, feed the Darling very well. The floods come down from the Macintyre River, which is partly Queensland and partly New South Wales rain. Nearly all the valuable floods come in from there, but the Namoi and Macquarie, and several other rivers, also feed the Darling very satisfactorily.
2140. In good rainy seasons there is a good discharge from the Bogan and the Macquarie, I suppose? Yes. Sometimes the rains are so heavy in the west that they cause considerable floods. I remember one rain-storm occurring in January, 1886, when 11·36 inches fell at Wilcannia in thirty-six hours. The consequence was that the river rose at Wilcannia 27 feet, whilst the rain was light about Bourke, where the rise was only 4 feet.
2141. That is very occasional? That is the only instance I know of, but it shows that they may get a flood in the river from a purely local downpour.
2142. As regards occupying that country for agricultural purposes, this very sudden and heavy rainfall is rather against agriculture? Yes; and there is another still more serious objection, which I pointed out some years ago, namely, that nearly all of their rain comes in the summer and autumn.
2143. When they do not want it? It is of no use then for agriculture. In the north-western districts the rainfall is extremely uncertain.
2144. That is all to the good for grass-growing I suppose? Yes; the grass grows so very fast after heavy rain that in the course of two or three weeks after heavy rain they have a fine crop of grass.
2145. Unless very hot winds nip it off? Yes.
2146. Still, there is this great distinction between these two industries (pastoral and agricultural), namely, that the rainfall is not wanted so far as the pastoral is concerned, but very often it is wanted so far as agriculture is concerned? Yes. I think the best illustration of the character of that rainfall I gathered from an old squatter some years ago. I expressed my doubt as to how he could exist there with a rainfall of 6 inches a year, and he said, "I am perfectly satisfied with 6 inches a year if you let me have it when I want it." I asked, "How do you want it?" He replied, "I want 3 inches in the early spring, and 3 inches in the early autumn; then the grass will grow up—I will have heavy fields of grass. There is very little wind here, and, with a lightly stocked country, the grass is preserved, a sort of dry hay."
2147. Then, for orchard purposes and vineyards and so forth, if anything is done with tillage in that district, it must be done by irrigation? I think so, but I do not pretend to know anything about it.
2148. Of course, with irrigation you can put the water on when you like? Yes.
2149. And in any volume you like? Yes.
2150. In the other case you are dependent absolutely on what Nature gives you? Yes.
2151. And sometimes Nature gives too much and sometimes too little? Yes; and it is very uncertain as to when she does give it to you.
2152. We have just had an account given to us of the agriculture and orchard growing in this district, and a beggarly account it is;—I suppose that is due to the climate—the uncertain rainfall? Yes. If a line be drawn from Wentworth (say) to Walgett, all to the west of that is not much good for wheat-growing. To the east of it there is a chance.
2153. You will get an occasional crop, I suppose? Yes.
2154. And, when you do get it, a very good crop? Yes; I know one squatter living near Cobar who told me that for six years running, each of them drought years, he got a good crop of wheat, and I was very doubtful. At last he came down and finished his joke with me. He said that he had chosen his wheat-field in a gully, and every shower of rain that ran at all on the surface came down and watered his field. That shows it is possible to grow wheat under irrigation, and very satisfactorily; but if it would pay, I do not know.
2155. Then, Cobar is quite as far west as cultivation could go? Yes.
2156. In fact, it is a little outside the range? Yes.
2157. The line going to Dubbo from Bourke, between Nyngan and Bourke at any rate is practically the eastern limit of the wheat-growing country? Yes. Of course, in their best years they could grow wheat, but it could not be made a commercial transaction further than that. In the north-western half of the Colony, speaking generally, the rainfall is in the early part of the year, and, therefore, is unfavourable for the growth of cereals.
2158. And that part you spoke of as lying west of your line would, in area, take in quite one-third of the Colony? Yes.
2159. And it is not a wheat-growing country? No.
2160. Not from any want of richness in the soil? No; I think, from what I learn, that some of the richest soil in the Colony is to be found on the Darling.
2161. *Mr. Shepherd.*] How many years back do you calculate your average rainfall? For each individual station we take an average for the number of years it has been at work.
2162. So there is a great variety of averages? Yes; but out west there are very few stations with long records.
2163. How does the general average compare with the rainfall for the last four years? I could not tell you off-hand exactly what it is, but I should think that the average for the last four years would be from 20 to 30 per cent. below the general average.
- 2164.

2164. And last year, I presume, was the lowest of all? Yes.
2165. In what months do they usually get the rain in these districts? January and February—sometimes in March. This year they missed the rain in January and February, and got it in March.
2166. Not in the spring months? Not as a rule.
2167. All that is really against agriculture? Yes; I think, as far as I know anything about it, it is altogether inimical to agriculture.
2168. If they cannot get their crops in before June or July, at the latest, they are not likely to get any crops at all? No.
2169. *Chairman.*] Anything that we could do artificially, you think, would not alter the climatic conditions of that part of the country? I have never been able to learn of anything that is likely to increase the fall of rain. But, of course, it is possible by artificial means to conserve water, and use it to greater advantage than Nature seems to do, over small areas by irrigation.
2170. But that would not alter the climatic conditions? It would not increase the rainfall.
2171. With the rainfall in that particular district, do you think agricultural pursuits are possible there? I think not.
2172. Have you a detailed statement of the rainfall at Wilcannia (say) for ten or twelve years back? Yes; the first year's record is in 1873. It was 11.14; 1874, 11.22; 1875, 11.47; 1876, 5.65; 1877, 12.20; 1878, 12.22; 1879—one of the finest years they ever had—14.30; 1880, 10.89; 1881, 10.82; 1882, 8.35; 1883, 6.84; 1884, 7.65; 1885, 18.37; 1886, 12.00; 1887, 21.99; 1888, 3.23; 1889, 14.08; 1890, 15.17; 1891, 13.89; 1892, 9.87; 1893, 10.80; 1894, 16.62; 1895, 10.77; 1896, 7.30; 1897, 7.25; 1898, 11.13.

H. C. Russell,  
C.M.G.  
21 April, 1899.

TUESDAY, 13 JUNE, 1899.

Present:—

THE HON. WILLIAM JOSEPH TRICKETT (VICE-CHAIRMAN).

The Hon. PATRICK LINDSAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.

ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Joseph Clarke, Inland Mail Clerk, Postal and Electric Telegraph Department, sworn, and examined:—

2173. *Vice-Chairman.*] The length of the proposed Railway from Cobar to Wilcannia is 156½ miles, so that at the ordinary rate of £12 per mile it would cost your Department £1,878 a year for the carriage of mail-matter on that line? Yes.

J. Clarke.  
13 June, 1899.

2174. What is the cost of the mail service to Wilcannia? I have prepared a return.

2175. Will you be good enough to read the return? It is as follows:—

COBAR-WILCANNIA LINE.

Number of mails, including parcels, exchanged on the line, with the approximate weight, per week:—72 bags, &c. = 52½ cwt.

STATEMENT showing the number of Letters posted at the post offices on the line, and the Revenue derived from the Post and Receiving Offices during the year 1898.

Name of Office.	Number of Letters posted.	Revenue.			
		Postal.	Telegraphic.	Money Order and Postal Notes.	Total.
Cobar .....	206,600	£ 2,134	£ 909	£ 195	£ 3,238
("Meadow's Hotel") .....	.....	5	.....	.....	5
Wilcannia .....	132,070	1,622	740	67	2,429

STATEMENT showing the number of Letters posted at, and the amount of Revenue derived from, the Post Office at Wilcannia each year from 1891 to 1898.

Year.	Number of Letters posted.	Revenue.			
		Postal.	Telegraphic.	Money Order and Postal Notes.	Total.
1891 .....	130,599	£ 1,879	£ 1,168	£ 75	£ 3,122
1892 .....	131,277	1,887	1,030	69	2,986
1893 .....	143,150	1,847	942	74	2,863
1894 .....	137,450	1,541	1,087	68	2,696
1895 .....	134,230	1,730	848	66	2,644
1896 .....	133,480	1,607	934	70	2,611
1897 .....	134,640	1,539	811	63	2,413
1898 .....	132,070	1,622	740	67	2,429

2176. How do they reach Wilcannia? The mails for Wilcannia leave Sydney on Monday, Wednesday, and Friday, *via* Cobar, and they get to Wilcannia on Thursday, Saturday, and Monday, at 6.30 a.m. A mail leaves Sydney on Tuesday *via* Bourke, and arrives at Wilcannia on Friday evening.

2177.

J. Clarke. 2177. *Mr. Dick.*] Will you now give the particulars of the mail contracts? The return I have brought is as follows:—

13 June, 1899.

## PARTICULARS OF MAIL CONTRACTS.

Contractors'		Postal Lines.	Dis- tance in Miles.	Frequency of Communi- cation.	Mode of Conveyance.	Annual Amount pay- able to Contractors.	Date of Termination of Contracts.
Names.	Addresses.						
241 Wm. H. Morrison.	Balranald .....	Cobar, "Meadow's Hotel," and Wilcannia.	160	Three .....	4-horse coach.	£ s. d. 1,490 0 0	31 Dec., 1900.
239 Alfred Francisco	Cobar .....	Cobar, <i>Fulham Park</i> , and <i>Baden Park Station</i> , via Belaraboon (mail-box) and Nekarbo.	167	One .....	4-wheeled vehicle, 2 horses.	169 17 6	31 Dec., 1900.
242 James Jarrett...	Cobar .....	Booroondarra Tank, Wuttagoona, Pulpulla, Gidgee, Abbotsford, Tiltagoona, and Innesowen.	60	One .....	4-wheeled, 2-horse vehicle.	83 0 0	31 Dec., 1900.

The latter two lines I mentioned, because if a railway is constructed from Cobar to Wilcannia the probability is that these mails will be started from some point or points on the line.

2178. Can you give the time-table? It is as follows:—

## TIME-TABLE.—COBAR-WILCANNIA LINE.

Leave Cobar .....	Tue	Thur	Sat	8:30 p.m.	Leave Wilcannia .....	Thur	Sat	Tue	5	p.m.
Arrive ("Meadow's Hotel") ...	Wed	Fri	Sun	5 a.m.	," ("Meadow's Hotel") ...	Fri	Sun	Wed	11	do
," Wilcannia .....	Thur	Sat	Mon	6:30 do	Arrive Cobar .....	Sat	Mon	Thur	5:45	a.m.

There are other places from which we receive considerable revenue;—for instance, from White Cliffs, Tibooburra, and Milparinka.

2179. *Mr. Watson.*] Has there been an increasing revenue from White Cliffs? It is a comparatively new place.

2180. That might have the effect of taking away some from Wilcannia? In the way of postages, I have no doubt it does.

2181. *Vice-Chairman.*] How much is paid for the service between Bourke and Wilcannia? The line is between Bourke, Louth, Tilpa, Tankerooka, and Wilcannia, 250 miles, twice a week by a three-horse coach, for £1,450 a year. The present contract ends on the 31st December, 1900. It is a very old-established line.

2182. With a railway from Cobar to Wilcannia would that service still be necessary? It might require a rearrangement at different places.

2183. There are several townships between the two terminal points? I do not know that the towns are very large. There are settlers about 70 miles from Bourke; but as you get further on I do not think there are many settlers.

2184. There is not likely to be any saving to the Government by reason of the new railway doing away with that service? I think not. What we find is that the railway payments increase considerably, and that the mail-coach business remains at about the same per mile.

2185. How do you arrive at that uniform payment of £12 per mile per annum on new lines? It was understood to be a fair one, I believe.

2186. Is it more than the coaching rate? A good deal more.

2187. Is it made up by a saving on the mail-lines which strike the new railway? I do not think so. They put down the amount of work which has to be done, and the weight which has to be carried, and so on, and after a great deal of consideration, in 1886 they thought that was about a fair thing to do.

2188. If a railway were constructed from Cobar to Wilcannia several mails which are conveyed by coach could possibly be sent right in to Cobar;—you say that these routes will be shortened by their making for some point on the line of railway? Yes, a couple of them.

2189. Will it not result in a saving to the Department by making a shorter route? The services get split up, and we do not save much; the interests become divided, and you have to serve them from certain points. Instead of having one line, you have three, four, or five short ones, amounting to about the same, perhaps a little less sometimes.

2190. *Mr. Shepherd.*] Does the nature of the country not vary the price per mile? Yes; in dry country it costs more than it does on the coast, where you can get plenty of feed. Perhaps in dry country, where it is a short line, and there are plenty of people willing to carry, we get the work done for a small amount.

2191. Is there very much competition, as a rule, when tenders are called for these services? You will have tenders for one up to, we will say, twenty-seven. It all depends on the line. I think the largest number of tenders sent in are generally for the North Coast lines.

2192. Are the tenderers generally local people? Not generally. A man may come from the west right away to the north. Contractor Keogh, who has the Hexham to Gloucester line, is a western man. They do not confine themselves to any particular district. There is a man named Potter, who has been all over the Colony—south, west, north, and South Coast. I have known him as a contractor for twenty or twenty-five years. He will have a contract somewhere.

2193. *Vice-Chairman.*] When railways are constructed to outlying places, do you find that there is much diminution in the telegraphic business? I am not aware; I should think it would rather increase that business.

2194. *Dr. Garran.*] Do you have much competition for the mail service between Bourke and Wilcannia? You would not have much competition for that, because, you see, only men of means could do that very heavy service; you, perhaps, would have three or four competitors.

2195. The competition is practically in the hands of two or three men? It is in the hands of about four men. It is so keen between them that I think we get a fair service.

2196.

2196. The competition is sufficiently keen to do justice to the Department? Yes; in fact, locally they consider the price paid now is very small. J. Clarke.
2197. That is because of the hardship of the season? Yes; the difficulty of the country to be worked. Just before this rain came down, according to statements we had, they were carrying out water for their horses for a considerable distance on the Cobar-Wilcannia line, and it is during the driest times that our heaviest loads of parcels go out that way. 13 June, 1899.
2198. Why? The rivers get shut up, and the people must have their pieces of drapery somehow, and they get them sent through the parcels post.
2199. The dry season brings a little grist to your mill? Yes.
2200. You have a larger parcel business? Yes, at dry times. When the rivers are opened the business goes that way because it is cheaper.
2201. *Mr. Watson.*] You do not give anything extra to the contractor if you send heavy parcels in a dry season? No; he makes many applications, but he is told that if he wants more he ought to have asked for more in his contract.
2202. Have you got a mail route from Broken Hill to Wilcannia? Yes.
2203. What does it cost? It is another contract held by Morrison. The line is Broken Hill, Round Hill, Mount Gipps, and Wilcannia, by the new route—about 120 miles twice a week by a four-horse coach, for £100 a year. It is a good coaching road, and the contract terminates in 1901. If this railway were built it would make a quick route—even from Melbourne, *via* Harden, Blayney, and Cobar, to Wilcannia. Say, they left Sydney on Monday, they would get to Wilcannia on Wednesday morning, at about 4 or 5 o'clock if they went through. And if they started from Melbourne on Monday at 6:15, they would arrive at Cobar on Tuesday evening, and at Wilcannia on Wednesday morning; whereas if they left on the same night *via* Adelaide and Broken Hill they would get to Wilcannia on Thursday morning.
2204. Have you got any mail route approaching Wilcannia, from Mossgiel, Ivanhoe, or the Hillston district? We have a line from Hay to Booligal three times a week, and from Booligal to Ivanhoe twice a week, and from Ivanhoe to Wilcannia once a week.
2205. But these lines would not carry Sydney matter? Not to Wilcannia. We discarded that line for Sydney mails when the Cobar railway was opened; and it was reduced from three times a week to twice a week between Booligal and Ivanhoe, and once a week from Ivanhoe to Wilcannia.
2206. You have a line going from Wilcannia out towards Tibooburra, *via* White Cliffs;—what does it cost? Yes; twice a week. From Wilcannia, "Victoria Hotel," Tarella, Double Tanks, to White Cliffs three times a week.
2207. What does that line cost? It is included in a further contract of twice a week.
2208. Give us the cost of the line right through? £1,126 17s. 4d. to Tibooburra—that is, for a service three times a week to White Cliffs, and a service twice a week to Tibooburra.
2209. You do not go any further in that direction? We go out to Queensland as far as Wompah once a week.
2210. What is the cost of the line? Tibooburra, Yalpunga, and Wompah (Queensland), *via* Warri Warri, 52 miles, once a week by vehicle with two or four horses, for £75 a year. Starting from Sydney on a Monday, the mail would be able to get to Broken Hill, if this railway is built, on Wednesday afternoon, whereas now it does not arrive till Thursday morning at 9 o'clock.
2211. How much time should you save to the people of that north-western district if the mails were conveyed by rail from Cobar to Wilcannia? Twenty-four hours or so. We should get there at about 4 or 5 a.m. on Wednesday. We get there now at 6:30 a.m. on Thursday.

FRIDAY, 4 AUGUST, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.

The Hon. WILLIAM JOSEPH TRICKETT.  
WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

William Bethell Sharp, shipping and colliery agent, Newcastle, sworn, and examined:—

2212. *Chairman.*] I believe you have been over the proposed line from Cobar to Wilcannia? Yes; I went over the whole route in April and May last, from Cobar to Wilcannia. W. B. Sharp.

2213. With a view of giving evidence at this inquiry? Yes.

2214. Are you prepared to make a statement of your views with reference to this proposal? I have prepared the following statement, which I will read:— 4 Aug., 1899.

Hon. Alexander Brown, M.L.A., Newcastle,—  
Dear Sir,

Newcastle, 2 June, 1899.

In conformity with your letters of April 10th and 25th, I proceeded to Broken Hill, *via* Lithgow, Cobar, Wilcannia, and returned to Newcastle *via* Port Pirie, Adelaide, Melbourne, and Sydney; and I have much pleasure now in handing you report upon my observations as to the advisableness, or otherwise, of constructing a railway line between Cobar and Broken Hill, *via* Wilcannia.

Seeing, from the evidence taken before the Public Works Committee in 1891, considerable stress was laid upon the fact that coal and coke were carried from Lithgow to Broken Hill, and crude ore returned there for smelting, a considerable revenue was likely to accrue to the Government therefrom, I made it my business to visit Lithgow, and have to report that the output of the collieries there—*viz.*, Lithgow Valley, Hermitage, Eskbank, Iron-works Tunnel, Zigzag, Vale of Clwydd, Oakley Creek, and New Vale—totals at the present time about 200,000 tons yearly, of which the Railway Commissioners purchase about half, and the western and southern towns the balance. Of course, if a greater demand took place for the coal, the output could be considerably increased. The present price of Lithgow coal, on the trucks, ranges from 4s. to 4s. 6d. per ton. The total output of coke is about 4,000 tons per year, which is principally used by the Tramway Department for fuel. The quality of coke at the present time is not of a very first-class order, as exemplified by the fact that the Cobar Smelting Works do not use it, although much nearer to Cobar than Newcastle and Rix's Creek; they prefer to pay the extra carriage on the better article from the Northern districts. It is quite possible that when the new

W. B. Sharp. copper mines at Blayney; Cow Flat, Wiseman's Creek, Chesney, and others, get into full working order, they may use a considerable quantity of coal and coke from the Lithgow district, the output of Newcastle coke being nearly all contracted for at present. Timber is cheap, and can be bought for about 10s. per hundred, and bricks for about 30s. a thousand. In the face of this, however, very little timber is despatched to Cobar, the bulk of the timbering of the mines there being rough timber, procured within 15 or 20 miles of Cobar.

4. Aug., 1899.

On my arrival at Cobar I was joined by Mr. Kilgour, who had arranged to drive from there to Wilcannia. During my stay, however, I visited the Great Cobar Copper Company's property, and found that very little timber for mining purposes was used there, except what was procurable within a short distance of the mine. The ore raised is burnt in open dykes, to throw out the sulphur contained therein. It is then worked through water-jackets, and converted into matte, containing about 35 to 40 per cent. of copper. This matte is forwarded under ore rate to Lithgow at 15s. 1d. per ton, and refined there, and sent in ingots from Lithgow to Sydney. I found that no coal is used at the mine, timber fuel being plentiful. The coke used in the water-jackets is nearly all imported from Rix's Creek, and the company have a special arrangement, made with the Commissioners some years ago, to carry this coke at a through rate of £1 5s. 10d. per ton. The balance of coke used is from Newcastle, the rate being £1 4s. 5d. per ton.

We started from Cobar by buggy, and passed through the following stations:—Amphitheatre, Springfields, The Meadows, Tambua, Barnato, Nelyambo, Bulla Bulla, Cultowa, and Murtee. The bulk of the distance was adjoining the proposed railway route. I saw no particular difficulties, from an engineering point of view, regarding the construction of the line, but the whole of the country was in a deplorable condition owing to the drought. Feed was almost impossible to obtain, nearly all the tanks were dry, and the mortality amongst the sheep has been enormous.

On arrival at Wilcannia, I ascertained that the quantity of wool handled last year was 29,700 bales, of which quantity 10,550 bales were forwarded through Broken Hill to Port Pirie and Adelaide, but that, in the year 1894, which they considered a good period, they handled 36,947 bales. The carriage on wool from Wilcannia to Adelaide and Melbourne *via* Echuca or Morgan, was as follows:—

Adelaide .....	Greasy, 45s. to 50s. ....	Scoured, 60s.
Melbourne .....	„ 50s. ....	„ 55s.

Insurance on river carriage to be calculated at 20s. per cent. The carriage on up goods averages about 85s. per ton at the last rise in the river, and at ordinary times when the river is up, 55s. per ton. Freights on general goods from Adelaide to Wilcannia, *via* Murray Bridge, are £3 10s. per ton; Melbourne to Wilcannia, *via* Echuca, £3 10s. per ton; Sydney to Wilcannia, *via* Echuca, £4 per ton when the river is up. There is no doubt a strong feeling in Wilcannia to have the extension of the railway from Cobar, as, in times of drought, under the rates charged by the railway for corn, chaff, and other feed, goods could be carried from Orange to Wilcannia at very cheap rates; on the other hand, equally influential people are in doubt as to whether Wilcannia would be best served by a railway or by the locking of the Darling. The cost of the railway is estimated at £497,000, whereas the cost of locking the Darling as far as Wilcannia is £532,000. I was told frequently that if they had a railway to Wilcannia they would be satisfied, as they did not think for one moment the New South Wales Government would be insane enough to continue it on to Broken Hill. In the event of the Government doing so, there would be no doubt that a considerable quantity of wool would find its way to the seaboard *via* Broken Hill. The population of Wilcannia is 1,200; White Cliffs, 1,600; Milparinka, 750; Tibooburra, 600. The population of White Cliffs is increasing rapidly, owing to the liberal mining laws, and, lately, discoveries of copper in large quantities have been found at Nuntherungie. Of course, if the copper deposits are of a permanent nature, a large amount of trade could be done through Wilcannia, not only as regards the carriage of coke, but also the conveyance of minerals. It is a very difficult matter to decide whether in the event of a railway going to Wilcannia, it would be used to any great extent when the river was up. I feel certain that shippers and owners would use the cheapest route when available, and consequently the annual returns of the railway would in my mind fluctuate very considerably. There is a strong railway league formed in Wilcannia, and they have several concentrated facts to put before the Public Works Committee on their arrival there, showing that the revenue derivable from the extension to Wilcannia would total £67,750. These estimates, as far as the sheep and cattle traffic, are purely imaginary. The revenue estimated by them from goods at £48,500, would, I hardly think, be realised, although, no doubt, at the present time while the drought is on, a railway would be a very great blessing to the people there, who are paying something like £7 a ton for goods by camels from Broken Hill.

I then proceeded by coach, *via* Netalie, Grassmere, Langawirra, and Mount Gipps stations to Broken Hill. The country on the western side of the Darling appears to me to be very much superior to that on the east. The salt-bush is still flourishing, and there appears a fair amount of feed, the great difficulty in keeping the stock alive being the scarcity of water. At Broken Hill I ascertained that the whole of the smelters had been removed from the Hill to Port Pirie, as it was found much cheaper to send the ore to the smelters at the seaboard, than to bring the coal, coke, and other materials from the coast. The smelting seems to have settled down on a sound basis, and my own opinion is that if the railway were opened to Broken Hill the whole of the smelting operations would be continued at Port Pirie. The average rate for ore from the Hill, to and from Port Pirie, is 12s. 3d. per ton; flux, 15s. 1d.; coke, 28s. 6d.; bullion, 30s. 11d.; coal, 16s. 9d.; timber, 25s. 2d.; and wool—greasy, 36s. 9d.; scoured, 48s. 6d. per ton. You will see from these rates that it would be hardly possible for any rate to be struck on the New South Wales railway that could come near them. Coal is selling at Port Pirie for 15s. 6d. per ton, and at Broken Hill for 32s. 6d. Even estimating the lowest possible rate for coal from Eskbank to Broken Hill at ½d. per ton, the freight alone would come to £1 7s. 1d., and the cost 4s. 6d., totals £1 11s. 7d., and as the back loading of bullion or crude ores would be unobtainable, it would be impossible to carry coal that enormous distance at the low rate named. The basis of carriage on coal at ½d. per ton, I consider absolutely inadequate. It is a well-known fact that the Railway Commissioners have stated time after time, in their reports, that the coal traffic of Newcastle does not pay them. We find that they haul over 2,300,000 tons yearly, and charge a rate equivalent to about 1d. per ton per mile, making the various collieries provide sidings and rolling stock for the conveyance of the coal. If, with all this thrown in, the coal trade here does not pay, according to their statements, how could they possibly expect it to be payable when the carriage proposed on the Western line is ½d., and the wear and tear of the Government trucks on long-distance runs would be very great? The comparison admits of no argument. I find that, owing to the new system of working the mines, the use of timber is rapidly decreasing, and that only a small quantity of colonial timber is used at the Hill at all, amounting to about 30 tons monthly. Therefore, there would be no inducement for sending timber from Dubbo to the Hill as previously advocated. As showing the enormous difference in the amount of bullion carried by the railway, I find that in 1893 as much as 59,725 tons was carried from Broken Hill to Port Pirie; but since the smelting operations have been carried on at the latter place, in 1898 only 3,179 tons of bullion was carried. On the contrary, in 1893, the amount of ore sent from Broken Hill was 158,058 tons; in 1898 it amounted to 426,820 tons, the bulk of this being for treatment at Port Pirie, and the balance for shipment from there to Europe. Likewise, the falling off in the carriage of coke in 1893, when it was 72,441 tons, to last year when it only reached 4,631 tons. Coal, however, has been steadily increasing, and last year 92,297 tons were consumed at the Hill at an average cost of 32s. 6d. per ton. Considering the geographical position of Port Pirie, which is only 256 miles from Broken Hill, the whole of the trade, in my opinion, must divert to that port, and as every facility is being given for the expansion of trade there, I do not think it at all possible that any Broken Hill trade can be brought to Sydney. The bullion is carried from Port Pirie by steamers to eastern ports, and transhipped from there to London, and it would be impossible for any railway to compete with this regular and cheap water carriage.

I have, therefore, come to the conclusion that the extension of the line to Wilcannia would benefit that town very considerably, by having easy access and fairly cheap freights; but no reliance could be placed on a regular traffic, on account of the cheap conveyance by river when navigable; but that a continuation to Broken Hill would be mostly suicidal. None of the trade, in my opinion, would come to Sydney, but a large amount of trade would be diverted from Wilcannia to South Australia, owing to the smaller mileage carriage. I doubt not, that a large number of people at Broken Hill could be found advocating the extension of the line from Cobar to that city, for the obvious reason that if they had a Government railway there, they would be in a position to use it as a lever to reduce the rates on the South Australian railways. These, however, if competition ensued, would, in my opinion, always hold the business at Broken Hill.

I have all data at my disposal, and shall be pleased, if required, to give my evidence before the Public Works Committee when called upon.

I have, &c.,

W. B. SHARP.

2215.



2215. Have you any other statement? I have the figures showing the increase and decrease of trade at W. B. Sharp. Broken Hill, from the year 1888 to the year 1898:—

The last of the smelters was closed down in Broken Hill during 1898. They were removed owing to the great cost of smelting, it being cheaper to smelt at the seaboard than to pay cost of coke and flux to Broken Hill, and cost of ballion to ports. 4 Aug., 1899.

<i>Ore despatched since opening of line.</i>		<i>Wool forwarded.</i>	
Year.	Tons.	Year.	Tons.
1888	11,053	1888	13,839
1889	45,100	1889	12,453
1890	93,676	1890	10,568
1891	99,475	1891	13,541
1892	97,347	1892	11,731
1893	158,058	1893	14,081
1894	135,758	1894	12,155
1895	193,636	1895	19,560
1896	266,885	1896	12,724
1897	307,004	1897	11,819
1898	426,820	1898	15,908
	1,834,812		148,379
			25,870
<i>Coal received.</i>		<i>Bullion despatched.</i>	
Year.	Tons.	Year.	Tons.
1888	353	1888	17,062
1889	9,103	1889	33,183
1890	17,693	1890	40,851
1891	29,271	1891	54,643
1892	27,114	1892	43,671
1893	35,008	1893	59,725
1894	44,562	1894	41,927
1895	43,260	1895	32,426
1896	59,849	1896	19,032
1897	80,584	1897	16,914
1898	92,297	1898	3,179
	439,094		362,613
<i>Mine timber received.</i>		<i>Coke received.</i>	
Year.	Tons.	Year.	Tons.
1888	9,862	1888	22,471
1889	19,875	1889	33,057
1890	20,669	1890	38,675
1891	31,376	1891	76,810
1892	25,453	1892	60,385
1893	25,924	1893	72,441
1894	22,835	1894	67,102
1895	17,679	1895	52,039
1896	17,379	1896	43,314
1897	23,819	1897	34,883
1898	19,684	1898	4,631
	234,555		505,808

Present price of coal at Broken Hill:—

Hetton, Wickham, and Newcastle, 15s. 6d. per ton at Pirie; 3d. agency; 16s. 9d. railway freight. Total, 32s. 6d. per ton on trucks at Broken Hill.

Freights between Pirie and Broken Hill:—

Coal, 16s. 9d. per ton.  
Coke, 28s. 6d. per ton.  
Mine timber, 26s. 2d. per ton.  
Ore, 12s. 3d. per ton.  
Wool rates, see page 36, S. A. Railways Goods Rates-book.

Mileage:—

Broken Hill to Pirie, 256.  
" Port Augusta, 287.  
" Port Adelaide, 334.

Colonial timber:—

A few tons only used. About 30 tons monthly, the rest being Oregon. Mines are not using as much timber as formerly. No special concessions in freight now.

Population of Broken Hill:—27,000.

Mines working:—

South, Sulphide Corporation, Block 10, Broken Hill Proprietary (three blocks of 40 acres), Block 14, British Junction, Junction North, North, Consols, Pinnacles.

Number of men employed:—

6,700, including miners, surface hands, mechanics, &c., at the mines.

Customs value of ore exported during 1898 was £1,452,443, this being the value of ore at Broken Hill. It is, of course, only approximate.

<i>Ore despatched during 1898.</i>	Tons.
Broken Hill Proprietary	200,397
Block 10	58,223
Central (Sulphide Corporation)	45,590
Block 14	38,249
South Mine	27,273
British	19,359
Junction	16,236
Junction North	12,935
North	7,546
Pinnacles	604
A. B. Hill Consols	47
Silver Hill Junction	29
Sundry small mines	332
	426,820

2216. Do you think that the smelting is permanently fixed at Port Pirie for Broken Hill? It is permanently fixed at Port Pirie, Cockle Creek (Newcastle) and Dapto. There is no smelting at the Hill.

2217.

W. B. Sharp. 2217. You think, even if a railway is constructed, that there will be no possibility of doing any smelting at Lithgow? I do not see how it is possible, the companies having made their arrangements now, and gone to a very large expense in erecting enormous works at Port Pirie. There are thirteen smelters at work there. They have also arranged for smelting at Cockle Creek and Dapto. I do not think it is likely that smelting will come out of that channel again. It is quite likely that large quantities of ore from Cobar will be smelted at Lithgow.

4 Aug., 1899.

2218. Then you do not think that there is any possibility of Lithgow cutting in and getting any of that smelting? I do not think it is at all possible. I have some notes here that bear on the subject:—

DURING the year 1898, 426,820 tons of crude ore and concentrates were sent from Broken Hill, of which 38,070 tons went to Cockle Creek and Illawarra; 277,325 tons to the various smelting works in South Australia, viz., at Port Adelaide, Port Pirie, Dry Creek, and Wallaroo; and 111,425 tons were shipped direct from Port Pirie to London. Now, the question is, if Sydney was connected with Broken Hill by rail, what proportion of the above traffic could such a line hope to get? (1.) The ores and concentrates sent to Cockle Creek and Illawarra (38,070 tons) are at present delivered at these places at the following rates, viz., Broken Hill to Port Pirie, 12s. 3d. per ton; Port Pirie to Newcastle, 5s. per ton; and Newcastle to Cockle Creek, 10d. per ton; or a total of 18s. 1d. per ton. The cost from Broken Hill *via* Cobar and Wilcannia would be, supposing the ore was carried at  $\frac{1}{2}$ d. per ton per mile (835 miles), 34s. 10d. per ton.

The cost of ores delivered at Illawarra (Dapto) by the present route is as follows:—Broken Hill to Port Pirie, 12s. 3d.; Port Pirie to Sydney, 5s.; Sydney to Dapto, 2s. 6d.; or a total of 19s. 9d. per ton; *via* Cobar and Wilcannia the cost would be, at  $\frac{1}{2}$ d. per ton per mile, 33s. 4d. per ton (800 miles). The question is, could ore be carried at  $\frac{1}{2}$ d. per ton per mile without back-loading? Mr. Harper would decidedly say "No." It might be said that these ores could be treated at Lithgow, and the products sent to Sydney; but that is out of the question, as the ore for Cockle Creek is from the Central Mine, the property of the Sulphide Corporation, who have their own works at Cockle Creek, and the ore for Dapto is purchased by the Australian Smelting Company, who buy it to treat at their own works at Dapto. The ores and concentrates sent to South Australia are as follows:—Port Adelaide, 59,492 tons; this is from Block 14 Mine, and is all consigned to their own smelting works there. Port Pirie, 200,527 tons, is from the Proprietary Mine, and goes to their own reduction works at Port Pirie. The small quantity sent to Dry Creek and Wallaroo, 17,306 tons, is purchased by the smelting companies at these places for treatment at their own works.

All the ores from the Central mine go to Cockle Creek, and the Australian Smelting Company buy the other ores and send them to Dapto.

2219. There is no possibility of the railway getting that traffic? I do not think so. They have smelters established at Port Adelaide. About 17,306 tons were sent to Dry Creek and Wallaroo.

2220. Apart from the Broken Hill trade, suppose the terminus of the line is at Wilcannia;—while you were out there had you any means of arriving at an opinion as to whether it would pay to have the terminus there? I got a considerable amount of information with reference to the wool. The Wilcannia people estimate that the wool from the various stations ought to come through Wilcannia. In 1898 they got 29,700 bales; but a large proportion of that—10,550 bales—went to Broken Hill, the rest went down the river.

2221. I think you said it was your opinion that in any case the traffic would vary considerably according to the seasons, that if there were water enough in the Darling they would use the river? Yes.

2222. And not use the railway at all? They would only use the railway for certain goods. When the river was up, all the wool would go down the river.

2223. Wool, and I suppose salt and other things coming back—things not of any great value—would come by the river? Yes, of course. To carry expensive goods, which they might want quickly, they would use the railway. But there is not a large amount of that traffic in that district.

2224. Do you not think people doing business with Sydney—the squatters—would, if there was a railway to Wilcannia, use the railway for their wool? I do not think so. There are only about six stations between Cobar and Wilcannia, and the largest of those have river frontages. The head station is on the river. The back stations only would be touched by the railway. When the river was dry the probability is that they would shear the sheep at the back stations, and send the wool by train. If the river was navigable they would shear at the front stations, and send the wool down by water-carriage.

2225. I gather from the statement made by the Commissioners that there would be a loss of something like £30,000 a year on the line? I do not take such a pessimistic view as that.

2226. They estimate the traffic at £6,800—on the other hand, the Progress Committee estimated it at £67,000? I think it a fair thing to say that the revenue would be about twice as much as Mr. Harper states. It is an unknown quantity; you must take the average of a number of years, and after all it is only a matter of opinion.

2227. *Dr. Garran.*] The interesting report you have read to us is addressed to Mr. Brown? Yes.

2228. I presume from that that you went out there at his request? I did.

2229. Was it a personal matter of his own, or was he representing a number of people in Newcastle? As far as I know, it was a personal matter of his own. He asked me to go and report, and I went.

2230. You know the opinion of the people at Newcastle pretty well, I presume? Yes.

2231. Is it generally adverse to the construction of the line? I do not think it would affect them.

2232. Whether it would affect them or not, is the opinion of the people of Newcastle against the making of the line? I do not think that many people there have thought of it.

2233. So far as you can see, Newcastle has nothing to hope for or to fear from the making of the line? That is my idea.

2234. There is no local interest involved in the matter? None whatever.

2235. They have nothing to fear in the way of losing the coal trade? No. The railway could not compete with water-carriage.

2236. So that the whole question of smelting at Port Pirie or Broken Hill does not touch Newcastle at all? No.

2237. From the figures you gave us it appears to be a little more than 1s. a ton cheaper to land the ore at Cockle Creek than to land it at Dapto? Yes; the charges are—Cockle Creek, 18s. 1d.; Dapto, 19s. 9d.

2238. Yet the whole of it does not go to Cockle Creek? Only the ore from their own mines.

2239. Do you know any reason that determines to which place the ore shall go? The Sulphide Corporation of Cockle Creek bought the Central mine.

2240. It is their own ore? Yes.

2241. Do they compete in the general market for the purchase of ore for smelting? No.

2242. Has any other company any interest of the same kind? No; the Australian Smelting Company buy ore from the other mines.

2243. The Sulphide Company do not go into the general market to buy ore? Not at Broken Hill; but they are going into the general market to buy ore throughout New South Wales.

2244.

2244. For blending? No; they are going in for copper-smelting and refining gold. They are getting a W. B. Sharp. quantity of ore from Western Australia.
2245. A different kind of business? No; they blend the gold ore with silver, and make the product more valuable. 4 Aug., 1899.
2246. Is not the blending in the process of fluxing? Yes.
2247. All skilled treatment of ore is largely skill in blending? Yes.
2248. So they have to look out for different kinds of ore for that purpose? Yes.
2249. What I want to know is whether, for the purpose of blending, the two companies compete with each other in the general market? I do not think so.
2250. They are not competitive companies? They are, in the strict sense of the word.
2251. But not to any appreciable extent? No.
2252. They do not undercut each other? No.
2253. Can you tell me, as between the northern and southern coal, whether the coal and coke used at Cockle Creek is better for general smelting purposes than the coal and coke used at Dapto? In smelting they do not use coal, only coke. That used at Cockle Creek is brought from the Co-operative mine at Newcastle. I also have a contract with them bringing it up from Bulli. They blend it altogether, and they find that the southern coke is an improvement when mixed with northern coke.
2254. They not only mix the northern sorts together, but they also mix the southern coke with it? Yes.
2255. Does that make the best coke they can use? No; it makes the cheapest. Nearly all the coke used at Port Pirie is German coke—90 per cent. of it is German.
2256. From what part of Germany? It comes from Hamburg.
2257. Is that because it has greater heating power or greater cleanness? They find it has better resisting power in the furnaces, and does not contain so much dirt as Australian coke.
2258. Do the coke factories at Newcastle wash the coal well before they coke it? At the Purified Coke works they wash it.
2259. Is the Rix's Creek coal good for coke? It is better than the Newcastle coal. The Newcastle coal contains a certain quantity of dirt which depreciates the value of the coke.
2260. Do the southern coke men clean their coal? No, they do not.
2261. Is there not a very much larger amount of earthy matter in the Illawarra coal than in the Newcastle coal? The Purified Company's coke contains from 7 to 9 per cent. of ash. That is washed. The Co-operative Company's coke, which is not washed, contains from 12 to 14 per cent. of ash. The coke from Bulli contains from 16 to 18 per cent. of ash.
2262. If they find it advantageous to mix the three coke in the north, do they do so in the south? No; I think that it is a matter of cheapness in the south.
2263. They put up with any inferiority? Yes.
2264. But as far as you know, the Illawarra coke is not equal to the blend that you use in the north? No. They use a large quantity of that coke at Mount Lyell.
2265. Is the coal cheaper? The coal is cheaper, and the coke is much cheaper. It is landed at their jetties, and costs about 13s. 6d. per ton.
2266. As regards this line to Wilcannia, we have had witnesses who expressed the opinion that if a railway were made right through from Wilcannia, the bulk of the Wilcannia commerce would come to Sydney in preference to going to Port Pirie or Adelaide—you entertain a different opinion? I am quite sure it would all go the other way.
2267. You have had considerable experience as a commercial agent? Yes.
2268. Is it a general rule that commerce takes the cheapest route to market? It is.
2269. And there is nothing in the shipping facilities of Sydney that would make it more advantageous to put stuff on board at Port Jackson, instead of at Port Adelaide? No; nothing whatever.
2270. That is, whether you take line steamers or sailing ships? Yes.
2271. All the charges are the same? Yes. The only reason why ships prefer to come to Sydney is that it is a cheaper port.
2272. But as far as making up a parcel of goods or stores, would there not be some advantage in buying in Sydney rather than in Adelaide? From Wilcannia to Adelaide is about 500 miles, as against a much longer distance to Sydney.
2273. Would that be counterbalanced by the further advantage of buying in Sydney? You can buy in Adelaide as cheap as you can buy here.
2274. You said that, supposing the railway were made through from Wilcannia to Silverton, and the river were not navigable, the wool from Wilcannia would show a tendency to go to Silverton and Port Pirie? In my opinion it would all go that way.
2275. Do you think that that influence would extend to the eastern side of the Darling at all;—do you think that any of those sheep stations, supposing the railway to be made right through, would send their wool to Port Pirie? Half of them would. There is one station, 70 miles from Cobar, that sends its wool to Cobar.
2276. That influence would not extend as far as Cobar;—I suppose Cobar would always prefer to send to Sydney? Yes.
2277. But when you get half way between Cobar and Wilcannia it would be doubtful? Yes.
2278. The effect of making a railway from Cobar to Wilcannia and right through would be, probably, to send the east Darling wool to southern ports? Yes.
2279. But suppose the squatters were ledger-logged in Sydney, would that make any difference? I think most of them are ledger-logged in Melbourne and Adelaide.
2280. You seem to think that if the river were up, and navigable, it would beat the railway to any port? I think it would.
2281. It is a longer passage down, and there is a risk of coming to grief over snags, but in spite of all that you think that the river will always be availed of? Yes.
2282. Whether the river is locked or not? Yes. As long as it is navigable the bulk of the trade will go by the river.
2283. Then the only chance of this line making profits is when there is a big drought? I do not see how it can make any profit then. I have just been there, in a time of bad drought, and the stock are all dead; even the rabbits are dead.

- W. B. Sharp. 2284. There is only half the usual quantity of wool to carry this year? I do not think there can be as much.
- 4 Aug., 1899. 2285. There has been a traffic in fodder wherever the railway reached? Yes, there is sure to be.
2286. The railway would have a hard fight when the river is up to get any business? Yes.
2287. They would get the passenger traffic to Sydney and a little light goods traffic? Yes.
2288. One train a week would do all that? It would be inconvenient for passengers—the coach runs three times a week.
2289. You do not think that the Commissioners' estimate is quite favourable enough, but you agree with them that there is very little prospect of the line being a paying one? I do not think it will be a paying one.
2290. We have had a statement before us from Wilcannia, showing that the line would pay from the jump;—were you converted by those figures? No.
2291. They make out that it is going to be a most remunerative line? I said in my report that I threw out altogether their estimate of the cattle and sheep traffic. I do not think there would be any traffic at all in these.
2292. They must have looked at the figures through magnifying glasses? They took a rosy view of the matter. It would be an advantage to them to get a railway.
2293. We must also not lose sight of the fact that it would be an advantage to the Government to have communication with all its western territory? My own opinion is that the trade ought to go to the natural ports.
2294. The river belongs to us, and, as long as it belongs to us, South Australia cannot lock it? When we have Federation that difficulty will be removed.
2295. According to your feeling, then, we need not bother with the railway very far to the west? I do not think so.
2296. That trade belongs to South Australia? Yes.
2297. And you draw the boundary line a little to the west of Cobar? Yes; because the railway goes there now.
2298. According to the figures you gave us, White Cliffs is a more populous place than Wilcannia? Yes; nearly all of the men are leaving Wilcannia to go and work at White Cliffs.
2299. Wilcannia is only important from its being the centre for the traffic of that district? Yes; it has been the centre for many years.
2300. It began by being a convenient crossing-place for stock? Yes. I saw thirteen houses empty there in one block.
2301. Then the town itself is not to be considered in regard to the question as to whether there should be a railway? There is a very large distributing trade done there.
2302. That would be at any point where the proposed extension would touch? Yes.
2303. If the line went straight to White Cliffs it would be as convenient to the river people as if it went to Wilcannia? Yes; to the river people, but not to the town.
2304. I say that the district would be served just as well by crossing the river anywhere else? Of course you could cross the river higher up.
2305. Is there anything at Wilcannia to make it imperative, if we cross the Darling, to do it at that point? No; except that vested interests have grown up. I think it would be unfair to pass the town.
2306. Looking at it from an engineering point of view, you would not be bound by that? You could cross the river anywhere, of course.
2307. It would be a straighter line to cross the river at the back of Wilcannia, so we are not to consider ourselves in bondage to one particular crossing-place? No; not unless your terminus is to be at Broken Hill.
2308. You say it would be madness to go to Broken Hill? Yes.
2309. If we leave that out, we are free to consider the advantages of any other crossing? Yes.
2310. The smelting works used to get their lime trucked from Tarawingie? Yes.
2311. Where do they get it from now? There are large deposits of lime within about 30 miles of Port Pirie, and the lime is brought down by rail. There is also a number of small vessels that bring it from the other side of the Gulf.
2312. They are quite as well off for flux as they were? Yes, much better off; it does not cost them so much.
2313. Coal and coke are much cheaper than formerly? Yes.
2314. According to the figures you gave us, the quantity of coal taken up to Broken Hill has nearly doubled since they moved the smelting works down to Port Pirie? Yes. There are large industries at Broken Hill, and they have a steadily increasing population. Concentrating plants are established all round—they have them at every one of the mines—consequently the consumption of coal is increasing. One company is opening up works there for the extraction of zinc.
2315. These various works then, have more than made good the falling off in the demand for coal for smelting works proper? They have increased the consumption of coal; there is no coke sent up there at all.
2316. From what you saw of Broken Hill, do you think that the durability of that mining district is assured? I think it is one of the finest mining districts in New South Wales.
2317. And the mines will last? They will last for ever, I believe.
2318. At any rate, the end of them is not in sight? No.
2319. Is the country between Cobar and Wilcannia a country that could be used for any other than pastoral purposes? I do not think it would be of any use for any other purpose. In time of drought it is very bad. I notice that Mr. Sleath was asked a question about its being a good fattening country, and he said it was. He was asked:—

Do you know the country between Cobar and Wilcannia pretty well.

He said:

Yes; I have been over it many times.  
About Paddington station? Yes; that is really good country. It is a good wheat-growing country. Sometimes they miss a season. If they do not get rain at the proper time the crop is a failure. If they do get rain it is an excellent crop.

I showed that to a friend of mine, who once owned Paddington station, and his reply is :

W. B. Sharp.

The grass and herbage which ought to be necessary to that district are only noticeable by their absence. Specimens of sheep-food are occasionally found by man, also occasionally by sheep. But the extreme efforts of the sheep in fossicking from one atom of feed to another sometimes militate against the acquirement of adipose tissue, and the result is only the development of sinew and gristle, which have no commercial value.

Aug., 1899.

2320. Is there no edible bush? The edible bush is all dead; the rabbits have ringbarked it.
2321. Apart from the minerals, there is no prospect of any settlement on that country? I did not see any minerals in the whole distance which I travelled.
2322. As far as stimulating settlement is concerned, you do not think the line holds out any prospects? It would be impossible to live there by agriculture. A man to settle there would have to be a pastoralist, and he would require a great deal of land. I should think it would take 20 acres to feed a sheep.
2323. The country round Cobar has been pretty fairly prospected, has it not? I think Cobar is going to be a second Broken Hill.
2324. Do you think the mineral deposits go towards the west at Cobar? No; they go north and south. I do not think there are any minerals to the west of Cobar to the Darling.
2325. Are you acquainted with the quality of the Lithgow coal? Yes; I know a good deal about it.
2326. Has it a pretty close resemblance to the Illawarra coal? I think it is harder than the Illawarra coal.
2327. Is it as good for smelting purposes? If it is harder, it must be better for smelting, because it will resist the crushing down of the ore in the smelter.
2328. Have you seen any coke that was made from Lithgow coal? Yes.
2329. Was it good? No; it was very bad indeed. They are now erecting new coke-ovens at Lithgow, and improving the method of manufacture. There is no reason why they should not make coke of that coal as well as of Southern coal.
2330. Intrinsically you think it may turn out as good coke as the Illawarra coke? Yes; I do not see why it should not.
2331. And as good as the Northern coke? Yes; when it is washed.
2332. You said the Railway Commissioners had repeatedly asserted that they gained nothing by their coal-carrying business at Newcastle? Yes.
2333. Have they said that in their annual report? They have said it in their quarterly report.
2334. Not that they are losing money? No; but whenever they are asked for a reduction in the charges for the carrying of coal, they always say that it does not pay.
2335. That means that it does not give more than a fair profit? I suppose that is what they really mean. During the strike they hinted that the reduction in the revenue was caused by the strike.
2336. From which you inferred that they really make a profit? They make a good amount of profit.
2337. Is it the general opinion of the colliery proprietors that they pay a high rate to make that profit? Yes.
2338. Are there any coal companies that carry coal to their own ports? There are the Waratah Company and the A. A. Company.
2339. Is there not a line from Minmi to the river? Yes; from Hexham, J. and A. Brown's.
2340. Are there any proprietors who know what it costs to carry coal from the shipping place? Yes.
2341. Can they test what it costs? Yes; they do, and they find it much cheaper to run the trains themselves.
2342. If they found they were losing would they not get the Commissioners to run the trains for them? I do not think the Commissioners would run on their private lines and ship at private wharfs.
2343. Then there is a difference of opinion between the Commissioners and the colliery proprietors on the subject? The colliery proprietors think that the Commissioners charge too much.
2344. Do all the colliery companies find their own waggons? Yes.
2345. Do the Lithgow people find their own waggons? It is a different trade there. The coal is deposited in Government waggons at Lithgow—there are no private waggons there.
2346. Are they Government waggons that come from the Metropolitan Colliery? Yes.
2347. Has there been any attempt in the north to get the Government to use their own waggons? The Government will when they have the waggons to spare. We have to pay 3d. a ton extra for the carriage of coal in the Commissioners' waggons for the journey.
2348. That is now saved? It is sometimes an advantage in case of a rush of trade.
2349. Do you consider it would pay to carry all the coal under those conditions? It would pay better to have your own waggons than to pay 3d. per ton for the journey.
2350. Do you think that what they carry from Lithgow pays a price equal to 3d. a ton? I do not think so. I think they have a greater advantage at Lithgow, to the detriment of Newcastle.
2351. Then 3d. is rather an excessive charge? Yes.
2352. The presumption is that the coal is to be carried out westward by this scheme at  $\frac{1}{2}$ d. per ton per mile; but according to your evidence the Commissioners could not carry it at  $\frac{1}{2}$ d. a ton per mile? Not unless they had back-loading. Even then it would not pay.
2353. If it costs a penny a ton from Rix's Creek it must cost more than a half-penny a ton from Lithgow? They have certain rates within certain areas. They have a charge of 6d., then one of 10d., and one of 1s.
2354. As the distance gets greater, they charge so much less; there is a discount for distance? Yes.
2355. If the charge for these short distances does not give more than a fair profit, how can they carry coal for a half-penny per ton out to the west? It is impossible to carry it at a profit.
2356. Either they cannot carry it at a half-penny a ton across that country, or they can carry it for less than 1d. per ton close to Newcastle? That is my argument.
2357. *Mr. Dick.*] I take it that you object to the construction of this line, not because it will interfere with any existing avenues of trade, but because it will result in an annual loss to the country? I think it would result in a loss to the country. It would not interfere with the Newcastle trade if the railway went right on, because we could land coal cheaper at Port Pirie, and then at the Hill, than coal could be carried from Lithgow.
2358. Considering it entirely on its own merits without reference to the extension to Broken Hill, you do not think that the district near Wilcannia and any intermediate country is of sufficient importance to warrant the construction of such a line? I do not think that the trade which would be brought to the railway would warrant the expenditure.

- W. B. Sharp. 2359. Do you think the river at all times would be a dangerous competitor? When the river was navigable it would always take the trade from the railway. If there were no river it would be a fair point to argue whether the trade would warrant the extension of the railway. If you could get all the trade it would warrant it.
- 4 Aug., 1899. 2360. Do you think the delay and inconvenience which would arise from the intermittent character of the navigation of the Darling more than outweigh any extra cost which may be involved in the carriage of goods along this railway to the metropolis? They have got into a regular way of business there, and as soon as the wool is in the boats they can always get an advance against it from financial institutions. This year there were about 2,000 bales of wool locked up there. It was a God-send to the owner, on account of the rise in price that took place; it made a difference of £4 a bale.
2361. It is a very exceptional year, is it not? Exactly the same state of things happened about nine years ago.
2362. Have you read Mr. Resch's evidence? Yes.
2363. Do you agree with the general tenor of his reply to Questions 1000, 1181, and 1182, namely, that as a matter of convenience and saving in the way of interest and insurance, it would be better for the traders to send their goods to Sydney by railway from Wilcannia than to send them by Adelaide and Broken Hill, or by the river? I do not think that in a case like that referred to, where a man is ordering a lot of malt, it would make such a difference as he says. He says that he would be willing to pay £1 a ton more for the carriage. Malt is a bulky thing, and the chances are that if carried on a railway from Sydney to Wilcannia the charge would be so high that the difference would be much more than £1 a ton. I should think that the carriage of malt from Sydney to Wilcannia by railway would cost twice as much as the carriage of malt by steamer from Adelaide.
2364. You have also considered the question of the handling of the goods sent by any other route from Sydney to Wilcannia;—is not that a serious matter? It is all included in the freight. If they charged 50s. a ton they would do all the handling.
2365. Then your opinion is that except in the case of a non-navigable river the railway is never likely to have very much trade? The bulk of the trade will always go by the river when it is navigable.
2366. In your estimate of the probable traffic, have you considered the carriage of starving stock to more favoured districts? I do not think that that would be possible, because, in time of drought there, where could they take the starving stock to? It is very different from the case of the New England district, where they can take the cattle from the plains on to the high country, and get good feed. If you have to take the stock to Orange or Dubbo, they will be dead. If there was good feeding country about Cobar or Nyngan, the stock might go there.
2367. *Mr. Watson.*] How long do you think it would take them to go from Wilcannia to Dubbo by train? About twenty-two hours.
2368. Do you think the cattle would die in that time? Yes, if they were starving. But I do not think there would be much revenue from that source.
2369. *Mr. Dick.*] From your observation of the country between Cobar and Wilcannia, do you think there is a likelihood of any large mineral development taking place within that area? I do not think there is any possible chance of it; there is no indication of minerals there. There are no hills of any magnitude, except one about half-way, where the surveyed line takes a turn. I made inquiries, and nobody had seen any minerals.
2370. *Mr. Trickett.*] I suppose that the prospect of early federation, when there will be uniform duties imposed, there will be no inducement for the people of Broken Hill to get goods from the capital of their own Colony, as they will get them just as cheaply from Adelaide and other places as from Sydney? The chances are that they will get them cheaper from those places.
2371. So there will be no inducement for them at all, either through sympathy with their own Colony, or by reason of getting cheaper goods, through not having to pay duties, to do their business with Sydney? No. At present the sympathies of all the people down there are with South Australia. They do all their business with South Australia.
2372. So there is every prospect, in case of Federation, that the traffic will go to the nearest port? Yes. The idea of Federation is that trade should go to its natural port.
2373. Looking at the position of Wilcannia as regards Port Pirie and Adelaide and the distance from Sydney, is it at all likely, all other things being equal, that we can drag the trade of Wilcannia to Sydney? I do not think you could, unless you carried it for next to nothing.
2374. You read something about Paddington station; I suppose you do not put that in seriously, as it is rather far-fetched? If you saw the country as I saw it when I left there, it would not seem far-fetched.
2375. *Mr. Shepherd.*] You think that that part of the country is already served by the river Darling? Yes.
2376. And that this railway is not required? I do not think it is required.
2377. You seem to have a very poor opinion of the character of the country there? Yes, a very poor opinion. No doubt I saw it under unfavourable circumstances.
2378. Were you for any length of time in that district? About a fortnight, in the beginning of May.
2379. Then you would see the country under every disadvantage? Yes. We had to carry our water and food.
2380. We have had evidence that some splendid crops have been grown near Wilcannia;—would you think so? I should not, unless the land was irrigated. There is an orchard there, in which a Chinaman grows very good vegetables by irrigation.
2381. Of course, the river is only navigable sometimes for a very short period; at other times it is navigable for the greater part of the year; when the river has ceased running for a long period, the people in that neighbourhood [are put] to great straits to get supplies;—in that case, do you think a railway would be justifiable? It would be a very great convenience to the people living there; but I do not think anybody would invest money in a railway to that place, thinking they were going to get any return from it.
2382. People living in those outlying districts expect the Government to give them some means of communicating with the capital, and under these circumstances do you think it would be justifiable to construct this railway? I think the better plan would be to lock the Darling, and make it navigable all the year round.
2383. That would entail an enormous expense? Not much more than the railway. 2384.

2384. Do not you think that would be more in the interests of South Australia than of New South Wales? *W. B. Sharp.*  
Of course it would; but it would be a great advantage to the people living along the river. I presume that the South Australian Government would bear part of the expense.
2385. When Federation is brought about no doubt they would, and possibly this is one of those things which it is only fair to leave to the Federation? I think so.
2386. *Mr. Watson.*] You said you thought the construction of this railway was not justified, because it is not likely to pay? Yes.
2387. Have the Government always considered the possibility of works paying, as far as the coast district is concerned, when projecting them? I think the Government try and get all the information they can about railways before they make them.
2388. Do you know whether the public works carried out at Newcastle are paying—the harbour works? I should think they are paying very fair interest.
2389. In what shape has any return been made? In tonnage dues.
2390. They do not pay any wharfage dues, do they? No; but they pay tonnage rates, which are an equivalent. A ship pays  $\frac{1}{2}$ d. per ton per day for lying at the wharf.
2391. Do you think that all the revenue from Newcastle is sufficient to cover the cost of the harbour works and the expenditure on wharfs which has been incurred? I should think they have an asset there amounting to far more than the Government have spent altogether at Newcastle.
2392. Judging by the returns? Not merely by the returns. They have hundreds of acres of reclaimed land, which has been handed over to the Railway Commissioners, and which is worth thousands of pounds, certainly more than the Government has spent in Newcastle on harbour improvements.
2393. Going further north, the Government has spent large sums of money on various rivers without getting any return;—was that justified? I think some of it is justified and some of it is not. It spent £70,000 at Lake Macquarie; that was not justified.
2394. Take the expenditure on the Clarence and the Richmond Rivers;—do you think that is justifiable? I think it is justifiable. It opens up a large area of country, and gives the people communication with the metropolis.
2395. Do you not think we should be justified in doing something for the convenience of the people in the extreme west, even though there may not be a direct return? If you are not going to make a permanent line to Broken Hill.
2396. For the time being we are not concerned with Broken Hill? I do not think the people in that district would use the convenience to the extent you think they would. The interest of the people of Wilcannia is in South Australia and Victoria.
2397. We have had it in evidence, too frequently to be pleasant, that the people in that district have been in a condition approaching starvation, because of the river being down and the roads being impassable through want of water? If the worst came to the worst they could get camels from Broken Hill in seven days.
2398. A statement appeared in the Press since we last took evidence on this proposal to the effect that flour at White Cliffs was £19 a ton? I have paid as high a price for it in the North.
2399. Not in recent years? No. But that is not a very high price for people inland to pay for flour.
2400. Very often the people are in straits in that district, because of the want of communication? I think the people will look after themselves well enough not to get into such a tight corner as you indicate. There seems to be plenty of money about there.
2401. You do not think that the construction of the railway is justified from the point of view of the convenience of the people? It would be a great convenience. But the question is whether the country is justified in spending such a large amount of money for the convenience of a few.
2402. You will recollect that the whole of the land within the influence of the line is Government land? Yes. You would not get population on to that land; they could not live there.
2403. Do you think it possible that any land near the basin of the Darling might be used for agriculture? No; I do not think so—not unless it is irrigated, and irrigation is too costly.
2404. Of course, you know that the Federal Constitution does not propose to take over the railways, unless some arrangement is arrived at? Yes.
2405. Consequently the Federal Government, for a considerable number of years, would hardly be likely to have power to construct a line to Wilcannia, so there is no hope in Federation for the Wilcannia people as regards railway construction? No.
2406. You said that the Great Cobar Company were getting coke from Newcastle? Yes, and from Rix's Creek, 60 miles north of Newcastle.
2407. Which means 200 odd miles extra carriage from Lithgow? Yes; but they have a special concession. At the time they opened the mine at Cobar they made special arrangements with the Railway Commissioners that they should carry the coke from Newcastle and Rix's Creek at a special rate. The rate from Rix's Creek is £1 5s. 10d. a ton to Cobar.
2408. What would the rate be from Lithgow? A rate on the mileage. It is a special rate to the Cobar Copper Company. They have to load up trucks of 10 tons. They get a special concession. It is £1 5s. 10d. a ton from Rix's Creek to Cobar, a distance of 600 miles.
2409. That would be somewhere about  $\frac{1}{2}$ d. a ton per mile? Yes.
2410. They are able to carry coal a long distance for  $\frac{1}{2}$ d. a ton per mile in this instance? Yes; but then they bring the ore back. They get back-loading from Cobar to Lithgow at 15s. 1d. per ton.
2411. And your opinion is that even with back-loading it would not pay? No; it would not pay.
2412. Do you think the Commissioners are not getting any profit out of their arrangements? I do not think so. It is a special concession to develop the trade with Cobar. They have got a large population there.
2413. Of course, in America they have larger traffic on the railways; but I understand that there they carry at less than  $\frac{1}{2}$ d. per ton per mile on long runs? Probably they do; but the loading is quite different there from what it is here. They have trucks that hold from 25 to 30 tons, and they pour the wheat into them; it is shipped in bulk; there is no handling; the wheat is sucked out of the truck when it reaches its destination.
2414. There would not be much handling in the case of coke, coal, or ore? Yes; there is a good deal of handling. Coal and ore have to be shovelled; coke has to be bagged.
2415. Referring to the Lithgow coke question, what is the reason that they prefer to take coke from so far away as Rix's Creek to Cobar? The same people who own the Cobar mine own the Rix's Creek mine.

W. B. Sharp. They make all their coal into coke for the mines; but they cannot make sufficient, so they buy 100 tons a week from Newcastle in addition.

4 Aug., 1899. 2416. Is that extra supply which they get from Newcastle better than they can get at Lithgow? It is better than they make at Lithgow at present. I think that they will improve the Lithgow coke.  
2417. You think that the coal there is good enough for coke? I think so; it only wants care in making the coke. I should like to mention that there is one statement which was made by Mr. Sleath (page 38, Question 956), to the effect that the population of White Cliffs was 3,500, and that the population of the whole district was something like 10,000. I have got the returns of the population from the police, and they are as follows:—White Cliffs, 1,600; Wilcannia, 1,200; Milparinka, 750; Tibbooburra, 600. There is a great difference between the two statements, and I think Mr. Sleath is wrong.

Charles Kilgour, Inspector of Station Properties, sworn, and examined:—

C. Kilgour. 2418. *Mr. Trickett.*] Are you a station manager? I am inspector for the A.M.P. and other societies in Sydney.  
4 Aug., 1899.

2419. You have a knowledge of station properties in this Colony? I have.

2420. Are you acquainted with this proposal to construct a line of railway from Cobar to Wilcannia? Yes.

2421. Are you pretty well acquainted with the country through which the line is proposed to run? Yes.

2422. Have you any statement to make on the subject? Yes; I will read it.

Dear Sir,

12, O'Connell-street, Sydney, May, 1899.

In accordance with the instructions received, I proceeded to inspect the pastoral capabilities of the country through which the proposed railway line, Cobar to Wilcannia, has been surveyed, and also the commercial prospects coupled with this phase of its construction.

I left Sydney on the 27th April, and arrived at Cobar the following evening. In any ordinary season there would not be any difficulty in travelling from Cobar to Wilcannia; but as you are doubtless aware those parts are now suffering from drought—the worst for years. There was not a blade of grass between Cobar and Wilcannia, and there was a great scarcity of water.

A mail coach runs three times a week between the two towns; but that would be useless to travel by when inspecting country, &c.

After a little delay I managed to hire a trap and horses, and in spite of the severe season Mr. Sharp and self got through to Wilcannia. We could not go along the exact surveyed railway line; but the road we travelled by was close to and crossed it in several places. From Wilcannia Mr. Sharp went on to Broken Hill, and I returned to Cobar, then Sydney. During my stay in Cobar and Wilcannia I made full inquiries re the pastoral and agricultural prospects in those districts.

I may mention that I was managing Tindarey Station, 28 miles from Cobar, towards Bourke, during 1881, 1882, and 1883, and have since inspected other properties in that district; so consider I am well able to judge whether the country is better suited for pastoral purposes or for agricultural, and also whether the land is improving or deteriorating.

The following is the result of my inspection:—

*Description of the country.*—Soil principally red, interspersed with ironstone and sand ridges; level and undulating. There would be no engineering difficulties in constructing railway line. Lightly timbered, principally with mulga, also box, gum, yarran, &c. None of the timber is fit for buildings, railway, or mining purposes. Owing to the small and irregular rainfall, I do not consider the land suitable for agriculture. Best suited for sheep; but the carrying capacity inferior, owing to the land being thinly grassed. I noticed a great change for the worse in the country. In former days there were many edible bushes, such as emu, hop-bush, &c., which were a grand stand-by for the sheep, especially during dry times; but they are now all destroyed. Cause—the rabbits. They arrived in great numbers during 1891, 1892, and 1893, and after eating the pasturage turned their attention to the bark of the bushes, and soon destroyed them all—a great loss. There are certainly very few rabbits now; but am afraid they will soon increase when the grass returns, and to keep them in check cannot but entail a heavy expenditure on the pastoral lessees in wire-netting and poisoning. I estimate that double or more acreage is now necessary in an average season to carry a sheep. I believe the carrying capacity is less than half what it formerly was. Country that when first stocked was equal to 5 acres for one sheep, will now require 10, and even more.

On all the runs I passed through the sheep were being kept alive by cutting mulga and other edible trees. If that were not done there would hardly be any sheep alive; but, of course, that is not peculiar to Cobar and Wilcannia. In other districts, where land is very good, losses are now being experienced.

*Water.*—With exception of the Darling River, there is no natural water supply. It is principally conserved in tanks (excavations of say, 9,000 yards), which are a source of considerable trouble and expense, owing to their silting up.

I think you will have gathered from the foregoing remarks that my opinion of the country through which the proposed railway line passes is not a high one. I spoke to several who knew the country when first stocked. They agreed with me that it is deteriorating, and the number of sheep in the district steadily decreasing.

It is a sure sign of the soundness of country when the original holders keep their properties. Now, in the district I inspected it is just the reverse. Nearly all the previous holders have lost their holdings, and they are being carried on by financial institutions.

*Re Closer Settlement.*—I do not see any prospect of it. How is it possible, on inferior lands, overrun with rabbits, a small rainfall (average—Wilcannia, 11½ inches per annum), and visited periodically by droughts? Even should the proposed railway line be constructed, I am confident that when the Darling River is navigable much of the traffic now carried on the railway between Sydney and Cobar would go instead by river to and from Wilcannia. Railway-carriage cannot compete against water-carriage.

I trust the foregoing remarks give the required information. Should they not do so, will be pleased to write you further.  
I am, &c.,

The Hon. Alexander Brown, M.L.C., Newcastle.

2423. The map which you see on the wall is exhibited by Mr. Rennie, Chief Draftsman, Department of Lands, and the part coloured black shows a tract of country within 20 miles on each side of the proposed line; the part coloured brown represents Crown lands held under lease;—is not that itself a pretty strong indication that the country is not very good? That country is not good.

2424. The alienated land is indicated on that map by blue colouring, and the blue etching indicates settlement and homestead leases; looking at that large tract of country, and seeing so little alienated land, and as little held under settlement and homestead leases, do you consider that also is an indication that the country is not very valuable? Yes; a very strong indication. If the land were good, it would be taken up.

2425. It was also pointed out by Mr. Rennie that the following were the rents charged;—From Cobar to the westward, 1d. an acre, 77–100ths. of a penny, 75–100ths. of a penny, 5–100ths. of a penny—that is, as far as Wilcannia; immediately north of Wilcannia the rent is 88–100ths. of a penny;—what would you say about those rents? I think they are high for that land.

2426. How do they compare with rents charged in other parts of the country? They appear very low, showing that it is poor country.

2427. You stated that it required about 10 acres to keep a sheep in that country? I believe it would really take more. I said not less than 10 acres. There is no natural water there at all.

2428.



2428. While you were in the district, did you ascertain if many of the homestead leases have been taken up? They have not in that direction. I believe some have been taken up near Cobar—more towards Nyngan. C. Kilgour.  
4 Aug., 1899.
2429. Do you think the country between Cobar and Wilcannia is of a character that is likely to be availed of largely by homestead selectors? I do not.
2430. Why? Because it would not pay them.
2431. I suppose a man would want 10,000 acres to carry 1,000 sheep? Well, then, it would not pay. Suppose a man has 1,000 sheep, his working expenses will be just as much as if he had 4,000 sheep.
2432. Then, do you think that that tract of country is only likely to be taken up by large holders? That is all, and they are not doing well. The properties there are mostly in the hands of financial institutions.
2433. Did you visit any of these stations? Yes.
2434. Did you see whether any improvements were going on? There were none at all.
2435. Was the feeling among those in charge of the holdings despondent or hopeful? Very despondent.
2436. You went there in about as bad a time as you could? Yes. It would not be fair to say that that country alone is so terribly bad. The Riverina country has suffered terribly, too; but that is a different class of country.
2437. Did you take occasion to inquire as to what that country is worth in a fairly good season? Suppose they had a good season, where are they going to get stock from to put on the land? The country is lightly stocked owing to heavy losses, and it will take time to breed up. You cannot buy good ewes except at high prices. Supposing the drought broke up through the Riverina and Darling country you could not get good ewes under 15s. to 20s.
2438. From your experience of that country, having lived out there, do you think that the holdings will have to be abandoned? I think they will have a very rough time of it, and are having a rough time of it. I went out to one property near Cobar where they were feeding 9,000 ewes on chaff.
2439. Taking one season with another, do you think it is a country which a squatter could get a living on? I do not. If you go to the stock inspectors, and ask them to show their books, I think you will find that the sheep during the last ten years have steadily decreased in number throughout the district. That tells a tale.
2440. Are there no creeks in that district? No; there may be odd ones, but it does not pay to dam them up; the water would escape through the porous soil. The best plan is to make a tank in good ground, and run the water into it. We could always tell when we were coming to a tank when travelling in that country, because the mulga was all cut down. Of course other districts have the same trouble; but I think they suffer more in the Wilcannia district than in other places.
2441. Did you make any inquiries about this railway project whilst you were there? I heard people talking about it.
2442. It has been stated by some witnesses that it is fine agricultural country? It is not agricultural country.
2443. It is good soil? Yes; but they have not the rainfall.
2444. Did you see any evidence of cultivation there? Only a little garden in Wilcannia.
2445. Mr. Hall, statistician, informed us that out of this vast area, extending from Cobar to Wilcannia, embracing millions of acres, there are only 3,000 acres under cultivation;—is not that a good indication that the land is not much good for agriculture? Yes.
2446. Does it produce a good class of wool? It is good when they have a good season; but I should not call it first-class wool. The weather is too hot in the summer, and it and the dust affect the wool.
2447. You said that most of the runs there were in the hands of financial institutions? Yes.
2448. Did you come across one that was not? I think I knew of one that was not.
2449. Did you visit any of those homestead lessees? No; there were no homestead lessees where I was.
2450. The rabbit pest is very bad there;—when the grass begins to grow the rabbits eat it? Yes; and they breed very quickly.
2451. Is not that district regarded as one of the worst rabbit-infested districts in the country? Yes.
2452. Is not that a serious handicap to the squatter? It is. The rabbits have eaten all of those edible bushes, which were a great stand-by to the stock-owner.
2453. Are the squatters just holding on to those stations which are in the hands of the mortgagees without improving them at all? They are just keeping things going.
2454. There is no life in the district? No life at all. But, of course, that is not peculiar to this district during a drought. The Riverina has had terrible times.
2455. *Chairman.*] Do you know the country at Bourke? Yes.
2456. We have tapped the Darling at Bourke;—if that was justifiable, do you not think it would be justifiable to tap it down at Wilcannia? You get a lot of Queensland trade at Bourke which would not come down to Wilcannia, and it is a better class of country.
2257. North-west from Wilcannia there is a vast amount of country, the trade of which would come into Wilcannia, would it not? Yes.
2458. Supposing there was a detour towards Wilcannia, is there not a large part of the Paroo the trade of which would come in there? If the river was up it would all go down the river.
2459. So locking the Darling would be of more use to the people out there than constructing a railway? Yes.
2460. *Dr. Garran.*] Did you see any signs of cultivation about Cobar? Only a Chinaman's garden.
2461. There is very little of that country cultivated? Very little.
2462. The difficulties of cultivation would grow worse as you went westward, of course? Yes.
2463. Is there a large township now at Cobar? Yes.
2464. And, therefore, a good inducement to grow fodder and vegetable stuff? Yes.
2465. Is there a good local market? Yes, very good.
2466. Yet they do not supply that local market? No; it is cheaper to grow the stuff near the sea-board and at Narramine, and bring it out there.
2467. It is cheaper to get the stuff from Narramine than to grow it at Cobar? Yes.
2468. That is a fair test of the unsuitableness of the district for cultivation? Yes.
2469. *Mr. Watson.*] Do you think Cobar is held to be as good as the land further on? I think the land is bad enough at Cobar. 2470.

- C. Kilgour. 2470. Is it as good as it is further on? About the same.  
 4 Aug., 1899. 2471. You do not think it is better? No; if anything, it is worse. The land is very inferior around Cobar.
2472. What you have said with regard to the river attracting trade away from the railway terminus in relation to the proposal to go to Wilcannia,—could it not have been said with equal justice about the proposal to take the railway to Bourke? That is a different matter.
2473. Could it not have been said by those who might have been opposed to a railway to Bourke, that the river would take all the trade to Adelaide? Yes; they could have said that.
2474. Yet the Bourke line is paying? Yes; but they have a bigger trade—the Queensland trade.
2475. But the presumption is that where they have a bigger trade there would be a bigger chance for the river to take it away? Yes; if the river is up.
2476. If the river is the competitor that it is alleged to be with the railway, then the greater the amount of trade coming there the greater will be the amount for the river to carry? Certainly.
2477. Whatever argument would apply against the construction of a line to Wilcannia would have applied to the construction of the railway to Bourke? No; there is far more trade at Bourke than you can ever have at Wilcannia.
2478. Would not the competition with the river be nearly as great at Bourke? Yes.
2479. A few miles of river-carriage would not make a great difference in the amount of the freight? No.
2480. They charge nearly as much from Wilcannia southward as they do from Bourke? Yes.
2481. *Mr. Dick.*] Would you call the year 1894 a fair season? I could not tell you, unless I knew the rainfall.
2482. We have the stock returns for 1894 for the district within the influence of this proposed railway;—the area of that district is 26,700,000 acres, and in 1894 it carried 23,881 cattle, 3,600,129 sheep, or practically about one sheep to 7 acres over the whole area;—would you call a district carrying that number of stock and sheep a poor district? I should.
2483. You would consider it a district not likely to afford much traffic for a railway? No.
2484. Do you not think 3,600,000 sheep is a good number? It depends on the extent of the country which they occupy.
2485. The area tinted red on the map carried 3,600,000 sheep in 1894;—would you consider that, both from a sheep-owners point of view and a railway point of view, that particular district should be served by a railway? If they only had an outlet to get to Sydney, it would be a good thing; but as they have another outlet down the river, I do not think it would pay.
2486. There is one point about the possibility of cultivation there: Mr. Resch has been living at Wilcannia for seventeen years, and he stated in evidence here that he thought that eight years out of that seventeen—very nearly half the period—good crops of wheat could have been grown, and that it would pay to grow wheat around there, especially with railway communication;—do you agree with that opinion? No; I do not.
2487. That is leaving out altogether any idea of irrigation? It would not pay.
2488. So that, although the soil is good, the rainfall is not sufficiently plentiful, or sufficiently uniform, to produce payable crops? That is it.

MONDAY, 9 OCTOBER, 1899.

[The Committee met at the Court-house, Wilcannia, at 11 a.m.]

Present:—

WILLIAM THOMAS DICK, Esq. (VICE-CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD. | JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Edmond O'Donnell, Mayor of Wilcannia, sworn, and examined:—

- E. O'Donnell. 2489. *Vice-Chairman.*] What are you by occupation? A general agent.  
 9 Oct., 1899. 2490. How many years have you resided in Wilcannia? About twenty-two.  
 2491. You are prepared, I understand, to furnish the Committee with certain statistics? Yes.  
 2492. Will you kindly read the statistics which you have had prepared concerning the municipality of Wilcannia? Yes; they are as follows:—

MUNICIPALITY OF WILCANNIA.

*Estimated Returns.*

Population .....	1,183
Dwellings, shops, &c. ....	231
Capital value of the freehold of improved property .....	£100,500
Capital value of the freehold of unimproved property .....	£10,960
Fair average gross rate of interest on freehold value which buildings and dwellings are yielding.....	10 per cent. on capital value.
Estimated value of water-works, including mains.....	£10,000
Wharfs (two).....	£1,700
Metalled roads—1 mile 4 chains .....	£1,680
Formed „ 1 mile 47 chains .....	£508
Cleared and drained—3 miles.....	£300
Cleared only .....	£60
Footpaths asphalted—15 chains .....	£495
„ formed—2 miles 70 chains .....	£232
Kerbing and guttering, stone—1 mile 12 chains .....	£1,720
Culverts (two), wood .....	£120
Kerbing and guttering, wood—70 chains.....	£280

ESTIMATE

## ESTIMATE OF RECEIPTS AND EXPENDITURE.

E. O'Donnell.

9 Oct., 1899.

		<i>Receipts.</i>		£	s.	d.
Ordinary rates .....				432	2	3
Water rates and assessments .....				1,230	0	0
Night fees .....				280	0	0
				£1,942 2 3		
		<i>Expenditure.</i>		£	s.	d.
Average water-works, including interest to Government .....				£980	0	0
Night work.....				160	0	0
General .....				400	0	0
				£1,540 0 0		

2493. Can you state what is the area of the municipality? It is about 4 miles square.

2494. Is there outside that area, and in close proximity to the town, any large population? No. The population is not large, but there are a good few places. The municipality extends 2 miles from the centre of the town; but outside that there are several homestead leases and old conditional purchases. The population is not very much on either. So within a radius of 10 miles the population is not very great, but there are a good few places.

2495. The population has decreased lately, has it not? Yes, greatly during the last couple of years.

2496. Is that mainly due to the development of the opal-fields at White Cliffs? That has certainly had a great effect upon it; but, apart from that, I think that owing to the want of employment here and the unfortunate bad seasons that we have had, people would have had to go somewhere else in any case; but that has taken them from other places the same as it has from Wilcannia.

2497. Do you think, then, that the continuously bad seasons of the last few years have had the effect of diminishing the population? Most decidedly, because the bad seasons have stopped work. People could not give employment, and the men not being able to earn wages had to go somewhere else in order to try to get employment there.

2498. Wilcannia is the centre for a certain district;—can you state generally the names of the various places around Wilcannia for which this town acts as a business centre? I cannot give them all at once; but taking the district right through, I suppose that you may say that at the very least Wilcannia is the business centre for places within a radius of 75 miles—I daresay even more, because on our western side, with anything like a tolerably good season and means to get out, we can send goods to Milparinka and Mount Browne, and other places in that district; also, to the south-western portion of Queensland, and the north-western portion of New South Wales, a distance of 200 or 300 miles. Of course, places north and south of Wilcannia would depend purely on the river itself. On the eastern side we go as far as Ivanhoe, which is nearly 100 miles from here. Therefore, the radius would be far more than I said in the first instance.

2499. Has the trade of Milparinka, Mount Browne, and Tibooburra been temporarily diverted from Wilcannia to Broken Hill, on account of the uncertainty of the river and the difficulty of river navigation? It has been diverted simply because the seasons have been so bad that the river did not rise, and we had no means of getting goods to Wilcannia except at exorbitant rates, and people at those places could get their goods from Broken Hill more easily than from Wilcannia. But it was only through the river not being up. If we had the means of getting goods to Wilcannia even as cheaply as they can be got to Broken Hill, we would supply that district, especially the southern portion of the Paroo, and up that way.

2500. If a railway were constructed from Cobar to Wilcannia, do you think that the trade of the districts to which you have been referring would be permanently secured to Wilcannia? Yes, I do.

2501. In any case, if that railway were built, the heavy cost of carriage from Broken Hill to Tibooburra, and the other places just mentioned, would, as far as the railway is concerned, naturally divert the traffic of those places from Broken Hill to Wilcannia, would it not? Most decidedly; if we had anything like reasonable freight across to Cobar, there would be no business done on the South Australian side—that is, not until you got within about 50 miles of it.

2502. Can you state where the bulk of the labour employed at shearing time in this district is engaged from—in New South Wales or in South Australia? No; I cannot say exactly, because I know that it is very mixed, and it would be almost impossible to locate it. The men come from all parts of the colonies. Men once on a place come again year after year, until something happens which prevents them.

2503. Presuming that a railway were built from Cobar to Wilcannia, and that the river were not locked, what would be the effect upon the trade of Wilcannia and the surrounding district in cases where the river were easily navigable—would it come from Sydney, or from Adelaide, or from Melbourne, when you could get up and down the river with ease? It is purely a matter of freight. I believe that a man would take advantage of the cheapest means of getting anything he wanted, no matter how he would get it.

2504. You do not think, then, that the certainty of carriage by railway, the absence of serious danger, and consequent reduction in insurance, would determine the trade along the railway in preference to the river? I cannot answer that question. But, given the possibility of getting goods, the average man will take advantage of what is the cheapest for the time being.

2505. Do you know whether it is a fact that storekeepers and other distributing agencies are, owing to the uncertainty of river traffic, compelled to carry very large stocks? Yes, I know that—far larger than they would ordinarily. There are some stocks in Wilcannia which would perhaps astonish some Sydney merchants, if they were to see them.

2506. Of course, that means that the price to the consumer must be correspondingly increased? Yes; more particularly when the river goes down, and the storekeepers have to bear extra expense in the way of cartage, storage, and interest, in addition to waste.

2507. Can you quote to the Committee any extremely high prices which have been brought about by the difficulty of obtaining supplies at Wilcannia within the last few years—for instance, what was the price of flour before you had this late rise in the river? I know it was about £20 per ton just before the rise in the river three months ago.

2508. Can you quote any other instances as showing the difficulty of transit to Wilcannia? I know that butter and some other commodities have had to be brought from Broken Hill, and even from Cobar. The lowest freight has been 3d. per lb, and as much as 4d. has been paid—I daresay more in some cases—  
and

E. O'Donnell. and that would be £25 per ton from Broken Hill. Chaff has also gone up to pretty high prices here lately. I have had to pay £15 and £16 per ton for it; oats, 12s. 6d. per bushel. Bran cau, with a river, be ordinarily sold here at about 1s., or, at the outside, 1s. 3d. per lb. I myself paid 3s. 6d. per bushel for it just before the river rose recently. Pollard was also very dear.

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2509. Would you say, then, that these periods of expensive transit are of rare or of frequent occurrence? Unfortunately, too frequent.

2510. With a railway from Cobar to Wilcannia, considerable improvement would take place in matters of that kind? There is no doubt about that, because people would not have to lay in such big supplies.

2511. In ordinarily good seasons, when stock can travel, where is the general drift to from this district? Melbourne and Adelaide.

2512. Do you think that, with a railway from Cobar to Wilcannia, much of the stock of this district would find its way to the markets of New South Wales by means of that railway? Like everything else, that is a matter that would depend entirely on freights. Given an ordinarily fair season, when men could get their stocks from here to Melbourne or to Adelaide at 15s. or £1 per head, if they could not get them from here to Sydney at less than 30s. a head, I think that they would send them to Melbourne or to Adelaide.

2513. We have it in evidence that in fair seasons there is a considerable area of good fattening country around Wilcannia? Yes; there is as good as there is anywhere else in New South Wales.

2514. Do you think that a railway from Cobar to Wilcannia would act like the Bourke railway as a means by which the fat stock of the district could be sent speedily to market? Yes, I do.

2515. And that the Cobar-Wilcannia railway would derive some revenue from that source? Yes. Not only would the railway derive benefit in that way, but so also would this part of the Colony, and through it the Colony generally.

2516. *Mr. Shepherd.*] You say that the population here now is much less than it was some time ago? Yes.

2517. I did not catch exactly to what you attributed the falling off of the population;—can you give us a clear opinion as to that? What I think is this: To commence with, our seasons have been particularly bad. The rents of the properties have been very heavy, and the lessees and others have not had returns from their stock, and consequently they have not employed labour. No money could be earned by the wage-earning classes generally, and they have had to go somewhere else. It is not that the country is worse. All those men will be required again directly we get anything like a tolerably good season and the country will carry stock. There are in the district stations where the number of sheep has dwindled down (say) from 100,000 to 30,000, or from 50,000 to 10,000. Culpaulin station used to have 50,000 sheep, and has only 4,000 now. There is nothing going on in Wilcannia in the way of work to keep any men. At one time there were four or five blacksmiths' and wheelwrights' shops in Wilcannia, and the waggons coming in kept the men there fully employed; but through the last season being so bad, and our having nothing to send out, and no wool coming in, the work has gone to Broken Hill and other places, and this place has been thrown idle.

2518. This depression, then, is chiefly attributable to the drought? I think so. This is the fifth year of it, and it is very bad indeed.

2519. What prospect do you think there is of any return to good times within a reasonable period;—supposing that the drought were to thoroughly break up, how long would it take to bring about a state of prosperity again? That is a very hard question to answer; but I do not think that it would be very long, because the country here is very good. All it wants is just a little "spell" and rain. As soon as we get rain we get herbage, and with that come sheep, and with them employment. If we have stock we must have men to look after them.

2520. Of course, the number of sheep has been so terribly reduced that it will take a considerable time to bring the number up to what it was formerly? Not so much as you might think. This is a wonderful country with ordinarily good seasons. The sheep that we have left now have the best constitutions of the lot. They are the ones that have gone through the drought. In our paddocks we have, by lambings, over 100 per cent. in many cases—all good sheep.

2521. The district, I suppose, is almost entirely dependent on wool? Yes; it is comparatively.

2522. How do the White Cliffs opal mines affect Wilcannia;—do you do the whole of the business for White Cliffs? We would, if we had the goods here. But we have not done so for the last six or eight months. We had not the goods here, and, therefore, the White Cliffs people had to go to Broken Hill for goods, and had to pay £12 per ton for carriage from Broken Hill, besides having to pay high prices for the goods in Broken Hill.

2523. Supposing that you had the goods, what would be the charge for carriage from here to White Cliffs? In ordinary seasons, from £2 to £3 per ton. I have sent goods to White Cliffs at £2, and also at £2 10s., and some at £3; but very little at the last rate.

2524. In the event of the Cobar-Wilcannia railway being constructed, do you think that it would draw a large portion of the traffic that now goes to Adelaide and to Melbourne? I am sure it would. It would be one of the greatest blessings we could get.

2525. You are aware that the freight by rail would be considerably more than that by water? Yes, I am.

2526. Do you think that the Cobar route would be taken in preference to the Bourke route? Yes; from anywhere within 50 or 60 miles of Wilcannia—up the river, at any rate.

2527. A considerable number of the people on the river trade with Melbourne and Adelaide? Nearly all.

2528. Principally with Adelaide? Yes; I daresay it is principally with Adelaide.

2529. Do you think that the Cobar-Wilcannia railway would divert any of that traffic? Yes, I think it would, to a very great extent.

2530. People would be prepared to pay an extra amount for the purpose of using the railways and having certainty of traffic? Yes, I think so.

2531. How do you get goods to Wilcannia when the river is not navigable? Chiefly by teams from Broken Hill, and sometimes from Bourke. Previous to the last little rise in the river, I suppose that over 100 tons of goods were carried by team from Bourke to Wilcannia. On one occasion it cost me £20 a ton to bring one lot to Wilcannia from Louth, where it had been left in a steamer. We have to get goods in any way which is at all possible.

2532. Goods coming from Broken Hill, I suppose, would be almost exclusively purchased in Adelaide? Not necessarily. A good deal is sent round from Sydney in bond, but I think that the goods are purchased chiefly

chiefly in Adelaide. There are occasionally odd things sent through in bond from Sydney—particular things that people may specially require—but there is no doubt that the largest proportion of the goods is purchased in Adelaide. E. O'Donnell.  
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2533. *Vice-Chairman.*] Do you think that in times of drought the railway from Cobar to Wilcannia would offer cheaper means for the conveyance of fodder for large stock on the stations and for the stud rams and the more valuable of the breeding ewes? Yes; I should think so. I should imagine that the freight from (say) Orange to Wilcannia would not be half of the freight from Broken Hill to Wilcannia. It should not be more than £2 10s. or £3 from Orange to Wilcannia.

2534. *Mr. Watson.*] Seeing that the railway officials anticipate a very large annual loss on the proposed railway from Cobar to Wilcannia, and considering that the omission of the more costly  $9\frac{1}{2}$  miles at the Wilcannia end of that railway would materially reduce the capital cost, do you think it would sufficiently serve the people of Wilcannia if the railway were brought to the 156 miles point—that is,  $9\frac{1}{2}$  miles from here? Wilcannia would not be sufficiently served, but it would be greatly benefited by the railway, even if it were to stop there.

2535. When the flood-waters were up, you would not be able to reach the railway station in that case? At present we have roads by which, unless the floods are very far out, we can get to that point.

2536. Do I rightly understand you to say that, excepting in the very worst floods, you would be able to reach the bank on the eastern side of the Talyawalka Creek if the railway did terminate there? Yes. We have at present embankments and bridges over the flood-ground, which would help us to reach the point on the eastern side of the Talyawalka Creek. When the floods were too far out for that means of communication the communication could be kept up by means of boats.

2537. Would that occasion any serious inconvenience in the transshipping of cargo from a steamer to the railway;—supposing that the railway were attracting traffic to itself from up and down the river, with a view of taking it towards Sydney, would it be very inconvenient to have the intervening  $9\frac{1}{2}$  miles of road carriage between the river steamer and the railway? There is no doubt that it would be a nuisance. But to have the railway even within 50 miles of us would, of course, be of very great benefit to us.

2538. Do you think that the intervening distance of  $9\frac{1}{2}$  miles would be sufficiently serious to handicap the prospects of the railway in regard to attracting trade as against the river? No, I do not think so; but it would be a great nuisance.

2539. Do you think that, when the river was navigable, the railway, through ceasing  $9\frac{1}{2}$  miles from here, would be seriously handicapped in its chance of attracting trade? The distance to that stony rise is really only 8 miles, and we have a splendid road.

2540. The road is a little higher than the railway route? Yes.

2541. What do you think would be the cost of road-carriage over that distance between the river bank and the Talyawalka Creek? It would cost nearly as much to bring goods from a steamer into our stores as it would cost to cart goods to our stores from the high ground on the opposite bank of the river.

2542. Do you know how much is charged for the cartage of goods from the wharf into the town now? Yes; 1s. 6d. and 2s. per ton for any small parcels. It is nearly as much trouble to handle goods in that way as to handle them and carry them farther. If the road to the 8-mile point were a good one, then goods in large lots could be carried by road very cheaply—I think about 7s. 6d. per ton.

2543. The railway survey, as at present projected, comes across the river, and right into the town of Wilcannia? Yes.

2544. Supposing that the line were to cease at the nearest high land on the eastern bank of the Darling, which, according to the engineers, is about half a mile distant from the town, would that be sufficiently close to serve the people of Wilcannia generally? Yes; I think so.

2545. The saving in that case, according to the Departmental officers, would amount to about £33,000 in capital cost, and an annual saving of £2,300, including what would be saved on the estimate for the maintenance of viaducts and bridge, and interest on capital;—do you think that that would be a point worth considering, in view of the fact that the line has to face a very heavy deficiency? As far as the district is concerned, a railway terminating just on the other side of the river would be equally as good as if it were to terminate on this side of the river; but so far as Wilcannia itself is actually concerned, there is no doubt that Wilcannia would far sooner have it on this side of the river. It would be better for Wilcannia, because we have our buildings and everything else required here for the carrying on of business; whereas, if the railway terminus were on the other side of the river, I think it would, to a certain extent, detrimentally affect Wilcannia.

2546. Would there be much difference between the cost of bringing goods from a railway terminus distant half a mile from the eastern bank of the river, and the cost of carting goods from the projected terminus in the town of Wilcannia to the stores? I do not think there would be much difference; but there would be some extra cost in the former case.

Edmund Francis Murphy, sworn, and examined:—

2547. *Mr. Shepherd.*] What are you by occupation? I am an ex-mine-manager, and am now an opal-buyer at White Cliffs. E. F. Murphy.  
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2548. You are thoroughly acquainted with White Cliffs and its surroundings? Yes.

2549. Would you kindly state for the information of the Committee how the population of White Cliffs has varied since you first went there? I went there about nine years ago. The population for the first two years was about eighteen. About that time the field got a start. We obtained a better market for the opal, and the populations began to increase. It has kept on increasing up to the present time, and it is now something over 2,000. The increase in the last twelve months has been greater than in any other year during the last nine years.

2550. The population at the present time is larger than it has been at any previous period? Yes.

2551. Can you form any idea of what the output has been? It has been variously estimated, but about £100,000 per annum is taken to be about the output.

2552. For how long a period? Last year the output was estimated at £100,000, and the year before at £75,000. It has been very difficult to arrive at a correct estimate of the output, because the way in which the output was arrived at was through the buyers. The warden got information from most of the buyers as to what their purchases were for twelve months, and he allowed a certain percentage for what went away without going through the buyers, but which was sent by men to their relations in different parts of the world to sell for them. 2553.

- E. F. Murphy. 2553. I suppose that this estimate includes the quantity supposed to be sent away in that manner, as well as what is actually sold on the field? Yes.
- 9 Oct., 1893. 2554. Therefore, about £100,000 is the largest supposed output for any one year? Yes; but the output may exceed that.
2555. What are the present prospects of the mines? I think they are very good. There is a little depression at the present time, owing to the opal market in Europe being flat, this being caused chiefly, I think, by the Transvaal trouble, and the late trouble in France. We have had depressions before, and there is generally a good effect after them. They lessen the output for the time being, and this strengthens the market at Home, and the mines are more prosperous afterwards.
2556. There is no regular fixed value for opal? There is no standard value, such as there is for gold, but opal has a value; people in the trade can estimate the value, and go very close to it. They become good judges, and they know pretty well what they can get for certain classes of stone at Home, and, therefore, what they can afford to pay for it.
2557. So there is no difficulty in their making purchases of opal, with a sure prospect of profit? No, there is not. A good judge can generally buy in such a way that it pays his company, or whomever he buys for. It is not all chance work—it is judgment.
2558. What are the prospects of the permanency of the mines? There is a very large tract of opal-bearing country. At White Cliffs itself I should say there is opal-bearing country about 6 miles long and 3 miles wide, but there is a lot of country adjoining which is gradually being opened up for opal. It has no appearance whatever of opal on the surface, but it is all opal-bearing country underneath. If they sink down about 30 feet it is the same as where the opal is got shallow; and that is being extended every day.
2559. There are no indications on the surface? Not at that particular part, but where the opal was first found there was shallow opal and deep opal too. The part to which I referred first of all was table-land country capable of extension.
2560. But the reason why you come to the conclusion that the mines are likely to be permanent is because of the large area over which opals have been discovered, and because of the formation of the seams or levels in which they have been discovered? Yes.
2561. And you can judge, I suppose, with something like accuracy that these seams will extend over a considerable distance? Yes, over a large tract of country.
2562. What is the greatest depth at which opals have been discovered? Fifty-one feet is the deepest I myself have experienced; but I know of claims further out where the opal has been got at 60 feet.
2563. Not deeper than 60 feet? No. There has been very little work done below that. All the levels being worked now are from the surface down to about 60 feet.
2564. What is the description of country that the opals are in? There are patches of hard ground in it, where, on the surface, you have to use powder; but 20 or 30 feet down you can work it with a pick. The country softens as you go down.
2565. And that continues to the greatest depth it has been tried? Yes; it is easily worked.
2566. Have any men gone deeper than that without success? There may be some odd shafts that have gone a little deeper, but very few.
2567. But they have not found opals below the 60-foot level? They have not tried it. You cannot say that they have proved that opal is not to be found lower down, because they have gone down only to levels they knew of—(say) 26, 30, or 40 feet. They work those levels, and in odd places put down what is called a monkey shaft at the end of the drive. They have got opal in many of the little places where they have gone down deep—opal of various qualities—but no work has been done at any deeper level.
2568. Is there any difficulty in keeping on a seam when once you get on it? No.
2569. No fear of losing it? No; you become expert at the work in a very short time.
2570. It is not defined, I suppose, as in gold-mining, between rocky walls? No; there is no bottom, nor any walls, nor anything to guide you. All the opals are in the seams. They lie principally horizontally. The formation of the ground is flat, with different layers of country, one on the top of another. The opal occurs in the seams between the different layers.
2571. What is generally the width of these seams? They are of all widths. The seams run regularly; but they do not carry opal everywhere. There may be 10 or 15 feet here carrying opal, and you may go 20 feet without opal, and further on there may be another patch of opal. I may state that there are adjoining fields. There is one field 10 miles away called the Bunker, which, at the present time, is not being worked, as the men were driven out for want of water. A very short time ago there were 200 people there, and they made a living. Some of them did well. They have had to abandon the field on account of the water drying up.
2572. There is no water at all there now? No. The nearest water was in the Government tank, which is now dry.
2573. You think that those mines will be worked again when they get a supply of water? Yes.
2574. With regard to your supplies—you draw your supplies chiefly from Wilcannia, I suppose? Yes, when there is a river, and we can get them that way.
2575. What is the cost per ton of getting goods out from here to White Cliffs? At the present time it is £3 per ton.
2576. When the river is not navigable you get supplies from Broken Hill, I suppose? Yes.
2577. What is the cost per ton from Broken Hill? We have paid as much as £14 a ton. I think that at the present time it is from £9 to £10 per ton. There is a difference between the charges by horse-teams and those by bullock-teams. Very often you may run short of supplies, and have to get them up by express waggons at a cost of £16 per ton.
2578. What is the distance from Broken Hill to White Cliffs? About 140 miles.
2579. What is the distance from Wilcannia to White Cliffs? Sixty miles.
2580. So that Broken Hill is more than double the distance from White Cliffs than Wilcannia is, but the freight is more than four times as much—can you account for that? There is no feed or water on the track, or very little water. The teams have to depend on some of the stations for water as they go through, and the track is a very bad one—rocky, through gorges and mountains.
2581. A bad route and scarcity of water? Yes.
2582. How are you off for water now at White Cliffs? We have about 10 feet in the population tank.
2583. What is the size of that tank? About 12,000 yards.

2584. How long do you suppose the supply you have now will last, supposing there is no further rainfall? E. F. Murphy. It will not last until Christmas next.
2585. Is any attempt being made to increase the conservation of water? There is a contract let by the Government for a 25,000-yard tank. The contractor is unable to proceed properly with the work, because he cannot get water for his stock. He is doing a little with it, but he cannot get sufficient water for his stock to enable him to put on a big plant.
2586. At present have you an ample supply of water to carry on mining successfully? We have water from the tank for domestic use, we paying the carters 4s. for 100 gallons; but there is, practically, no water for stock. The water in the tank is reserved for domestic use.
2587. So that, really, you are labouring under difficulties now for want of water? Yes.
2588. And a largely-increased supply of water would, I suppose, make the mining there much more successful? Very much more.
2589. *Mr. Watson.*] Are there any other indications of opal near White Cliffs, in addition to the Bunker, which you spoke of? There is another opal-field, opened some time ago, near Purnanga station, between 30 and 40 miles from White Cliffs.
2590. In which direction? North-east.
2591. What are the prospects at Purnanga? The field there was not worked very much. Some good opal was got there, which fetched a good price; but there were only a few people there, and owing to the scarcity of water the field had to be abandoned for some time. But there is opal-bearing country right through from Purnanga to White Cliffs—the same line of ranges.
2592. Are there any indications of opal in any other direction? Yes; there is good opal to be got, and some people are working between the Bunker opal-field and White Cliffs itself—6 miles from White Cliffs.
2593. So there seems to be a large area of opal-bearing country in that vicinity? Very large.
2594. Do you think there would be any important developments in the way of opal-mining if greater provision were made by the authorities for water? Yes. It would make the conditions of living so much better that the place would support a larger population, and it is generally believed that the opal would be got very much deeper than at present.
2595. It is a fact that opal is got in some other parts of the world very much deeper than 60 or 70 feet? Yes. The Hungarian mines run as deep as 400 feet.
2596. They have been working a long while? Yes, for years and years. I do not know how long.
2597. So there is no reason to suppose, then, judging from the experience of other countries, that the opal deposits at White Cliffs will peter out at a very shallow depth? No.
2598. And, from what you know, there is every prospect of the opal-bearing country at and around White Cliffs supporting a fair number of people for a good while? Yes.
2599. Are there any other mineral developments in the direction of, or near, White Cliffs—for instance, in the way of copper? Yes, at a place called Nuntherungie. I was out there the week before last. There are 6 or 8 miles square of country there which is intersected with lodes of almost every mineral, including silver-lead and copper.
2600. Are the lodes of any width? There is one lode, the Wertigo, which has an outcrop of over 100 feet in width, from edge to edge, of copper-stained ore, green and blue. It is showing for a mile and a half in length along the side of a range, and there is a very large surface outcrop.
2601. Are you a judge of copper ore? I am not an expert, but I know good ore.
2602. Would you say that this Wertigo lode is to all appearances a rich one? I have been told by people whom I met at the mine—experts—that if they had machinery and smelters there it would pay from the start.
2603. Did you see other lodes as well as the Wertigo? Yes, there is one other copper-lode, the Well claim, about a mile west of the Wertigo, running transversely. It is a cross-lode; it runs north and south (the Wertigo runs east and west), and has been proved to a depth of 110 feet, down to the water-level.
2604. What is the width of that? The lode on the surface is something like 3 or 4 feet in width. At 110 feet it is between 7 and 8 feet wide, and very much improved. It is improving with depth.
2605. Improving not only in size but also in quality? Yes. It has been proven for about 100 feet along the line of lode.
2606. With satisfactory results? Yes; that is the Well claim.
2607. Do the silver and lead-bearing ores show by outcrop? Yes; but not so much. The outcrop of silver and lead is not so much. I am referring to the Nil Desperandum and the Central, which are silver-lead with copper. There is a lot of different sorts of ore there—silver-lead, copper, and gold. The surface outcrop does not show very much.
2608. Not so pronounced? No; but they are both proven for about 100 feet in depth.
2609. And are they also improving with depth? Yes. They have been worked, and the stuff sent away at a profit.
2610. Where was it sent to for treatment? It was sent through Broken Hill, principally to Dry Creek.
2611. It would need to be fairly rich to bear the expense of all that carrying—several hundred miles? Yes.
2612. Are the conditions such as, in your opinion, would necessitate the employment of a large amount of capital at Nuntherungie? Yes.
2613. For what reason? The distance that Nuntherungie is away from a railway. For smelting at Nuntherungie, they would require a lot of coke and coal, which they would have to get from Lithgow. The wood supply out there would soon be used up in the copper furnaces.
2614. That country is only sparsely timbered, in common with most of the western country? Yes. Most of the timber is on the creeks.
2615. And not very extensive? No, it is not.
2616. Under present conditions, where would be the cheapest place from which to get coal or coke, if they wanted to smelt locally? If there were a river they would get it up to Wilcannia, and cart it out from there.
2617. And without a river, *via* Broken Hill, I suppose? Yes; and teams would carry it from Broken Hill.
2618. In the event of a railway being constructed from Cobar to Wilcannia, would coal, for the purposes of smelting at Nuntherungie, be got more cheaply from Lithgow? Yes.
2619. Supposing that they were to start smelting at Nuntherungie, and were to take coke to that place

E. F. Murphy. for the first reduction of ore, I suppose there would be, as at Cobar, a certain return traffic, in the shape of matte for further refinement? In all probability; but it would depend on what sort of furnaces they would have.

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2620. At Cobar they find that the cheapest method is to take coke to the field sufficient for the first reduction of ore, and to send that reduced ore, or matte, as back loading to Lithgow for further treatment;—I should imagine that something similar would require to be done in the case of Nuntherungie? Very probably it would.

2621. If the deposits are as large as you say, it would seem reasonable to expect that a fair amount of traffic would accrue to the Cobar-Wilcannia railway, if it were constructed, from the development of a field like that? Yes. With railway communication, that country, being very rich in ore, ought to support a big population. Without some assistance of that sort it cannot be worked well.

2622. How far distant is Nuntherungie from Wilcannia? I think it is about 70 miles.

2623. And if a railway were built from Cobar to Wilcannia, do you think that Nuntherungie would be within practicable distance of the railway, so far as convenience is concerned? Yes. One firm who had an idea of purchasing the mine, and may do so still, estimated the cost of a line from Wilcannia to Nuntherungie, which they intended to build if they purchased the property.

2624. Would that be contingent on a railway being built from Cobar to Wilcannia? Yes.

2625. They were thinking of running a tramway for their own purposes from Wilcannia to Nuntherungie? Yes.

2626. They did not appear to think that there was any other method of developing the field than by having railway carriage for their necessities? No, they did not.

2627. I suppose we shall be pretty safe in saying that no low-grade proposition is capable of development unless fuel can be brought to it cheaply? I do not think it is.

2628. At present the supplies for White Cliffs and places in its vicinity are drawn, according to the condition of the country, either from Wilcannia or from Broken Hill? Yes. For a long time past we have been depending principally on Broken Hill for everything. Wilcannia's supplies were becoming exhausted, because there was no river.

2629. And you have had to depend on Broken Hill at greater cost to yourselves? Yes.

2630. Do you think that a railway from Cobar to Wilcannia would be of any assistance to the people of White Cliffs, speaking generally? Yes; great assistance.

2631. That implies, of course, that, in your opinion, the greater portion of their supplies would be brought from Sydney by the railway? Oh, yes.

2632. Of course, regular and rapid transit would be a factor in determining in which direction trade would flow—that is, the fact of the people of White Cliffs having the chance of getting regular supplies at a stated cost would probably have the effect of their sending the orders to Sydney? Yes; that is almost a certainty, because they would get into the way of doing business with the Sydney merchants, and would not leave them.

2633. You appear to think, then, that the people of White Cliffs, having once established relations with Sydney houses, would continue to trade with them, no matter what the condition of the river happened to be—even if it were up? Yes, I feel sure they would, except, perhaps, for very heavy lines—such as flour and wire. They might take advantage of the river for those.

2634. That would be only when the river was high? Yes.

2635. But, under ordinary circumstances, you think that the greater portion of the traffic would come from Sydney? Yes.

2636. In regard to the carriage of coal or coke, and the consequent return of ore that might be expected from the development of the copper-fields, do you think that the river could compete against the railway? No; I do not think so. The river is too irregular. The railway would certainly be the best and the cheapest means of transit for the people on the copper-fields, because they could get their ore away regularly, and obtain their supplies regularly, and could carry on their work properly.

2637. Between Wilcannia and Broken Hill are there any indications of mineral? Yes; there is mineral country nearly all the way through, where blocks have been taken up and partly worked, and copper-lodes exposed. There are copper and other minerals right until you get to the tin-mines at Euriovie. There is also the Grassmere copper-mine about 20 miles west from Wilcannia, towards Broken Hill, and there is Caulker's Well, 32 miles from Wilcannia.

2638. Is that in the same direction, or more northerly? It is on the Broken Hill road; it is called the Bonley gold-field.

2639. Is that alluvial or reefing? Reefing.

2640. Has much work been done there? A couple of shafts have been sunk, and there has been a lot of costeeing. Five tons of ore have been sent to Bendigo, and it turned out something over 1 oz. to the ton. That was taken off the surface a few years ago.

2641. Do you think there is any probability of that being properly developed? I think so. There is a shaft 113 feet deep on the lode, showing the ore right down.

2642. What was the cause of that not being developed earlier? I think the wrong people had hold of it—people who did not understand mining—and they had very little capital to work it, and they expended their capital in a wrong way—in sinking a shaft off the lode. I do not know exactly the width of the lode, but it was the width of the shaft that I was down. That would be 8 feet; but I do not know how much wider the lode may be. It did not show the wall.

2643. Going more in a north-westerly direction from Wilcannia towards Mount Browne and Tiboorra, is there anything in the way of mineral country before you reach Mount Browne? About 25 miles from White Cliffs, on the Mount Browne road, there is Kandie Peak. There is alluvial gold there. There are also some reefs there. They have been taken up, some work done, and then abandoned.

2644. Do you know to what cause they attributed the abandonment of the reefs there—because they were too poor? I think it was the difficulty under which they had to work.

2645. In what respect—lack of water, or of communication? Yes; it is a long way out, and they are mostly taken up by poor people, and unless they get something very rich which they can work without machinery, it is no good to them, and they have to leave it; and being so far out from the railways they cannot get people with capital to come in and help them.

2646. Do you think that the construction of the Cobar-Wilcannia railway would assist in the introduction of people with capital to develop those propositions? Very much so. 2647.



2647. Are there any other reefs in that direction? There is a reefing show at Kooningberry—north—E. F. Murphy, west of Nuntherungie.
2648. From what you say of the country generally, it seems to be one vast series of mineral deposits? <sup>9 Oct., 1899.</sup> Yes—ranges containing minerals of almost every sort.
2649. And extending over a very large area? Yes.
2650. So, with rapid and regular transit, there seem to be great probabilities of development? Yes.
2651. *Mr. Shepherd.*] Does the quality of the opal vary according to the depth? No.
2652. It seems to be the same quality all the way down? You get it all qualities; but you get it just as good at 50 or 60 feet as on the surface, and just as good on the surface as at 50 or 60 feet. You get it good and bad at every level.

George Donaldson, merchant, Wilcannia, sworn, and examined:—

2653. *Mr. Watson.*] How long have you been here? I have resided here sixteen years, and have been in <sup>G. Donaldson.</sup> business nine years. <sup>9 Oct., 1899.</sup>
2654. I understand that you are prepared with some figures concerning the trade that would probably accrue to the Cobar-Wilcannia railway in the event of its being constructed? Yes. These figures are taken from the books of E. Rich and Company (Limited), Wilcannia branch, and of Stone and Corney, and relate to actual transactions in ordinary seasons, the river being open and not a closed river. The books show the inward tonnage—that is, the imports—to be 4,000 tons, and the outwards—that is wool, skins, tallow, &c.—6,500 tons. That has no reference at all to live stock nor to passenger traffic. Those books are available for you if you wish to inspect them. It is estimated that something like 1,500 tons of produce—that is, chaff, flour, wheat, bran, oats, &c.—come into Wilcannia every year, and the bulk of that would be carried by the proposed railway, in the event of its being constructed, because the supplies would be drawn from about Orange and down that way. It is estimated that the rates for carriage from Orange to Wilcannia, *via* Cobar, would be on the same basis as the rates for carriage at present from Orange to Bourke, and, therefore, that we should be able to land produce here for about 12s. a ton from Orange, or 10s. 6d. from Dubbo. The cost of produce to us, at Dubbo, would be about the same as the cost of produce at Echuca and Moama at the present time, which are the places where we buy now principally; and from Echuca and Moama the rates per steamer are 40s. per ton, ordinary rates, and 30s. per ton, special rates for 500-ton parcels. Within the last two months the inward tonnage that our firm has put through has been 1,400 tons. At the present time we are stocked up for four months. Of course, if the proposed railway from Cobar to Wilcannia were constructed, we should not need to lay in such large stocks.
2655. The inward tonnage and the outward tonnage that you gave as being applicable to ordinary seasons totals between 10,000 and 11,000 tons? Yes—4,000 inward and 6,500 outward.
2656. For two firms only? Yes.
2657. Would there be other consignments besides those which came to the two firms you mention? Yes.
2658. And which would have to be added to the trade? Yes; but those two firms did seven-eighths of the trade.
2659. But would not some of the stations beyond Wilcannia contract directly with steamship owners for the carriage of their wool outwards—wool that would go past the Wilcannia wharf from farther up the river? They make the contracts with us, and we send the boats up.
2660. So they are accounted for? Yes, up as far as Warloo, near Tilpa. Bourke takes the stations higher up, and does their business.
2661. Would they get their station supplies from your firm too? Yes, up to Warloo.
2662. Would that apply to stations which are north and west some distance from Wilcannia;—would they get their supplies through you, or would some of them order their supplies directly, and arrange directly with the steamers? There are such difficulties about the shipping that they always arrange through the agents. If they miss a rise they are without their supplies, and so they always arrange through the agents; and we have our agents in Adelaide who are in touch with their principals, and the things pass on from one to the other.
2663. Would 4,000 tons inward represent supplies for Wilcannia and its immediate vicinity only, or would it include also supplies for White Cliffs. It would include supplies for White Cliffs.
2664. And as far as Milparinka and Mount Browne? If the season is good we do their trade; but if the season is not good we lose it. It all depends on the state of the roads, and whether we have supplies for them.
2665. Would the 4,000 tons inward represent the total of what would be required for supplying not only Wilcannia and its vicinity, but also White Cliffs, Milparinka, and Mount Browne? No; it would not.
2666. To supply those places from this centre, you would require more than that tonnage in a year? Yes; we should require close on 6,000 tons.
2667. It would be an increase of 50 per cent. to supply them? Yes.
2668. At the present time White Cliffs is getting some of its supplies from Broken Hill, is it not? Not just at the present time. It is all working in here now, now that we have supplies for them. There is an immense difference in the road carriage in our favour.
2669. Through the river having risen recently, the White Cliffs trade has returned to Wilcannia? Yes.
2670. Having previously been diverted to Broken Hill while the river was low? Yes.
2671. Supposing you were to have an easy method of obtaining supplies, whether by river or by rail, would you be always able to command the White Cliffs trade against the Broken Hill competition? I have no doubt about it.
2672. And can you say the same in regard to the north-western portion of the Colony—Milparinka and Mount Browne, and out that way? No—about even.
2673. A portion of their trade would go to Broken Hill? Yes. There is only 10 miles road-carriage in our favour; that is the only pull we have on Broken Hill.
2674. Is the condition of the track any better between here and Milparinka than it is between Broken Hill and Milparinka? It generally is better; the carriers prefer the track to Wilcannia, rather than the one to Broken Hill.
2675. So you have a little pull as against Broken Hill? Yes.
2676. With your experience for so many years as a merchant here, what chance do you think the Cobar-Wilcannia railway would have of competing against the river, year in and year out? I think it would have a very good chance.
- 2677.

- G. Donaldson. 2677. For what reason? Because if you take the produce away from the steamers—if you take from them (say) 2,000 tons of up-loading, chaff and other stuff—and you carry that at 12s. or 10s. 6d. per ton, the boats will not have employment. You take away their employment straightaway—you take away their up-loading, and they cannot carry the wool at the same rates as they can at the present time. I had an interest in a steamer syndicate here for three years, and they got very fair rates, but still they were going back and back every year, and the boats were not paying, and had not been paying for some years. They were getting the same freights as we are paying now—40s. or 30s. for big loads—and even at those rates they did not pay unless they got full loads both ways. Therefore, the steamers cannot go under those rates and live. If you take the bulk of their loading away from them, it puts their business in a different position altogether.
2678. Which is the place from which you generally get things? We get them from Echuca, Morgan, and Murray Bridge.
2679. What would be the average freight paid on ordinary classes of goods, for fairly large quantities, from those places? Thirty shillings per ton. To that you have to add insurance and railway freight from Adelaide to Murray Bridge or to Morgan, or from Melbourne to Echuca, which, in either case, is about £1 2s. 6d. a ton on general goods, 11s. 7d. a ton on sugar, 19s. 7d. a ton on wire, and 11s. 7d. a ton on salt.
2680. That would bring the total cost of landing a ton of goods here up to about £2 12s. 6d.? Yes; and to that you have to add insurance, which is about 3s. a ton, and also shipping charges at Morgan, Murray Bridge, or Echuca, 2s. 6d. per ton, which bring it up to nearly £3 a ton on ordinary goods.
2681. Sometimes your goods are delayed in transit very considerably? Yes.
2682. What would better transit, as compared with delay, be worth to a merchant here? On sundries—small goods—it would be worth fully £1 a ton.
2683. You said earlier in your evidence that you had to lay in a big stock of goods? Yes.
2684. And, of course, pay insurance on that while it is in? Yes; and that is a very big item.
2685. There is also the interest on your outstanding capital? Quite so.
2686. Putting those items together, do you think that the saving of those items, or a large proportion of them, would be worth anything to the merchants here? A very considerable saving. I should say 10s. a ton, besides the risk of your flour going bad. We have a great deal of trouble here with flour in the summer-time. It gets full of weevil. We have lost flour and also pollard through weevil. You have to hold a large stock, and cannot keep the weevil out of it.
2687. So while there is any uncertainty about the river, it would pay you to give something like £4 per ton to have things brought from Sydney by rail? It would pay us well.
2688. But, with a high river, what proportion of the goods would then come from Sydney? The railway would be safe for the produce. I do not think there is any question about that; and, say you split the other into two, I think it would be an equitable thing.
2689. Do you think that the railway, even with a high river, would get the whole of the produce and half of the remaining traffic? Yes, I think so, because we would not stock-up and pay interest and insurance. I mean large produce, such as chaff, pollard, bran, maize, and oats.
2690. Coming to outward traffic, of course the river offers no facilities for the getting away of station stock? None.
2691. Which the railway would? Just so.
2692. And as far as any possible stock traffic is concerned, that would probably go by the railway? Yes.
2693. Then, as to the carriage of wool outwards, what chance do you think the railway would have of gathering traffic in that connection; assuming that the lowest rate now charged on wool taken from Bourke to Sydney were applied to Wilcannia, the rate, I think, amounting to £2 12s. 6d., do you think that then the railway could compete against the river? I am sure it would.
2694. For what reason? The present rate *via* Echuca to Melbourne on greasy wool is 50s. per ton. To this you have to add insurance at 16s. per £100, which would amount to (say) about 14s. per ton.
2695. Bringing the charge by river and rail to Melbourne up to £3 4s.? Yes.
2696. Then occasionally delays occur in the transit by river? Yes; and that means a big loss in interest on a clip of wool, and probably the losing of a good market; and people weigh all these things.
2697. So, if the wool-grower were offered the two avenues of carriage at about the same price, he would prefer the railway, because of its greater expedition? Ordinarily so; but sometimes it is modified by the fact that finance companies in Melbourne having interests in this district order the wool to be sent to themselves. However, when there was a low river the wool would be certain to go by the railway, because those finance companies have also offices in Sydney, and their offices there treat the wool. Of course, it would take time to alter the drift of traffic and get it from Melbourne.
2698. Do you think that the rates at which the boats are working with a high river are the lowest at which they could work? I am sure they are.
2699. You do not think that in order to meet railway competition they could materially reduce their present rates? They could not, and also make their plants pay.
2700. The rates for scoured wool are higher with the boats as well as with the railway, are they not? Yes. The boats get 5s. a ton more for scoured wool, and the railway also charges 5s. a ton more for scoured wool; and the insurance on scoured wool is considerably higher.
2701. The insurance of 16s. per £100 net, of which you spoke, in reference to river-borne wool, was that covering only to Melbourne, or beyond? To Melbourne only.
2702. It is not sufficient to cover to London, should the wool be shipped thither? Through insurance rates can be got from here to London, and they would be about 27s. 6d. per £100. The big risk is on the river, and that necessitates the greater portion of the premium.
2703. By rail, they do not insure? No.
2704. They take it that the transit is safe enough there? Yes.
2705. As to the passenger traffic, I suppose there need be no doubt as to the railway being able to compete against the river? There is no question about that.
2706. The river would not serve the passengers? No. A passenger at the present time going from here to Echuca in the cabin has to pay £7, or from here to Morgan £7, and the journey occupies ten days. There is no question about the passenger traffic.
2707. I suppose that most of the passenger traffic both to and from Wilcannia, at the present time, is by coach?

- coach? Yes. I may add that, with a low river, we have paid up to £3 per ton on goods brought up from South Australia, or from Echuca, and that the rates I have quoted—30s. and 40s.—are with a full open river.
2708. That is, under the best of conditions? Yes.
2709. Of course, in this connection we have to keep before us the possibility of either the New South Wales or the Federal Government locking the river from one end to the other, and the consequent chance of an open and high river always competing against the Cobar-Wilcannia railway? Yes.
2710. How do you think that possibility affects the question;—do you still think that there is a fair chance of trade for the railway, even against that contingency? I do not think that anything could take the produce trade away from the railway, because if the river were locked I take it that there would be tolls to pay, and that would increase the cost of river carriage a little.
2711. Whatever Government were to carry out the work of locking the river would probably expect to get something in the way of recouping itself? Yes; from the boats.
2712. The projected terminus of the surveyed line to Wilcannia is at about the junction of Murray and Desailly Streets, Wilcannia? Yes.
2713. And that is about half a mile from the north-western or right bank of the Darling River? Yes.
2714. Do you think that the town could be considered to be fairly served if the line were to terminate on the other side of the river, namely, at the sand-hill half a mile from the south-eastern bank of the river? In view of the extra cost, I do think that the town would be well served.
2715. The Departmental officers' estimate is that if the line were to terminate at the spot I have mentioned, on the high ground, that would allow of the saving of the cost of viaduct and bridge to the extent of £33,000, and a probable saving in annual expenditure of £2,300? Yes; I think that the town would be well served without that.
2716. Do you think that the carting of goods from a railway station half a mile from the south-eastern bank of the river would involve a much greater expenditure of time and money than would the carting of goods from the projected station at the junction of Murray and Desailly Streets? Nothing worth considering.
2717. Do you know anything of the intervening country between Wilcannia and Cobar? I do.
2718. Do you think that we have a right to expect anything to speak of in the way of traffic from there? Yes; I think so.
2719. Of what nature? You will get traffic from the stations *en route*. For instance, you will get traffic from Barnato and Nelyambo. The Barnato and Nelyambo wool at present comes into the river at Nelyambo, where they have their wool-shed. I think that they would shear all their sheep at Barnato, and that the wool would go straight on to the railway. It would pay them to do that.
2720. The two places you have just mentioned are really in the same holding? Yes; they belong to the Australian Mortgage, Land, and Finance Company.
2721. There are other stations along there which you also think would give their traffic to the railway? Yes; I think you would get traffic from Cultowa.
2722. With regard to the wool from stations some distance east of Wilcannia, which now goes to Cobar, the railways would get a greater amount of freight from them than is now the case, because of the extra distance the wool would be carried by rail? Yes. The Cobar-Wilcannia line would also get the wool from Bulla, Kew, Fulham, Innesowen, Goonalg, Marfield, Mount Manara, and Baden Park, besides several homestead leases. All that wool at the present time is being conveyed by river. Those stations would be fairly adjacent to the railway line, and are all off the river.
2723. You think there is a great probability of the Cobar-Wilcannia railway getting the wool from those stations? There is more than a probability.
2724. Do you think there is any probability of the Cobar-Wilcannia railway attracting trade from the south-western part of Queensland;—at the present time some of the Queensland trade goes to Bourke? Only a very little of it does.
2725. And I understand that a portion of the trade from the south-western part of Queensland goes to Broken Hill? Yes.
2726. Do you think that any of that traffic would go to the Cobar-Wilcannia railway? It is all a matter of team carriage. The teams prefer the route to Wilcannia, as compared with that to Broken Hill, and with a regular supply we could command the trade.
2727. I believe there are a number of stations with which you trade which might reasonably be expected to send their wool by the Cobar-Wilcannia railway? Yes. The following stations in the Wilcannia district could be relied upon for wool to be carried by rail to Sydney, if the proposed railway from Cobar to Wilcannia were constructed, and if the rates were about £3 from Wilcannia to Sydney:—Netallie, Menamurtee, Tarella, Kayrunnera, Monolon, Yantara, Tongo, Purnanga, Mount Murchison (if river closed), Murtee, Momba (if river closed), Turkey Creek, Yancannia. In regard to the undermentioned stations in the Wilcannia district, it is an open question whether they would use the Cobar-Wilcannia railway as a means of transit for their wool, with a full river, but with a closed river they are certainly likely to use that railway:—Weinteriga, Culpaulin, Grassmere, Nuntherungie, Fort Otway, Connulpie, Cobham, Olive Downs, Caryapundy, Marra, Terryawinnia, Cuthawarra, Goorimpa, Gnalta, Glenlyon, Morden, Whittabranah, Billilla, Mount Stewart, Tintinalogy; also, the following Queensland stations:—Yanco, Woodbourne, Naryileo, Tickalara. In 1887, when the river was closed about eighteen months, the Momba wool was carted to Bourke at a cost for road carriage of £4 per ton, and was railed from Bourke to Sydney.
2728. Have you anything to add as to the feeling of the people generally in reference to the proposed railway from Cobar to Wilcannia? The feeling of the people generally is that, as the Government draw a large revenue from the Customs and from the tenants of their own properties—that is, the pastoralists—they think they are entitled to this railway, as it will benefit the State property, and because those people who come out here and endure all the hardships which they have to undergo are entitled to some consideration. No money worth speaking of has been spent on roads in this district, and nothing has been done with the place except just to drain it. We do not trade with South Australia and Victoria because we have any friendly feeling towards them, but because we are compelled to do so, and if we had any inducement to trade with Orange and Dubbo we would much rather do that and get our produce from there, instead of from Moama, Echuca, and South Australia. Any increment of value accruing to the lands of the district through additional means of transit being provided will be of direct benefit to the State, as it owns nearly all the lands.

G. Donaldson.  
9 Oct., 1899.

G. Donaldson. 2729. *Vice-Chairman.*] I should like to direct your attention to Question 906 in Mr. Harper's evidence referring to the Bourke railway:—

9 Oct., 1899.

What is the recent experience with reference to the rivalry between the railway and river trade? We have had to reduce our rates on the heavy traffic; so much so that a month ago we carried certain lines—such as galvanised iron, sugar, and woolpacks—in large quantities, at £2 a ton, on condition of our using stock waggons which would otherwise run empty. I was approached by a firm who were getting 300 tons of mixed goods consigned to Bourke, but we were not sending to that district, because there was no fat stock coming down. I told them that they would have to wait three weeks or a month, so that the conditions would apply. Their reply was, "We shall have no alternative but to get the goods up from Adelaide." As a matter of fact, we had to carry the goods in ordinary trucks.

I should also like to direct your attention to Questions 914 and 915 in the same gentleman's evidence:—

You do not think that this line would get the whole of that 27,000 bales? No.

Not more than half? It is extremely doubtful whether we should get any.

In view of your intimate knowledge of the conditions of trade in this district, are you inclined to agree with the replies given by Mr. Harper with respect to the probable competition between the river and the proposed railway from Cobar to Wilcannia? I do not agree with Mr. Harper.

2730. I think that the general tenor of your evidence has been that, so far as inwards produce is concerned, the Cobar-Wilcannia railway would certainly be able to claim the lion's share? Yes, there is no question about that.

2731. While, with respect to the outwards goods, the railway could at least obtain one-half? Fully one-half.

2732. Even with a full river? Yes; and it must get the whole with a closed river, as there would be a saving in interest and insurance, which are very large items, that have to be considered in connection with river traffic.

2733. You stated that the figures furnished by you to the Committee with respect to the business carried on by your firm—which incorporates the businesses formerly carried on by E. Rich & Co. (Limited) and by Stone and Corney—could be verified by inspection of the books? Yes.

John Banks, Customs Officer, Wilcannia, sworn, and examined:—

J. Banks.

9 Oct., 1899.

2734. *Vice-Chairman.*] You hand in a statement showing inward and outward tonnage of shipping from and to Wentworth, with the approximate amount of cargo carried during the years 1893 to 1899, inclusive? Yes; as follows:—

COMPARATIVE Statement showing the Outward and Inward Traffic on the river Darling, from and to Wentworth, for the years 1893 to 1899, inclusive:—

Year.	From Wentworth.			To Wentworth.		
	Total Number of Steamers and Barges.	Total Registered Tonnage.	Approximated Tons of Cargo.	Total Number of Steamers and Barges.	Total Registered Tonnage.	Approximated Tons of Cargo.
1893 .....	223	19,281	8,531	233	20,169	9,108
1894 .....	266	23,423	9,162	269	23,833	11,637
1895 .....	197	14,658	5,053	182	12,882	3,949
1896 .....	232	19,842	8,292	248	21,841	9,655
1897 .....	166	14,128	7,757	158	13,244	6,159
1898 .....	138	9,834	3,488	133	9,713	2,286
1899 (to 30th September)	98	8,382	4,327	96	7,702	3,273
Totals.....	1,320	109,548	46,610	1,319	109,384	46,067

2735. You also hand in a yearly statement showing the amount of goods entered at Wilcannia, under bond, during the years 1895 to 1899, together with the amount of duties paid at Wilcannia in each year from 1889 to 1895? Yes, as follows:—

STATEMENT showing Value of Goods passed through, and Duty collected at, Customs House, Wilcannia.

Year.	Value.	Duty.	Year.	Value.	Duty.
	£	£ s. d.		£	£ s. d.
1889 .....		13,244 3 3	1895 .....	23,864	10,426 4 1
1890 .....		15,938 15 5	1896 .....	64,750	11,791 6 9
1891 .....		21,061 3 4	1897 .....	44,680	9,957 10 5
1892 .....		17,264 13 4	1898 .....	32,580	8,812 4 0
1893 .....		16,559 9 11	9 months ended		
1894 .....		14,130 7 6	30 September, 1899	25,944	4,742 2 1

I may mention that these returns do not give the total amount of inward, river-borne traffic, because many classes of goods do not come under the jurisdiction of the Customs Department at Wilcannia.

2736. Can you supply the Committee with a statement showing the number of vessels engaged in hawking on the river, which have reported at Wilcannia? Yes; as follows:—1896, 25; 1897, 14; 1898, 6; 1899, to the 30th September, 4.

2737. Can you state what the average tonnage of these hawking vessels is? No; the papers do not show that.

2738. These vessels are engaged in bringing supplies to residents along the river, and in removing their produce? Yes.

2739. You have also some statistics referring to the cargo vessels on the river, which have reported at Wilcannia? Yes; for 1896, 67; 1897, 37; 1898, 20; 1899, to the 30th September, 30.

2740. These returns show, since 1896, a diminishing amount of shipping per annum; to what do you attribute this falling off? To the fact that the river has not been navigable during the greater portion of each year.

2741. Your returns do not include vessels trading directly from Wentworth to Bourke? No, they do not; nor do they include any vessels trading from Bourke to Wilcannia.

Robert

Robert Knox, merchant, Wilcannia, sworn, and examined:—

2742. *Mr. Shepherd.*] You are a member of the firm of Donaldson, Coburn, and Knox? Yes.
2743. You have been engaged in business at White Cliffs for some time? Yes; up to the end of last September.
2744. For how long? Two and a half years.
2745. In a general store? Yes.
2746. How did you generally get your goods when you were at White Cliffs? From Wilcannia.
2747. Did you never get them from Broken Hill? Yes; during the last six months we got a great quantity of goods from Broken Hill. When they were not to be had in Wilcannia, we had to go to Broken Hill for them. The respective distances are 66 miles to Wilcannia, and about 140 to Broken Hill. Therefore the difference in land-carriage to White Cliffs is considerable.
2748. What is the difference in land-carriage? The freight is £3 from Wilcannia and £8 from Broken Hill; but it has been as high as £12 from Broken Hill, and with water along the road, you can get goods carried at £2 10s. from Wilcannia to White Cliffs.
2749. The charge depends, to a great extent, on the state of the roads? Yes; according to the state of the roads the rate for carriage varies a good deal.
2750. Are horse teams usually employed? Horse teams and bullock teams.
2751. Have you any idea of the relative quantities of goods taken to White Cliffs during the years which you were there? Yes. During the last twelve months my firm have paid £5,400 for road-carriage alone.
2752. That would be up to the end of September? Yes.
2753. Do you know what it was the year before? The year before my firm paid £3,200 and odd; but up to that time the firm was a smaller one. During the last twelve months we have bought out Stone and Corney, at White Cliffs. The combination of the two businesses increased our turnover considerably.
2754. That accounts for the great excess of last year over the year before? Yes. There were two firms previously, competing against one another.
2755. And the two firms combined? Yes.
2756. How do you find the state of affairs there;—do they seem prosperous? Yes, they are very prosperous.
2757. Do the miners seem satisfied with the result of their work? Yes. They have been going to White Cliffs for months from all parts—Cobar, Broken Hill, Bourke, and Wentworth. There are over 2,300 people there now. In my estimation it is slightly over-populated now.
2758. That is the largest number of people, I suppose, that has ever been there? Yes. Still people are going to White Cliffs now from the out-stations. A few are going away, but I think the population is still increasing.
2759. Is the production of opals up to the ordinary average? Yes. The last twelve months it has been above the average. There have been more miners on the field, and that would account for it.
2760. Have you been a purchaser of the opals to any extent? Not to any extent.
2761. Not in the way of business? No. I had a good knowledge of the opal that left the field, because I insured it.
2762. Have you any idea of the actual number of miners engaged in the industry? I should say from 1,200 to 1,500.
2763. And the balance of the population is made up, I suppose, of their wives and families, and store-keepers and others? Yes. There are about 1,500 *bona fide* miners on the field.
2764. Have you any idea as to whether the proposed railway from Cobar to Wilcannia, if constructed, would have any effect on mining operations at White Cliffs? Only, I think, as regards giving them some guarantee of being able to get their goods to White Cliffs at a cheap freight. Getting goods from Broken Hill and paying £12 or £14 for road carriage, is a big drag on the community. If the people at White Cliffs had a certainty of getting their goods from Wilcannia, that would make them more prosperous.
2765. If they are paying from £8 to £12 per ton now, and if a railway were open from Cobar to Wilcannia, I should imagine that the freight would be very much less? The freight would be from about £2 to £2 10s. from Wilcannia, and there would be a guarantee of constant supply. There is also a good deal of passenger traffic.
2766. You think that that would give an impetus to mining at White Cliffs? Yes, I do. There is a big area of country that has not been properly prospected yet, but which has been proved to be opal-bearing.
2767. Have any other minerals been discovered at White Cliffs or in the neighbourhood? Wertigo copper-mine is about 40 miles from White Cliffs.
2768. Is that in full work? No; it is not being worked.
2769. Do you know the reason? It has only recently been discovered, and it is on the market now for sale.
2770. They have not regularly commenced operations there yet? No.
2771. Does the discovery there promise to be of any importance? Yes; it promises very well.
2772. I believe that the supply of water there is not very satisfactory? No; it is very bad.
2773. And that, I suppose, to some extent retards progress? It does, a good deal. Two hundred or 300 people clear out every summer on that account alone. The lack of water is one of the main reasons why I myself left.
2774. Is the country suitable for storing water? Only by excavation. It is very suitable in that respect. It is eminently suitable for the formation of tanks.
2775. Do you usually get a sufficient rainfall there to replenish the tanks? The rainfall has been very small the last two years, but a small tank that the Government have there now has managed to keep the field going. They are talking about putting down a 30,000-yard tank, and the Government have started on the silt-tank, and if the big tank were to get filled the town would never be without water.
2776. Has the tank already there always had some water in it, or has it ever been quite dry? Last year it was quite dry.
2777. What did the people do for water then? They had to have it carted 6 or 8 miles, and had to pay 15s., and even £1, per 100 gallons.
2778. Is there a permanent supply at that distance? Only excavated tanks—station tanks.
2779. When was the last rainfall there? I think that within the last four months there have been two falls of 30 points each. Previous to that there was no fall at all for a considerable time.

R. Knox.  
9 Oct., 1899.

- R. Knox.  
9 Oct., 1899.
2780. How long do you suppose the water that is there now will last? Until the end of the present year.
2781. I suppose there is a very large catchment area there? Yes. A half-inch rainfall will fill the tank. The last 30 points that fell put about 4 feet in the tank. Had it not been for that fall the people there would have been clean out of water now.
2782. Has any expert been on the ground with the view of saying whether the country is suitable for artesian boring? Not that I know of; except Father Curran. He was there, but not officially.
2783. Did he give any opinion about it? He gave the opinion that the country was suitable for artesian boring.
2784. Have the Government been approached in any way on the matter? Yes; and they have promised an artesian bore. I understood that it was to come from the Warri to White Cliffs.
2785. What is the total value of the goods taken to White Cliffs annually? I should say between £50,000 and £60,000. I consider that I did half the business of the place.
2786. Do you know the estimated value of the opals that have been produced there annually? I should think that £100,000 is a low estimate. I think that Mr. Fletcher, the Police Magistrate and Warden, is collecting some figures now, and will be able to get very close to the right estimate, for the opal buyers will tell a man in his position when they will not tell an outside person.
2787. But a good many of the opals, I suppose, leave the field privately? Yes, and a good many of the opals are sold in Melbourne and in Sydney. The miners send them down to personal friends themselves, and there is no account of those.
2788. Can you give any other information in connection with the opal-fields which will be of use to the Committee? Only regarding the passenger traffic. The passenger traffic both to and from White Cliffs is fairly large. It has been very large during the last twelve months.
2789. Do many visitors go there just to view the field? Yes; a good many visitors go there.
2790. Independently of those interested in the mines? Yes; and there have been at least twenty people up about the Wertago copper-mine, from one place and another.
2791. Can you say what proportion of the inward goods at White Cliffs has been drawn from Broken Hill during the last three years? Up to the previous six months it has been very small; but during the last six months it has averaged about £1,500 worth a month.
2792. Do you think that, with a railway from Cobar to Wilcannia, the whole of the White Cliffs trade, inward and outward, would be secured to Wilcannia? Undoubtedly, yes.

Charles Nolan, sergeant of police, White Cliffs, sworn, and examined:—

- C. Nolan.  
9 Oct., 1899.
2793. *Vice-Chairman.*] How long have you been stationed at Whitecliffs? Since February, 1898.
2794. Have you any statistics as to the population? Yes. According to the census collected by the police the population in January, 1898, was 793 males, 163 females, 230 children, and 12 Chinese; total, 1,198. That included the town of White Cliffs and the police patrol district.
2795. How large is that? We go 70 miles north, and about 150 miles east. South we go to within 30 miles of Wilcannia, and west we go about 70 miles. It is a very sparsely populated patrol district. There are only just a few stations. In January, 1899, the return of population for the town of White Cliffs—which was kept separately this year—was 870 men, 207 women, 145 boys, 132 girls, 9 Chinese, and 5 aliens; total, 1,369; and for the district, the return was—163 men, 42 women, 54 boys, 51 girls, 9 Chinese, and 8 aliens; total, 327; grand total, 1,696; as against 1,198, for the previous year. From January last the population increased up to July, when it reached, as far as my observation went, about 2,300. Since then it has decreased owing to the men going away shearing, and owing also to the continued drought, and I should say that at the present time it is a little over 2,000. The estimates for the period since January are for the town only.
2796. *Mr. Shepherd.*] I suppose you are pretty well acquainted with the way in which the miners were getting on there? Yes.
2797. Did they seem to be satisfied with the results of their work? Yes. The general opinion amongst the men at White Cliffs is that it is the best poor man's field in Australasia. Opal-mining does not require any capital, and you stand a chance at any time of making a competence in a single day, as several of the men have done.
2798. They commence getting the opal right from the surface, I believe? Yes.
2799. Is there any great difficulty in discovering the seams of opal? The work is all haphazard. Experience is of no use to a man at all. There is nothing to indicate the locality of opal. You simply put down a hole, and if you chance on opal, well and good. All the country is opal-bearing.
2800. So, all the men have an equal chance? Yes. A man who never saw opal before has an equal chance with a skilled miner.
2801. Can they always readily dispose of the opals on the field? Yes. Of course, at periods, just as at the present time, there is a depressed market for inferior quality of opal. The value of best quality opal fluctuates very little. It is always saleable at a handsome price; but the commoner quality of opal is sometimes not in demand. Especially is that the case at the present time.
2802. These periods of depression have occurred, I think, on several occasions, have they not? Yes.
2803. And they seem to turn round again and go ahead again as brightly as ever? Yes. The buyers do not seem to be opening up any fresh markets. The demand for opal does not seem to increase. The general opinion on the field is that the sale of opal is not being pushed in foreign countries—India, China, Japan, and Russia, and various other countries; otherwise there would be a greater demand, as it would sell itself anywhere.
2804. And that is the reason, I suppose, why occasionally there is a depressed market, and not a great demand for the opals? Yes.
2805. But that applies only to the poorer quality of opal? Yes.
2806. The better qualities of opal can always be readily disposed of? Yes; up to £35 and £40 an ounce.
2807. *Mr. Watson.*] Are most of the mines held by miners individually, or are they worked for companies? The land is principally held by companies. Opal was a new mineral in this country until about ten years ago, and the Government had made no provision under the Mining Act for dealing specially with opal, consequently they leased as much as 40 acres of land to one individual, for the purpose of mining for opal, at a rental of 5s. an acre—that is, £10 for the 40 acres. Of course it was quickly discovered that it was ridiculous to do anything of the sort. For a man to work 40 acres of opal-bearing country

country he would require at least 1,000 tributors. The Government then reduced the area that one person could take up to 4 acres. After further experience it was found that that was also ridiculous—that one man could not possibly work 4 acres, and the Government have now reduced the area that one can hold to 100 feet by 100 feet. That is the greatest area that one man can hold under the present Act and regulations. Those individuals who got 40 acres, or 20, 15, or 17 acres, or various other areas, are now working those areas by means of tributors; and the White Cliffs Opal-mining Company at the present time have, I think, for five blocks, 450 men tributing, the tributors giving the company 25 per cent. of the value of all opal won, and the tributors retaining 75 per cent. of the value. When a tributor is put on to work, he has to sign an agreement to bring all opal discovered to the company's office the same day, and hand it over under seal. It is then classed by the finder and the company's officers together, and a valuation is put on it by the company's officers. The opal is then allowed to be taken away by the tributor to any buyer he pleases. The buyers are all round town, and he takes the opal and sells it to the highest bidder; but it cannot be sold below the valuation put upon it by the company's valuer. In any case, the company get at least one-fourth of the value that they themselves have placed on the opal, and also their percentage of whatever additional price the tributor obtains.

C. Nolan.  
9 Oct., 1899.

2808. I suppose that a large area of country is taken up in these large leases? The area being worked at the present time is probably a block of country 4 miles square. There is one other place, 12 miles from White Cliffs, called the Bunker. There have been as many as 100 men working there, but they have been driven out through having no water, and they have had to go back to White Cliffs. At Purnanga opal-field, 50 miles in a north-north-easterly direction from White Cliffs, opal, and also good indications of opal, have been found, but there also the miners were driven out through want of water. At the present time there are about fifteen or twenty men on the Bunker, but the Purnanga field is abandoned altogether. I have been all over the country. The formation of the country is all of the same nature, and as far as a casual observer could see, it is all opal-bearing for 60 miles—that is, from White Cliffs to Purnanga, which is 50 miles north-north-east, and to the Bunker, which is 10 or 12 miles south-west of White Cliffs—a continuous run of country, all opal-bearing.

2809. And what belt of country do you think? I should think a belt of country 8 or 10 miles wide.

2810. Sixty miles, by 8 or 10? Yes. The demand for opal does not seem to increase, and at the present time the buyers are very lukewarm about buying, unless they get it at a very low price, and also, unless it is of the best quality.

2811. They have been paying a very high price, have they not? Yes, they have; but now the market appears to be glutted, and they do not seem able to dispose of opal as rapidly as they were calculating on, and the price is lower.

2812. Would the conditions for opal-getting, if there were a proper supply of water, permit of opal being sold at a lower price than was previously obtained? Yes, certainly.

2813. And still give a number of men a living? Yes. Of course, there would always be a small percentage of men who would be unsuccessful.

2814. That applies to gold-mining, or any other similar industry? Yes. I knew a man personally who worked continuously on the White Cliffs field and who left the field the other day after completing his third year there, and he told me that he had found only £15 worth of opal in the three years. He said he had given the field a fair trial and, rolling up his swag, he was going to walk to Melbourne.

2815. But other men have made a fortune there? Other men who came on the field have in a few months made a competence for themselves. Two men that I know of have found opal estimated to be worth £1,800, within four months.

2816. *Mr. Shepherd.*] Is it not strange that the men who are working as tributors do not go on their own account if there is such an enormous field open for them? The reason for that is this: the area where the leases have been taken up has been proved in every direction; it has been proved beyond doubt that all the leases carry opal and are rich opal-bearing country, but outside that area the country has not been proved. It requires a lot of men to prove a country, and the number of men that have been working on the unproved country has been very small. There have been very few men prospecting or searching for opal. The want of water has been a terrible drawback to the field. For instance, from the commencement of this year up to the present time the total rainfall has been less than  $3\frac{1}{4}$  inches.

TUESDAY, 10 OCTOBER, 1899.

[The Committee met at the Court-house, Wilcannia, at 9:30 a.m.]

Present:—

WILLIAM THOMAS DICK, Esq. (VICE-CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD. | JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Alexander Munro, manager, Mount Murchison portion of Momba holding, sworn, and examined:—

2817. *Vice-Chairman.*] You are the manager of the Mount Murchison portion of the Momba holding? A. Munro.  
Yes.

2818. What prospect do you think there would be of a railway from Cobar to Wilcannia attracting any of the traffic that now goes down the river? Quicker despatch, for one thing. It takes on an average about twelve days to deliver wool at Morgan from Wilcannia, and then it has to be put on railway trucks and sent on to Adelaide. 10 Oct., 1899.

2819. That is, with a full river? Yes. There would be ten days' difference, I suppose, in getting the wool to market.

2820. With a late shearing it might be of importance to a wool-grower to catch a certain boat for certain sales? Yes; the wool would have to go to Sydney then.

2821. So even with a full river you think that there is a fair chance of the Cobar-Wilcannia railway getting a proportion of the wool traffic that goes down the river at the present time? Yes; I think a large proportion.

- A. Munro.  
10 Oct., 1899.
2822. During a period of low river, how would the railway stand? I think that nearly all the wool would have to go to Sydney *via* Cobar then.
2823. Assuming that similar freights were charged from Wilcannia to Sydney as are now charged from Bourke to Sydney, namely, a minimum of £2 12s. 6d. per ton on greasy wool, how would that compare with the river freights? Very favourably. The cost of landing wool at Morgan would be from about 35s. to £2 2s. 6d. per ton from Mount Murchison station.
2824. And on to that you would have to put how much for insurance? I cannot say what the rate of insurance is now.
2825. How much in addition to that amount would be paid for railway carriage from Morgan to Adelaide? Eighteen shillings or £1 a ton.
2826. Is that during a full river? Yes. It has been done more cheaply, but I think that that is about the average rate with a fair river.
2827. To that has to be added something for insurance by river? Yes. How much that is I cannot say.
2828. It would appear, from what you say, that, even with a fair river, if no greater railway freight were charged from Wilcannia than is now charged from Bourke, the wool traffic could be secured by this railway? Yes, I think so.
2829. Greater expedition in transit would, of course, be secured by the use of the railway? Yes; and there would be less handling of the wool. The more handling, the more cost.
2830. Do the pastoralists have to pay for the loading at Morgan? I do not know. I think that the steamers land the wool on the railway trucks.
2831. During a period of low river, if wool is shipped towards the coast by that means, there is often considerable delay, is there not? Yes.
2832. Even if you are able to get the wool on to the barges, you have sometimes to wait a considerable time before it is delivered? Yes.
2833. And, consequently, sometimes a favourable market may be lost? Yes. Through a delay of four days in the delivery of wool at Morgan, the Momba Pastoral Company lost £1,500 through not getting their wool to hit a certain market. Space was engaged on the mail steamer for a certain quantity of wool, but the wool got stuck up on the river and did not hit the market.
2834. Of course, in wool-selling, as in every other business, a man wants to take advantage of the market if it happens to be rising? Yes; and he can take advantage of the market only with a railway.
2835. From what you have just said about the charges on the river, it would seem that, even if the river were locked, the railway would have a fair chance of competing against it, because of the fact that locks would necessarily involve something in the way of charges, in addition to the present freight charges? Yes.
2836. Any authority that might carry out the locking of the Darling River would have, I imagine, to impose something in the way of a charge to recoup itself? I should think so.
2837. That would be an additional reason why the railway would be able to compete against the river? Yes. I think it would be a mistake to lock the river as proposed—at least, as far as the carriage of wool and produce is concerned.
2838. You do not think that the game is worth the candle? I do not think it is. In my opinion the money spent on the locking of the river would be wasted, unless the river were locked in such a way as to make it permanently navigable right through; and that of course would send the trade to Victoria and South Australia.
2839. And I suppose that, if the trade is to go to Victoria and South Australia, it is a fair proposition that they should be expected to contribute something towards the cost of the works? I should think so.
2840. And that could be secured only by leaving the locking of the river to be taken charge of by the Federal Government? I think that the locking of the river is a question for the Federal Government,—the locking to begin at the lower end of the river, and to end at the top of it.
2841. As to the country off the river (say) to the north and north-west of Wilcannia, do you think that the Cobar-Wilcannia railway would have any reasonable chance of attracting wool traffic from that direction? I think so. I think that the Cobar-Wilcannia railway would attract nearly all the wool that now goes to Adelaide *via* Broken Hill.
2842. For a considerable distance towards Broken Hill? Yes; and it would also attract Queensland wool that now goes to Bourke.
2843. A portion of that which now goes to Bourke would be attracted to the Cobar-Wilcannia railway? Yes.
2844. That is, I suppose, wool from south-western Queensland? Yes.
2845. From how far in the Paroo direction do you think that Wilcannia might act as an attracting centre, if the proposed railway from Cobar to Wilcannia were constructed? I think from about Wanaaring.
2846. That would be about 160 miles north of Wilcannia? Yes.
2847. Which way does that traffic go at the present time? It goes to Bourke; but I think it would find its way to Wilcannia if there were a railway here. There is a better track to Wilcannia.
2848. Then down the river towards Menindie—would you care to venture an opinion as to how far it would be likely that pastoralists would send their wool to a railway at Wilcannia,—first, in an ordinary season, and secondly, in a dry one? It would depend on the rate from any station below Wilcannia, towards Menindie, to the railway at Broken Hill.
2849. Do you think that we may reasonably expect that pastoralists half way between Wilcannia and Menindie would, in ordinary seasons, send their wool to Wilcannia for conveyance by the Cobar-Wilcannia railway? I think that in an ordinary season they would send it down the river.
2850. But with a low river they would send it up to Wilcannia? A large proportion (say), as far as 50 miles from here by road.
2851. Between Wilcannia and Bourke I understand that from as far up the river as Kallara station they send their wool to Adelaide? From Kallara down they send it to Adelaide and Victoria.
2852. Do you think that if the railway rates were on the basis we have previously spoken of, the Cobar-Wilcannia railway would intercept the wool from Kallara downwards? It would go by rail.
2853. Do you think that your own people would send their wool by rail? I cannot say. Their interests are all in South Australia, but I think that they would send the bulk of their wool by the Cobar-Wilcannia railway, and they must send all of their wool by this railway in a bad season.



2854. I suppose that if the Cobar-Wilcannia railway freight panned out the cheaper, after allowing for all charges, your people would be influenced by business considerations, as other people generally are, and would probably take advantage of the railway? I think they would send their wool by rail. It is a matter of pounds, shillings, and pence. A. Munro.  
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2855. Is any portion of this district suitable for fattening stock in good seasons? Yes; the whole of this district is suitable for fattening stock if we can only get the rains.
2856. Assuming you have good seasons, you would have a fair chance of fattening stock? Yes.
2857. Is the area of country that is suitable for fattening stock large? Yes; nearly the whole of the district.
2858. And I suppose that in good seasons you have a large quantity of surplus fat stock? Yes.
2859. If the people at Bourke are able to send fat stock to Sydney in a good season, do you think that you would take advantage of the Cobar-Wilcannia railway for the same purpose? I think so, if the charges were somewhat equal.
2860. Assuming the charges to be nearly the same as they are now at Bourke, do you think that you would take advantage of the Cobar-Wilcannia railway in order to get rid of your surplus fat stock in decent seasons? Certainly. That would be the only means of getting rid of them.
2861. Assuming that you have no railway, and that you have a fair season, what then are you able to do with your fat stock, if anything? Either send them to Adelaide, or sell them on the station. Buyers come round and buy.
2862. Where do the buyers usually take them to? South Australia.
2863. But I should imagine that by the time they had travelled so great a distance by the stock route they would not be in as good a condition as they were in when they left the station? No; and the stock tax on stock going into South Australia is against them.
2864. But, of course, we have to assume for the time-being that that stock tax is non-existent, for the sure approach of Federation will do away with it? Yes.
2865. Do you think that pastoralists in a fair season would send their fat stock by the Cobar-Wilcannia railway, or would they do as they have done in the past—send them by road to Victoria or South Australia? A good deal would depend on the markets—on the prices in Sydney and Adelaide.
2866. But assuming the markets to be similar, as they would be to some extent under Federation? Then I think they would send them by rail.
2867. The evidence that we have had in other inquiries has been that road travelling cannot possibly compete against railway carriage for fat stock? Certainly it could not compete against the railway.
2868. So that this railway, if constructed, would, it would seem, give an opportunity to pastoralists to get rid of fat stock, which opportunity at present they do not possess? Yes.
2869. And you say that the quantity of fat stock available in a fair season would be very considerable? Yes.
2870. During our trip through the district we have been informed that sometimes fat stock have been sold here as low as 1s. or 1s. 6d. per head? Yes; they have, off the shears.
2871. Simply to get rid of them? Yes.
2872. The Cobar-Wilcannia railway ought to have a little influence on the prices in that connection? Yes. Aged ewes in fairly good condition, and in the wool, have been sold as low as 2s. 9d. per head.
2873. There is another aspect of this question;—do you think that the advantage of railway communication to pastoralists of the district generally, in relation to an outlet for wool and fat-stock, would be such as to justify their paying any increase in rent, allowing other conditions to be equal? I think the rents are quite high enough at present—during the last four or five years.
2874. But, under your leasehold tenure, you have periodical reappraisements by the landlord? Yes.
2875. What I wished to get at was this: whether we could fairly expect a small increase in rental of the Crown lands, to recoup the State for the very large apparent loss which is estimated to result from the construction of this railway; I say “apparent” loss, of course;—do you think there might be any prospect of that? I do not think there would be any loss on the railway.
2876. Do you reckon it is worth one-sixteenth of a ld. per acre per annum to have a railway? I do not think so.
2877. But if you, in one season out of three, were to get double the price for your surplus fat sheep, that would be worth something to you? Yes.
2878. Well, a man should be prepared, I imagine, to pay a little extra for that privilege? But, if there is an increased rental, it is put on for a term of seven years, or for a longer period, and that would cover both the good and the bad seasons. We could afford to pay an increased rental in a good season, but not in a bad one.
2879. What is the area of Mount Murchison, portion of Momba? At present about 400,000 acres—that is, leasehold and resumed.
2880. You do not pay a great deal on the resumed area, because you have not a secure tenure of that, have you? No; £1 6s. 8d. for 640 acres, I think.
2881. Have you an idea of what the leasehold area on Mount Murchison amounts to? I cannot say that exactly, but the leasehold area of Momba holding is between 900,000 and 1,000,000 acres.
2882. Leaving it at 400,000 acres as pertaining to Mount Murchison, what number of surplus fat sheep might you expect from that in a fair season? From 12,000 to 15,000.
2883. What price would you get for those in a fair season, under present conditions—that is, without a railway or other means of getting them to market—what price would you expect for them, off the shears? You could not sell them. You could hardly give them away. Buyers could not get them away. You could hardly do anything with them.
2884. Assuming that you could follow the example of the Bourke people, and send those 12,000 or 15,000 fat sheep to Sydney on the railway trucks, that would leave you considerably ahead, as compared with your present position? Yes.
2885. One-sixteenth of a penny per acre per annum in rental would amount, for your 400,000 acres, to £108? Yes.
2886. Do you think that would be too much to pay for the benefit of getting rid of your surplus fat stock, and also the benefit of getting your wool away when the river was down? No; I do not think it would be too much.
2887. *Mr. Shepherd.*] The estimated cost of this railway is, in round numbers, £500,000, and about one-fifth of that would be spent on the last 10 miles of the line;—do you think that it would cause very great

- A. Munro. great inconvenience if the railway were to stop short at that point, in order to save that one-fifth? Yes; I think it would cause very great inconvenience.
- 10 Oct., 1899. 2888. Do you think that the people, who would be influenced by the railway, would be glad to accept the railway stopping at that point, rather than have no railway at all? Yes; but the stopping short of the railway (say) 9 miles from Wilcannia would add considerably to the cost of sending goods and stock to Sydney.
2889. Can you form any idea what the cost would be of carrying goods those 9 or 10 miles by road? From 8s. to 10s. per ton; certainly not less than 8s.
2890. It is possible that Parliament might be induced to construct the railway to that point only, instead of the whole way to Wilcannia, with the view of saving nearly £100,000;—do you think that it would be desirable to give up the project altogether, in preference to constructing the railway to that point only? No; I do not think so. It would be better to have the railway to that particular point, than to have no railway at all.
2891. Perhaps the most expensive item in the lot is the cost of the bridge over the river;—do you think that any great inconvenience would be caused by the railway stopping short on the other side of the river, instead of coming right across? It would not cause great inconvenience.
2892. That, of course, would be far preferable to the railway stopping short 9 or 10 miles away? Yes.
2893. Because goods could be easily taken over the present road-bridge to or from the railway? Yes, at about one-fourth of what it would cost to bring goods from, or take them to, the 9-mile point.
2894. Stopping the railway short on the other side of the river, just a little over half a mile away, would effect a saving of £33,000 on the capital cost, or £3,465 on the annual cost; so, in presenting the Committee's report to Parliament, in the event of its being favourable, these alternative propositions could be pointed out, and, of course, if the people here were favourable to the railway stopping short of Wilcannia, as suggested, that, of course, would be an incentive to Parliament to adopt the recommendation;—do you think that, whilst it might be more advantageous to the people of Wilcannia if the railway were to come right into the town as proposed, according to the plans, it would still be of very great advantage to the district, even if the railway were to stop short at the half-mile distance, or even at the 9 or 10 miles distance? Yes; especially if it were to come to the nearer point.
2895. Assuming the terminus of the railway—with a railway station—to be on the sand-bank, half a mile from the south-eastern bank of the river, would it not be practicable to catch the river traffic by running a light tram-line the other half mile, just sufficient to carry a light engine and trucks? Yes, certainly, that would suit all right.
2896. The running of a light tramway down to the river-bank from the railway-station to catch the river traffic could be done very cheaply, and even if the tram-line were covered in times of flood it would not be injured much? Yes; there would be very little difference between landing goods on a railway of that description and landing them on an expensive wharf.
2897. The trucks might be run on that light tram-line right down to the water's edge, and loaded there directly from the steamers' hold? Yes.
2898. *Vice-Chairman.*] Do you think that, with the advantages for the disposal of surplus fat stock by sale in Sydney, or by freezing, the building of the proposed railway would practically mean an addition to the carrying capacity of the runs within the influence of the railway? Yes.
2899. Do you think that the construction of this railway would render small holdings a more profitable investment than they are now? I think so.

Mark James Curry Tully, Inspector of Stock, Wilcannia, sworn, and examined:—

- M. J. C. Tully. 2900. *Mr. Shepherd.*] You are aware of the proposal to construct a railway from Cobar to Wilcannia at a cost of £497,000? Yes.
- 10 Oct., 1899. 2901. What effect do you think that would have on the district, so far as the advantages to be derived from it by squatters and others are concerned? I think that the railway would be of immense advantage on account of the certainty of having communication with Sydney. That alone would be a very great item in the advantage: the certainty of daily communication, whereas now even by coach we are not sure when we will get there.
2902. What is the longest period, of which you are aware, that goods have been delayed in being brought to Wilcannia from distant parts, to furnish the business people in the town, and the squatters and others, with supplies? I have known goods to be started from Adelaide or Melbourne and placed on board the steamers, and the steamers to be delayed twelve months, and the goods, therefore, also delayed for that period.
2903. Of course, all that inconvenience would be obviated by the construction of the proposed railway? Yes, entirely.
2904. Do you think that the railway would be of great advantage to stock-owners in removing their stock in the event of a bad season? I think it would be of incalculable benefit to them, because I may safely say that at least 2,000,000 sheep have died through the drought in this district during the last five years, that is to say, the greater portion of them might have been saved if they could have been sent away by railway, and that would have meant the addition of the value of nearly 2,000,000 sheep to the Colony's assets.
2905. Do you think that great inconvenience would be caused by the railway stopping short (say) 9 or 10 miles from Wilcannia, in order to save a very large expenditure; the cost of the last 9 or 10 miles being about one-fifth of the whole expenditure on the construction of the railway from Cobar to Wilcannia? I understand that, and I think that, inasmuch as so much of the expense of despatching goods is on account of the handling, the stopping short of the railway 9 or 10 miles from Wilcannia would mean the addition of so much a ton on every ton of goods carried by the railway, and, unless the completion of the line to the river would involve an expenditure that would be considered really too high, I think that the line should be completed to the river.
2906. So you do not think it desirable for the line to stop short as suggested? I do not think so. My own opinion is that the line should be brought to the river.
2907. Of that very large expenditure, the cost of a bridge across the river is a very large item;—do you think that it would cause inconvenience if the railway were to stop short half a mile on the other side of the river? No. In my opinion it would be much more advisable for the railway to stop short there than

than to spend the money that would be required for the construction of a bridge, because £30,000 or £40,000 would probably be required for the erection of a bridge.

2908. The present road-bridge would be available for taking goods across, and you think that that would be quite sufficient? Yes. One other advantage in bringing the railway to the river is that, in the event of the railway being begun at both ends simultaneously, those who were constructing the line, by beginning at this end near the river, could get sleepers and rails delivered by water, and there would be some compensation in that for the expense of the Talyawalka work.

2909. Are there any other advantages you can think of in connection with the construction of this railway? The river would be of no use to us in the conveyance of mails or passengers. The river would supply us only with what would be termed "heavy goods." Light goods, such as drapery, would, excepting in a few cases, come directly from Sydney by coach, because they could be got so much more quickly that way. A great advantage of the railway, as against the river as it is now, would be that no large stocks would have to be kept by the trades-people here. Half the capital would be sufficient to carry on trade, and, consequently, a number of smaller tradesmen would be able to make a living, whereas now it requires something like a limited company to begin business here at all.

2910. I suppose that having to hold large stocks is a matter of very great consideration? It is a matter of very great consideration. It is, in fact, the great consideration, so far as the river is concerned, because of the immense storage room that business people have to provide themselves with, and the thousands of tons they have to store at once. I am satisfied that there are more than six months' supplies for Wilcannia and district stored in Wilcannia now. That has all to be provided just as if we were being besieged by an enemy.

2911. I gather from your evidence that you are of opinion that the construction of a railway from Cobar to Wilcannia would be of much greater advantage than the locking of the river Darling? I am strongly of that opinion.

2912. *Vice-Chairman.*] Have you a return showing the number of fat sheep sent away from the sheep district of Wilcannia during a period of years? I have. It is as follows:—Five years, 1886–90, 660,000—average, 132,000. Five years, 1891–95, 550,000—average, 110,000. Three years, 1896–98, 146,000—average, 48,600. Grand totals: for thirteen years, 1,356,000—average, 104,000 per annum.

2913. Can you give an approximate estimate of the area of country that would be served by the Cobar-Wilcannia railway? In thinking over the matter, I have made a distinction. I have considered so many acres that would be absolutely served by the railway, and so many more that would be presumably influenced by the railway. I reckon that from 30,000,000 to 35,000,000 acres would be served by the railway, and that 10,000,000 acres further out would be influenced by it—that, from those 10,000,000 acres also, the people would bring their goods to the railway.

2914. Is there any other information that you can give for the guidance of the Committee. There is the question of the railway being made use of by stock-owners for the purpose of getting away starving stock. I know that is not taken into consideration generally as a reason for the construction of a railway; but I think it ought to be, because it would result in such a saving in stock to the district, that it would mean something worth having, even if they had to be carried on the railway at a loss. Besides that, the district now, for instance, if a good season should come, would need to purchase at least 200,000 sheep. If those 200,000 sheep could have been saved, it would have been worth 7s. a head to save them—it would have paid the owners to give 7s. per sheep in order to have them now, because they are not procurable. Another point is that I think the railway would be largely taken advantage of for the purpose of getting rid of fat stock, inasmuch as by no other way can the pastoralists get rid of them. Frequently they can get 1,000 sheep fat, and only that 1,000; but they say, "It will not pay me to send them to Adelaide; it will cost as much to travel that 1,000 as it would cost if I were to send 4,000." That 1,000 sheep could be sent by rail to Sydney, and turned into money. It would pay to send them that way, but not to travel them over-land. In numberless instances, there would be small lots of sheep sent away by rail which are now allowed to get into poor condition, and perhaps to die.

Edward Quin, owner of Tarella station, sworn, and examined:—

2915. *Mr. Watson.*] How far is Tarella from Wilcannia? Forty-six miles north-west.

2916. At one time you were a Member of the Legislative Assembly? Yes; in three Parliaments.

2917. Have you had a long experience in this district? Yes. I have had over forty years' experience north of the Murray—over thirty years in this immediate district. I have lived on my present property for twenty-eight years.

2918. You know the proposal to construct a railway from Cobar to Wilcannia? Yes.

2919. Will you tell the Committee what, in your opinion, would be the effect of the construction of that line upon the prospects of the district? Yes. I think that the effect of the railway upon the prospects of the district would be very favourable. I do not go so far as to say that the line would pay very well; but I think that the presence of the railway would be very favourable to the district. I think it would enable a great deal of this country to remain in occupation, which perhaps would go out of occupation, and, which, I think, is very likely to go out of occupation, under present conditions, by enabling pastoralists to send stock down to more favourable districts, if the railway rates were favourable, and perhaps bring them back again, instead of their dying as they do now. If we had had a railway here large numbers of stock could have been removed to more favourable districts, and I think that in that respect this district would benefit very considerably by having the proposed railway.

2920. To where do you send your wool at the present time? Chiefly to one of the South Australian ports, by road and steamer.

2921. Assuming that the charge for conveying wool by rail from Wilcannia to Sydney were to approximate to the rate now charged from Bourke to Sydney on greasy wool, namely a minimum of £2 12s. 6d., do you think it would pay you, taking into account all charges, to send your wool by this railway at that rate, rather than by steamer? Yes, I think it would pay me, if the rate were as low as that. I have worked it out very closely as between my station and Adelaide by road and rail *via* Broken Hill, and by road and river, and I find that it is about 16s. 6d. or 17s. in favour of the road and rail in insurance alone—that is, we save that in insurance in sending the wool by road and rail. The great cost is the river insurance.

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Tully.

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E. Quin.

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- E. Quin. 10 Oct., 1899. 2922. The insurance to London itself would be 16s. cheaper if you did not touch the river than if you went that way? In my case it cost 30s. by road and river to London, and 14s. by road and rail to London, so it is 16s. in favour of road and rail to London, which is a great saving.
2923. So the proposed railway would have that advantage in competition against the river, to make up for any advantage which the river might have in cheaper freights, *per se*? Yes. Then, to go into a close calculation, it would have this advantage: I will quote an instance that occurred the other day. Some of my wool, shipped only three or four days ago, had been lying at Wilcannia about twenty-three days. If we had had a railway here that wool could have been put on trucks and taken to Sydney at once. Sometimes the period of detention is longer than that, and the saving of interest would be very much in favour of the railway. I have had two clips lying at Wilcannia together—every bale that I had shorn at Tarella at those shearings—and the saving of interest and insurance, spread over a number of years, would be considerable.
2924. It is occasionally important, I suppose, that you should get your wool to the shipping port at a certain time, in order to catch certain sales? Yes; though my experience has cut two ways—I have sometimes found it of advantage to be late, and at other times of advantage to be early. I do not think there is really any great advantage in that matter.
2925. But would you not have a better opportunity of catching a market if you could get expeditious carriage? Of course. If you so wish you can hold your produce, but, in this case, you have to hold it. When it may be advantageous for you to have it in the market you cannot get it there. In the other case you exercise your judgment.
2926. At present it is a matter of luck whether you get a good or a bad market, whereas with rapid transit you would have a greater certainty of being able to catch a good market if you should wish to do so? Yes.
2927. Do you think that this railway would be availed of in good seasons for the carriage of fat stock? I think so. It is very rarely that the large gap of country between here and the present railway is in a fit condition to send fat stock over it; but with a railway at Wilcannia you could send as few or as many as you might like, so long as you sent full trucks; and then you would save money which is now being lost to yourself and the district.
2928. But in any case travelling fat stock a long distance by road deteriorates their quality from a butcher's point of view, does it not? It does; but if there is plenty of grass, and they are carefully driven, not very much. Of course, a railway journey also deteriorates stock.
2929. But does it often occur that, whilst having fat stock fit for market on your station, you would have a continuous stretch of good feed along the stock routes towards the railway or market? No; that has not been our experience here. It is very rare, as I have said, that the routes are in such a condition.
2930. So, practically, at the present time if you have a good season you have no outlet for fat stock? No. If you were to sell them to-morrow, no one could take them away.
2931. Speaking broadly, is this district a good fattening one in fair seasons? Very good in good seasons. The grass that does grow is very nutritious.
2932. Of course, the proposed railway need fear no competition from the river in regard to the transit of fat stock? No, none.
2933. Do you think that there are any prospects of the proposed railway securing fat cattle for transit to the market? Yes, a few. At present the policy of station-owners is not to grow many cattle. They are uncertain as to their income from them. But I think that this railway, in enabling them to get rid of a few fat cattle, would cause them to go in a little more for them than they are doing now.
2934. And, consequently, the railway receipts would be swelled to some extent by that? Yes; not largely. What produces large railway revenue is chiefly sheep, wool, stores, and the necessary wire to enclose the paddocks and make them smaller.
2935. In regard to station supplies, such as wire, stores, and so on, do you think that this railway would have a fair chance of securing that traffic, or a large proportion of it? I think that in some cases it would; but the men engaged in the pastoral business here are very keen, far-seeing men, and if they could effect a saving by using the river, they would. This country can be made to pay only by very careful and closest management, and if they could save £1, they would do it; but, against that, if the needs of the people were small, they would not wait for large parcels. If a man wanted 2, 3, 4, or 5 tons of wire, he would not like to risk waiting for the river for the sake of saving £1. Therefore, I think that men wanting small quantities would not bother about waiting for the river. Goods that deteriorate, such as flour, currants, raisins, and things of that kind, I think, would all come by rail, and all those things are consumed very largely in this district.
2936. Assuming that through rates were charged upon the Cobar-Wilcannia railway, the freight on produce, which would include flour, would be 10s. 6d. per ton from Dubbo to Wilcannia;—do you think that the river steamers would have any chance of competing against the railway, if the railway freights were at that rate? Not the slightest.
2937. Consequently your supplies of fodder and produce, if brought from outside at all, would probably come by rail? Yes; I think so.
2938. Do you think it would be of any advantage to the pastoralists here, in bad seasons, to get fodder more cheaply than they can get it at the present time? Of the greatest advantage.
2939. Do you think there is any chance of this railway competing against the river in respect to the heavier lines of goods? I think so, under the same conditions as are observed in Bourke.
2940. That is, you think so, if arrangements were made by the local merchants to get quantities up at a time? Yes. Large quantities of heavy goods could be brought at the convenience of the Railway Commissioners, probably at a reduced rate. In that way they would be able to utilise their full working powers without wasting any.
2941. We have been informed that there are important mineral deposits to the north and west of Wilcannia, which might be expected later on to carry a fairly large population in addition to what is, at the present time, engaged in connection with them? I would not go so far as to say "important mineral deposits"; but there are all over the district large surface shows of mineral. I do not think deposits have ever been discovered in any large quantity. They could not be, unless the men were to sink under the surface; but there are very considerable shows.
2942. Sufficient to justify prospecting? Yes; prospecting largely. I was interested in one. We sent 10 tons of copper ore to London some years ago, and netted £30 a ton, but at that time the price was very high—I think £90—much higher than it is now.
- 2943.

2943. Did you not continue that? No; we did not find a sufficiently large lot to justify us in going on, with our limited means. We spent a few thousand pounds, but did not feel justified in going on. I refer to these only as "shows," because I do not know what they might lead to. There are indications of the presence of minerals, more or less, all over the district. There are indications at Caulker's Well—20 miles from here—and many other places.

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2944. If, later on, present expectations of mineral development prove to be justifiable, do you think that this railway would be benefited by the opening up of those lodes? The trend of that country is towards South Australia, and possibly the steamers might benefit more than the railway, unless coal were found nearer this way; and then, as it would take 1 ton of ore to 5 tons of coal, it might pay to take the 1 ton of ore to the coal by means of this railway.

2945. But, seeing that copper ore requires coal or coke treatment, is there any place to which the ore could be taken which is nearer than Lithgow would be if connected by rail with Wilcannia? No, not by land. They might take the ore more cheaply *via* Adelaide, and then round to the coastal coal towns.

2946. In the latter case, the land carriage, without taking into account the sea carriage and consequent handling, would be quite as much as would be involved in taking the ore to Lithgow? It is a moot point as to which way the ore would go, but if the coal that has been discovered at Dubbo were available in large quantities that would alter the case considerably in favour of this railway.

2947. The supplies that have been received and distributed at Wilcannia during the last year or so, in regard to which we have been given statistics, would, I should imagine, be considerably under the normal quantity usually consumed? I should say they would be under the normal quantity.

2948. There have been great losses in the pastoral industry in this district lately? Yes.

2949. What do you think are the prospects of the pastoral industry in this district? At present, bad; they could not be worse so far as I can see; but I think that, if confidence could be restored by legislation giving a greater security of tenure with something like certainty in the amount of rental to be paid, it would lead to the investment of capital which would maintain present improvements and still further improve the country. Unless something of this character be done, I think large areas must be thrown up, but, with the alteration of conditions I have mentioned, I have no doubt about the pastoralists of this district being able to pull through and retain their holdings. With a lengthened tenure over the whole of the holding, greater employment would be given in the making and maintenance of improvements, and consequently a large quantity of stock could be carried, ensuring the employment of more labour, and consequently more stores to be brought by the railway, and more wool to be sent away by it.

2950. *Vice-Chairman.*] Does it pay pastoralists in this district at present to send small lots of fat sheep to Adelaide? No.

2951. If the proposed railway were constructed, do you think that there would frequently be small consignments of sheep—I mean small as compared to what you send to Adelaide now—trucked at the railway station at Wilcannia? I think so. Runs would be eased off as the drought was approaching.

2952. Do you think that such a condition prevailing—in case the proposed railway were constructed—would lead to greater opportunities for the consignment of heavy goods to Wilcannia by train, which otherwise might be carried on the river? Yes; I certainly think so. There is always the element of the great saving of insurance, which is a serious amount.

2953. In that way this railway would prove a successful rival of the river? Yes.

2954. With present conditions—no railway, insecurity of tenure, and inconsistent appraisements—it is difficult for pastoralists to pay the present rents on their holdings and work them at a profit? Yes.

2955. But with a railway, and with improved conditions as suggested, would an addition of one-sixteenth of a penny per acre per annum be a fair one to impose in return for the advantages of the railway? I think so.\*

2956. Mr. Harper, in his evidence, states that of all the wool now sent from Wilcannia by the river hardly any would be sent by rail if the proposed railway from Cobar to Wilcannia were constructed;—do you agree with his opinion? It would depend on the relative cost. As I have said, if this railway could carry wool at the rates Mr. Watson stated just now, I think that, with the lessened cost of insurance, the railway would be a severe competitor against the river, and as you could send one, two, three, or four trucks by the rail, I think they would be sent. Mind you, if conditions were favourable to the river—such as a full river, with boats here—I think the river would be a severe competitor against the railway.

Bertram George Millard, Road Superintendent, Wilcannia, sworn, and examined:—

2957. *Vice-Chairman.*] Is road construction in this district costly? Yes; above the average, for what it could be done in other districts.

2958. Is it possible to spend money here on road construction to advantage? In some places it is possible to spend it to a very great advantage, but in other places it is not.

2959. Do you think it is practicable to construct an ordinary road from Cobar to Wilcannia? It would be very costly, judging from what I have seen of the country. Of course, my district does not go out very far on that side.

2960. But you know the country? Very slightly.

2961. Well, from your knowledge of the country, taking into consideration the cost of constructing a road and also the yearly cost of maintenance, together with the fact that it gives no return of revenue, do you think it would be better, in the interests of the country, to lay down a railway from this town to Cobar? Decidedly I do, because the cost of constructing the road would amount, I should think, to at least £1,300 per mile, because of the difficulty of getting metal.

2962. How much does your road expenditure on the Cobar side of the district amount to per mile? I have a distance of 50 miles towards Cobar, and I am allowed £30 per annum for that.

2963. When the river is down, goods are frequently brought from Broken Hill to White Cliffs? Yes; in very great quantity.

2964. Is that road a good one for such traffic? It is a fair road; in some places it is bad.

2965. Is it a formed road? No; nothing of that sort—only a bush track.

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\* NOTE (on revision):—I think I said that if the rental were fixed for the full period of a lease on the whole of a holding, or if an appraisal took place, it should be on the same lines as in South Australia, and not in the haphazard way as is now the case; and that rents would have to be considerably reduced. If this were done I do not think a small additional sum would be objected to. As the holdings are now held they could not pay any more.

Thomas Henry Bell, journalist and licensed and mining surveyor, Wilcannia, sworn, and examined :—

T. H. Bell. 2966. *Mr. Shepherd.*] You are the editor and proprietor of the *Western Grazier*, Wilcannia, and a licensed and a mining surveyor? Yes.

10 Oct., 1899. 2967. How long have you been here? Fourteen years.

2968. Have you thoroughly studied this railway question? Yes.

2969. Will you make a statement as to your opinion of the benefits likely to accrue to this district from the construction of this railway, and give us your opinion generally as to the advisableness of constructing it? I was a member of the Cobar-Wilcannia railway league, which prepared the following statement.

[*Vide Appendix.*] With reference to the estimate therein given of the freight on wool, I now find that the freight from Bourke to Sydney is as low as £2 12s. 6d. per ton, as against our estimate of £4 13s. 4d., which we understood was likely to be the freight from Wilcannia. On the estimate of £2 12s. 6d. from Bourke, wool could be conveyed by rail from Wilcannia at a cheaper rate than it could be conveyed by river. As a consequence, all the wool coming into Wilcannia will be taken by rail. This estimate will reduce the estimated revenue, but will increase the probable traffic.

2970. The storekeepers and the squatters in this district now are very much inconvenienced very often on account of the river not being navigable? Yes.

2971. And the storekeepers in consequence of this have to lay in very heavy stocks quite beyond immediate necessities? Yes; and it has ruined several of them.

2972. This railway, I presume, if it were constructed, would obviate that necessity? Exactly. They would keep lighter stocks, and turn over their stock as the purchases came in.

2973. Do you think that this railway, if it were constructed, would draw any of the traffic that now goes to South Australia or to Victoria? Yes, I am sure it would.

2974. Even though an additional charge were made? I think so, for this reason: Originally, before Broken Hill existed, the traffic used to come down the Paroo and along the Mount Browne road, which is a fairly well-watered track, and people would go along that still if they had a chance.

2975. Are you aware of the estimated cost of this railway? Yes; £497,000.

2976. Do you think it is likely that the traffic on this railway would recoup the Government for the expenditure on this line? I am certain it would at least pay expenses; but, in any case, if it did not pay directly, it would pay indirectly, by the greater development of the district and the increasing of the value of the Crown lands. Nearly all the lands in this district are Crown lands, and, if there were greater facilities for the sending away of produce and for the obtaining of supplies—which would be cheapened in consequence—people would have more opportunities for settling in the district and developing it. At present we are altogether cut off.

2977. Do you think that the construction of this railway would induce additional settlement in the way of smaller people taking up areas of 10,000 acres, or something of that kind? I am afraid not. I am afraid the climate is against that; but the construction of this railway would result in a very much larger settlement in mining communities. This district is very rich indeed in minerals from here to Mount Browne; in fact, it is also mineral-bearing country from here to Cobar, but that has not been prospected; but, taking the country from here to Mount Browne, there are several areas that are highly mineralised and give very good returns—returns that in any other district would afford a living to a large mining population, but, owing to the want of facilities for getting machinery and goods, people cannot work these properties, and they have been abandoned. They are not there to be discovered, but their existence has really been proved.

2978. And you think that the construction of this railway would induce a much larger population to drift towards the mining districts here? Yes, I feel confident of it. If the railway had been here some years ago there would have been a much larger population about Mount Browne at the present time, and the copper-fields that are now being reopened would probably have been worked long ago. Extending north-westerly, from Wilcannia to Tibooburra, there is a belt of mineralised country which is capable of very great development, and able to carry a large population, owing to its mining resources. If railway facilities were afforded, there is little doubt that this country would be opened up. The opal-fields, 60 miles from Wilcannia, are within this belt, and there is a settlement there of about 1,600 people, I think. The Wertigo copper-field is situated about 70 miles north-west from Wilcannia. Assays from the mines there have been obtained, and have given very good returns. I have personally inspected those mines; I took specimens from the lodes, and sent them down to the School of Mines, Sydney, for assay, and they gave the following returns:—Copper, 9 to 44 per cent.; lead, 16 to 54 per cent.; silver, 1 oz. to 139 oz. per ton; gold, a trace—under 2 dwt. in each case.

2979. Have you any idea of the width of this belt of country? It is, I daresay, from 20 to 25 miles wide. The Wertigo lode, to which I have referred, is now under offer to a New Zealand mining company, and if they purchase they intend to proceed with operations at once, and, in the event of a railway being made from Cobar to Wilcannia, it is not unlikely that they will put in a tramline to the river themselves. Should they proceed with these mining operations a very large settlement will take place. In the event of their doing so it is probable that they will obtain their coal or coke from Lithgow. In addition to the copper-fields, in the belt of country to which I first referred gold has been got in very large quantities. The Mount Browne gold-field is included in the area referred to, and also the Tibooburra. The Mount Browne and the Tibooburra gold-fields would probably be worked to a far greater extent if railway facilities were afforded. Gold has been got within 30 miles of Wilcannia at a place called Caulker's Well, which has gone up to over 1 oz. per ton. I may add that I am confident that in the future there will be a very large population on that area. It is very rich; according to those assays it will be a second Broken Hill.

2980. This area includes the opal-fields? Yes. It is a mineralised belt. It is not all copper, and it is not all gold—it varies as it proceeds. Even the copper will turn to silver as you go along the field.

2981. Has the opal-field proved itself sufficient to justify you in saying that it is likely to be a permanent field? Yes, I think so, for this reason: Although the surface may gradually get worked out, they have not ascertained up to the present how deep the opal can be found. It is found at all depths. They have never put down a really deep shaft to try it; but the depths they have gone they have found opal—that is, 60 to 80 feet down. That opal country extends a very great distance, but the opal found on the surface is not so valuable as that which they can get at White Cliffs, and, therefore, it has not been followed up; but there is no doubt that with prospecting it is quite within the bounds of possibility that another opal-field may be discovered. Opal is a thing that varies in quality as it proceeds. For instance, you might get

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get a good seam of opal and follow it along, and it might turn into indifferent opal, and, perhaps, a little further along you would come to good opal again. The deposit appears to be of the same character throughout the district.

2982. The demand for opal fluctuates to some extent, does it not;—there is no regular steady demand for it such as there is for gold, for instance? No, there is not; there is no standard value. In a manner, of course, the value is fixed by the buyers, and when the buyers are limited they, more or less, fix their own value, but, at the same time, they give very good and payable prices.

2983. Have you been to the opal-fields recently? Within the last six months.

2984. Do the men at work there seem to be fairly sanguine as to their prospects? Yes, so far as I know. I have not spoken to many of them, but that is the general impression.

2985. And the population seems fixed—not a fluctuating population? No; the only fluctuation that has occurred has been for want of water. There has not been a sufficient water supply there, and last summer a great many people left, and others will have to do the same unless the big tank that is being put down now is filled. It is not for want of getting opal that they have ever left.

2986. I believe that a drawback of the opal country is the difficulty of procuring goods there—stores and that kind of thing? Yes.

2987. When the river is not navigable they are obliged to get goods from Broken Hill at a largely increased freight? That is so.

2988. Are you aware of the extent of the opal-field, as proved at present? I think I can give an estimate of it. I should say that immediately at White Cliffs—not including the Bunker—it is about 5 miles long and 2 miles wide; but there is a separate field known as the Bunker, and some time ago there were seventy men employed there. I do not know how many are there now.

2989. The actually proved field is about 5 miles by 2? It is, according to my memory of it; but I think it is really more than that.

2990. And, if the proposed railway from Cobar to Wilcannia were constructed, the whole of the supplies for this mineral belt of which you have spoken would be got from Wilcannia, I suppose, in preference to Broken Hill? Yes, I think so.

2991. And, of course, if these fields are likely to be worked to any great extent the population will be very largely increased? Yes. There might be a second Broken Hill there.

2992. And, therefore, the traffic by this railway would be much increased? Yes; and the chances are that this railway would be eventually extended there. That is nearly a certainty.

2993. Can you think of anything else in connection with this project which you think the Committee ought to know? Yes; in connection with the goods returned in our estimate, the estimate has been formed on what has actually passed through Wilcannia; but, in addition to that, a great deal has come from Broken Hill to White Cliffs, of which we have no record. I should also like to point out that the land revenue derivable from the area affected by this railway would, in five years time, pay the actual cost—that is, taking it at 40,000,000 acres, at 3 farthings per acre. That makes £125,000 a year; and, therefore, in five years that revenue would clear the capital cost of this railway, and give £100,000 over that.

2994. Are you aware what is the value of the opals that have been obtained? I know that an estimate has been given by the wardens who have been at White Cliffs, and the highest estimate they have given is £100,000 per annum. Last year it was given as £80,000, but there are very many reasons why the actual output of opal should not be stated by the buyers, and it is very difficult to get a true return. From what I have heard, I think that fully £130,000 worth of opal is purchased there every year.

2995. For how many years do you suppose that that has been going on? The heavy purchases I do not think have been going on for more than four years. Before that the purchases amounted to, perhaps, £10,000, £20,000, and £50,000 per annum, but regular buyers have been there for over four years.

2996. I suppose that the difficulty in arriving at a correct estimate is because a great many opals leave the field by private hands, and no record is kept of them? That is one reason; another is, that there are only a few buyers there, and they naturally do not care to let the outside world know what a good business they are doing.

2997. *Mr. Watson.*] It has been suggested that, in view of the estimated loss in connection with the construction of this railway, the actual cost might be reduced by terminating the line on the high ground half a mile from the south-eastern bank of the river, thus saving the cost of viaducts and bridge necessary to get to the river and across it;—if that proposal were carried out would it seriously inconvenience the townspeople, as compared with the carrying out of the project as it is now planned? Of course, we would be very glad to get the railway even that far, and I do not know that its stopping short there would seriously inconvenience the townspeople. I daresay it would be wise to stop the line there, because by the time that would be done this district must either have gone ahead, or these mining fields must have been proved to be not so valuable or permanent as they are supposed to be, and if the district should go ahead the additional expenditure for crossing the river would then be justifiable.

2998. The matter of cartage from the terminal station to the stores, as laid down on the plans, would be about the same as from the high bank on the other side of the river, would it not? Yes. By using the existing road-bridge there would be practically no difference.

2999. *Vice-Chairman.*] It is a fact that some Queensland wool now comes for shipment at Wilcannia? Yes.

3000. Do you think that the construction of this railway will offer an additional inducement for that wool and other wool from Queensland to come to Wilcannia for transmission to Sydney? Yes, I am certain of it, because in that case there will be a certainty of getting the wool away. I may mention that one station, Woodburn, during the past season sent their wool to Wilcannia, and it remained here for some months. If they will send their wool to Wilcannia, when it may have to wait here that length of time, they are more likely to send it to Wilcannia when they can get it taken straight away, and save the river insurance, interest on the capital value of the wool, and interest on the wages paid for bringing the wool in.

3001. *Mr. Harper*, in his evidence, says he doubts whether a railway from Cobar to Wilcannia would catch any of the wool now sent from Wilcannia down the river, except when navigation were absolutely impossible;—what would you say in reply to *Mr. Harper* on that point? I should say that, if the wool were carried at the same rate from Wilcannia as it is carried from Bourke, not a single bale would go

T. H. Bell. down the river at any time, because at that rate the carriage by rail would actually be cheaper than by river, certain in transit, and better, from a business point of view, in every way. I am speaking of the wool particularly, but, with the ordinary carriage rate, other merchandise would also go by train, especially perishable goods, such as butter, eggs, potatoes, onions, or anything of that nature. Fodder is bound to come by rail on account of the cheap carriage. Even at £1 a ton from Dubbo it would come by the railway. As it is, with regard to fodder, when it is brought up the river people have to take what they can get, even at a high price—a robbing price really—and they have to take it whether it is good or not.

James Rowand Holding, post and telegraph master, Wilcannia, sworn, and examined :—

J. R. Holding. 3002. *Vice-Chairman.*] You have a statistical statement to make to the Committee? Yes; this is a comparison of the business done at the Wilcannia office in 1894, 1898, and the present year. It is principally taken from the Postmaster-General's Annual Report. In 1894 there were 137,450 letters posted, 12,750 telegrams sent, 292 postal-notes sold, 1,394 money-orders issued and 425 paid; 521 Savings Bank deposits made, and 205 Savings Bank withdrawals. The revenue was £2,696, and the expenditure in salaries, &c., £1,225 12s. 6d., leaving a profit of £1,470 7s. 6d. The parcels received, despatched, and delivered in the year, numbered 11,423, the approximate weight being 35 tons 12 cwt. In 1898 the postings of everything totalled 167,501—that is, letters, papers, and packets, but not including parcels. Parcels :—1,399; weight, 4,580 lb.; with a postage of £91 4s. 4d. The declared value of intercolonial and international parcels was £14,766 2s. We received from Victoria and South Australia ordinary letters, papers, and packets, and ditto registered, 47,184; parcels, 224; weight, 911 lb., with a postage of £26 11s. and of a declared value of £492 7s. 5d. The total number of parcels received, delivered, or sent on, including those posted locally, was 15,225, which, taken at an average weight of 7 lb., makes 106,575 lb., or about 47½ tons, with an approximate postage of £1,567. This large "parcel"-post business is the result of the difficulty and inconvenience in getting supplies by other channels. Our year dates from the 1st December to the last day of November. There are, therefore, yet two months of this year to run; but the number of letters and papers is compiled twice in each year—once in May and again in November—and then it is multiplied by ten to give the total number for the twelve months. The annual returns for 1899 are, of course, not yet due. There were posted at the local office during May, 1899, ordinary letters, papers, and packets, and registered ditto., 21,022; and we received from South Australia and Victoria 6,383 letters, papers, and packets. The number of parcels received, despatched, and delivered at Wilcannia from December, 1898, to 30th September, 1899, was 15,199; weight, 102,284 lb., or about 46 tons, with an approximate postage of £1,518. The value of parcels going outside the Colony posted at and despatched from Wilcannia, from 22nd December, 1898, to 14th December, 1899—that is, intercolonial and foreign parcels—was £54,386 18s. declared value. With regard to the mails in the district, the line that would be most affected by the proposed railway from Cobar to Wilcannia is our present Cobar mail contract, which originally ran once a week. Owing to the increase in the traffic, it had to be increased to twice a week, and with a further increase in the traffic it had to be increased to thrice a week. The contract price paid at present is £1,490 per annum, which is lowest price that we have paid yet for it. The mail business at the local office is twenty-eight mails, in and out, per week, with 169 exchanges with Sydney, Melbourne, Adelaide, Broken Hill, Cobar, Bourke, Louth, Tilpa, Wanaaring, Milparinka, Tibooburra, White Cliffs, Menindie, and Ivanhoe. Seven mail routes, extending to the east, south-east, north-east, north-north-east, north, west, and south-west, the aggregate mileage per week being 4,580 miles. The total number of bags handled per week is 354; that includes private bags.

John Walter Fletcher, Police Magistrate and Mining Warden, Wilcannia, sworn, and examined :—

J. W. Fletcher. 3003. *Mr. Watson.*] Your district embraces White Cliffs? Yes; my mining district goes a long way south of Menindie, but there are practically no mining operations there, and they are wholly centred in the White Cliffs District.

10 Oct., 1899. 3004. You have, I believe, some statistics relative to the transactions in regard to mining matters at White Cliffs? I have. The mining revenue at White Cliffs for 1897 was £234 11s. 5d.; for 1898, £352 18s.; for the first nine months of 1899, £557 7s. 2d. I may state that the population has increased in the eighteen months I have been here from about 800 to something between 2,000 and 2,500. The total revenue of the White Cliffs office—including mining revenue and Petty Sessions revenue—for 1897 was £407 6s. 7d.; for 1898, £537 9s. 4d.; for the first nine months of this year, £738 7s. 11d. There are seventeen leases, of 625 acres altogether, in force at White Cliffs. The number of miners' rights issued from 1st January to 30th September this year is 674, as against 283 for the whole of the year 1898. At Nuntherungie, there are twenty-four mineral leases in force, including 932 acres 3 roods and 11 perches.

3005. At White Cliffs the issuing of leases has been abolished lately by the Government? Yes; the tenure of land at White Cliffs is solely in 100 feet by 100 feet blocks.

3006. Because it was found that a smaller area was sufficient for an ordinary miner? Yes; it was done in the interests of the working miner.

3007. Do you care to offer an opinion as to whether there are prospects of permanent occupation, or anything approaching permanent occupation at White Cliffs? It would be too much to speak positively on that matter; but that there is enough opal to last a great number of years I feel positive.

3008. The leases to which you referred as being in force at Nuntherungie—are they of recent issue? They are of recent issue, but they are old abandoned leases almost entirely. They were held years ago, either for silver or for copper, but on account of the price of copper, and the difficulty of carriage, and other causes, they were abandoned, but subsequently they were taken up through the enterprise of Mr. Thierman, who now controls the copper-mining interest at Nuntherungie. There are a number of leases taken up at Fort Oway, which lies west of Nuntherungie.

3009. Do you consider the appearance of the mineral deposits at Nuntherungie encouraging? Yes, most encouraging surface indications; and as far as the sinking goes, about 100 feet. In two places, I am aware, from personal knowledge, that the indications are very good indeed.

3010. Would you care to express an opinion as to what bearing the construction of a railway from Cobar to Wilcannia would have on the development of that mining district generally? I feel sure that the only thing



thing which has retarded the introduction of capital into the Nuntherungie field, and similar work, which is absolutely necessary to carry it on, and without which it is practically valueless, is due to the want of easy communication.

3011. In regard to the opal-mining industry, the getting of cheaper and more certain supplies would be an advantage to White Cliffs and similar localities, I should imagine? Without doubt. They have been terribly handicapped during the last six months, through want of carriage and no river.

3012. They have had to get their goods from Broken Hill or Bourke, at very great expense? Yes; by camel-teams from Broken Hill or Bourke.

3013. Your opinion, then, speaking as a Government official outside of the ordinary influences of private interests, is that the construction of a railway from Cobar to Wilcannia would be of immense benefit to the district north and north-west from here? I feel quite certain that it would be a great boon to the district. I should like to add something about the output of opal. I may give a fair estimate of that, but, as you know, it is only an estimate. Last year I estimated the output of opal for White Cliffs at from £80,000 to £120,000. I did not wish to give an excessive estimate in so doing, and was very careful to keep it under the mark. I feel that this year, for the first nine months, the output will go very nearly to £150,000. I suppose you have heard that there is a temporary depression in the opal market, but that applies only to the inferior class of opal. However, as a large percentage of the miners on the field are dependent on that third-class opal, the depression will seriously affect the population of White Cliffs—only temporarily, I hope.

3014. We have been told that these periods of depression in the market are recurrent, and seem to disappear? No doubt. I have seen signs of depression before, and the field has recovered from it. I do not think that the opal-field, as it is now, should carry such a large population as flocked in there during the last winter, bringing the population up to about 2,500. I do not think the field will carry that population permanently, but it will carry 1,500 for a long time.

3015. *Mr. Shepherd.*] What do you base your estimate of 1,500 on—is that for want of water? A great deal of it has to do with the want of water—that is one factor in the matter; and the other is the uncertain character of the opal market. Third-class opal is now practically unsaleable, and I suppose that 50 per cent., at a very low estimate, is third-class opal; and what are the poorer people going to live upon. Then, it must be remembered, that all the money spent in White Cliffs is not opal money. In the present time of drought in this district people have been deprived of their ordinary occupations, shearing and pastoral, and have flocked into White Cliffs as being the only place where money was to be got. There was plenty of money there. Wilcannia, for instance, during the winter lost about one-third of its population; but I do not regard that as being permanent. The opal-field will, I think, carry comfortably and easily 1,500 people for a number of years.

3016. What you mean by that is that 1,500 people could raise all the opals that would find a market, and that anything beyond that would glut the market? Yes. There is no doubt that the market has been glutted with this poorer stuff.

WEDNESDAY, 11 OCTOBER, 1899.

[The Committee met at Petyuna out-station, Murtee holding, at 9 p.m.]

Present:—

WILLIAM THOMAS DICK, Esq. (VICE-CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD. |

JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

John Williamson, overseer, Petyuna out-station, Murtee holding, sworn, and examined:—

3017. *Vice-Chairman.*] How far is Petyuna from Wilcannia? Thirty-six miles. Petyuna is an out-station of Murtee holding.

3018. How long have you been in the district? About four years.

3019. Can you say whether this district suffers any considerable inconvenience from lack of railway communication? I think it does.

3020. In what way? There is a certain amount of uncertainty as regards the river traffic. At times there is considerable difficulty in getting fat-stock and wool to market.

3021. Which is your market for fat stock? Adelaide, chiefly.

3022. Do you think that railway communication would, in addition to offering certain and easy carriage for your wool, open up a market for fat-stock in Sydney? Yes, I think so.

3023. If the railway rates for the carriage of wool from Wilcannia to Sydney were similar to those from Bourke to Sydney, and also considering the uncertainty and frequent delay in river carriage, and the higher rate of insurance, do you think that the wool from this district would, as a general rule, be conveyed by railway to Sydney in preference to being sent by the river? I think it would be.

3024. Do you think it would be of advantage to pastoralists in this district were they to have a railway for the purpose of removing at frequent intervals small consignments of fat stock, which would not pay to send by road to the present market at Adelaide? Yes, I think so.

3025. Would that be of considerable advantage to the sheep-owners of this district? Yes.

3026. Do you think that the proposed railway would offer facilities for the carriage of starving stock to more favoured districts in times of drought, and thus afford the pastoralists of this district a means of insurance against the heavy losses which occur during times of drought? Yes.

3027. Presuming that the rates for the carriage of fodder from Dubbo would be at the present standard of about 10s. 6d. per ton, do you think that fodder would be conveyed to the pastoralists of this district by rail in preference to their obtaining it by means of river carriage from other colonies? Yes, I think so.

3028. Do you think that that would afford a large amount of revenue to the proposed railway if it were built? Yes, I think it would, for the whole district.

3029.

J. W.  
Fletcher.

10 Oct., 1899.

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Williamson.

11 Oct., 1899.

- J. Williamson.  
11 Oct., 1899.
3029. Do you think that it would afford a means of saving stock which otherwise would inevitably perish? I think so.
3030. Would that in its turn lead to an increase in the general annual amount of wool raised in this district? Yes.
3031. That, of course, would bring additional revenue to the railway? Yes.
3032. Is flour a large item in station stores? Yes.
3033. At 10s. 6d. a ton, the rate before mentioned from Dubbo, do you think that river-carriage would have any chance of competing against the railway-carriage? I think not.
3034. What class of goods do you think might come on a full river in competition against the railway? Wire or netting that might be required, and a small amount of machinery, which is not an important item in pastoral pursuits.
3035. Do you think that, even with respect to that class of goods, the establishment of business relations with New South Wales firms during periods when the river was low would lead to a permanent use of the railway rather than the river? I think so.
3036. *Mr. Shepherd.*] Are you aware of the estimated cost of the proposed railway? No.
3037. Well, it is, practically, about £500,000, and the working expenses would exceed £3,000 a year;—do you think that the country would be likely to benefit by the expenditure of so large a sum? No, I do not think it would.
3038. What do you consider the present prospects of the district;—are they likely to improve largely? At the present rate of going, I do not think they will.
3039. What do you consider the principal causes of the present depression? It is due principally, I think, to drought.
3040. Do not the rabbits come in as a considerable drawback? Yes, they are a great drawback.
3041. And I suppose that, with a return of good seasons, the rabbits would very largely increase? Yes; but in a good season, I think, the rabbits do very little harm. It is when things begin to go off that we feel them.
3042. A very large proportion of the wool at present finds its way to Adelaide and Melbourne, I believe? Yes.
3043. The rate by the railway, of course, would be considerably higher than that by the river;—do you think that when the river was navigable the railway would be used in preference to the river? I think not.
3044. You think that the pastoralists would still use the river? I think so.
3045. So that it would really only be in the event of the river not being available that they would use the railway? Yes.
3046. What do you think would be the chief advantages to the district from the construction of this railway? Getting stock away in a bad time, such as we are going through, to more favoured parts would be one advantage—a great advantage too, I think.
3047. We understand that the storekeepers, in consequence of the river Darling often not being available for navigation, have to lay in very large supplies, beyond their immediate necessities, and also have to pay very high freights;—for instance, when they have to get their supplies *via* Broken Hill, that militates also, does it not, against the squatters? Yes, to a certain extent.
3048. They have to pay a higher price for their stores and that kind of thing, I suppose? Yes.
3049. So, in that particular, the railway would be of advantage also? Yes, it would.
3050. Do you think that the proposed railway, if constructed, would induce small holders to take up country? Yes, I think so.
3051. And thereby considerably increase the population? Yes.
3052. *Vice-Chairman.*] In answer to Mr. Shepherd, you stated that you thought the construction of this railway would not benefit the country;—does your reply refer only to the immediate returns of the railway, or to the general indirect benefit conferred on the district, and thereby on the whole Colony? My reply referred only to the direct return.
3053. You think, then, that considerable indirect benefit would accrue to the Colony and the district from the construction of this railway? Yes.
3054. Supposing you were in the position of a holder of a large run, do you think that, year in and year out, good seasons and bad seasons, a railway running through this district would be of such value to you that you could pay one-sixteenth of a penny additional on the present rents in this district? I think not.
3055. Do you think that you could pay a slightly increased rental for the general advantages of the railway? I hardly think so.
3056. Is it a fact that pastoralists occasionally miss a favourable wool-market through the delay in river-carriage? Yes, very often.
3057. With the carriage of wool at £2 12s. 6d. from Wilcannia to Sydney by rail, do you think that the wool from this district would be sent by rail? I think it would.
3058. What do you think is the minimum area which a man should hold in this district in order to make a decent living, year in and year out? It depends on the class of country, to a certain extent, and it varies a good deal in the district.
3059. Do you think that an area of 10,000 acres is sufficient? No, I think not.
3060. Would 20,000 acres be sufficient? Yes, I think so.
3061. *Mr. Shepherd.*] One of the most expensive items in connection with this railway is the cost of crossing the river;—do you think that it would be equally convenient, for the people who would use the railway, if it were to stop short about half a mile on this side of the river? I think so.

THURSDAY, 12 OCTOBER, 1899.

[The Committee met at Bulla Tank, at 10 p.m.]

Present:—

WILLIAM THOMAS DICK, Esq., (VICE-CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD. | JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Edward Pearce Kevan, lessee, Bulla Tank, sworn, and examined:—

3062. *Mr. Watson.*] Bulla tank is on the Cobar-Wilcannia road? Yes; 71 miles from Cobar.
3063. Are you the lessee of the tank? Yes.
3064. This is a changing station for the coaches running between Cobar and Wilcannia? Yes.
3065. Under what conditions do you hold the tank? I have a five years' lease, with a right of renewal for five years more. I receive a bonus from the Government, and pay rent for the tank. I pay £3 a year rent, and receive a bonus of £45 a year, and so I get a net bonus of £42. I have the right of selling water to travelling stock on a regulation scale of charges, and the use of paddocks containing 640 acres, attached to the tank.
3066. How long have you been here? Nine years; first as caretaker, and latterly as lessee.
3067. Have you any portion of the area under cultivation? Yes, 10 acres this year. I have about 22 acres altogether fit for crop. I have had all those 22 acres under cultivation; but the seasons have been bad, and I have not had much return.
3068. How long is it since you first put in a crop? The Government put in a crop about four years ago as an experiment.
3069. How did that turn out? It was an absolute failure.
3070. Since then have you had some in each year? Yes, every year; but I have had only one crop, that was last year.
3071. What did you get last year? Four tons of hay off the 10 acres. That was not a very big crop; but it was the largest I have had.
3072. To what do you attribute the failure—to the lack of something in the soil, or merely to want of rain? Want of rain is the cause of it. The soil is good, and I have put about 200 loads of manure on the 10 acres.
3073. Is it not possible that the manure has made it too hot? No, I do not think so, because I have cross-ploughed it.
3074. Stable manure, I suppose? Yes. It has lain there about six years. I tried 5 acres with manure and 5 without, and what I had manured gave the better return.
3075. But these last four years, during which the experiment has been tried, have been exceptionally dry, have they not? Yes. When we did have the rain, it came at a wrong time for the crop.
3076. During these four years, when you have had either absolute or partial failures, the same conditions have applied in the regular wheat-growing districts, have they not? Mostly, in this district.
3077. In the Central districts of the Colony also people have had either absolute or partial failures during the last four years? Yes, in some of them.
3078. So the experiments made here, so far, have not demonstrated that the land is any worse for wheat-growing than land nearer the coast? No, I do not think they have.
3079. I should imagine that it can hardly be said that anything that has been tried here during the last four years has demonstrated whether the country is, or is not, fit for wheat-growing under ordinary conditions? If we were to have anything like favourable weather we could grow very good crops here. The grass has been 3 or 4 feet high here in good seasons.
3080. Do you know whether any attempt has ever been made to cut the natural grasses for hay, when they were so plentiful? Yes. The grass was cut at Jacob's Well, 4 miles from here.
3081. With what result? It kept well; it was nice sweet hay, and it kept about twelve months.
3082. What kind of grass was it that was treated? Spear grass.
3083. Any other description? Mitchell grass, too.
3084. Was that cut in with the spear grass in the hay? Yes, it was all cut together; also crow's-foot and herbage. It goes black in the stack.
3085. Similar in colour to ensilage? Yes.
3086. It was good hay? Yes. Mr. Tully, the then owner of Nelyambo station, on which Bulla tank is situated, cut between 70 and 80 tons of natural grasses for hay, in 1890.
3087. That was a wet season? Yes.
3088. On which description of soil did you try the cultivation you have in now? A sandy loam—mulga flats.
3089. Grey or red? Reddish.
3090. Do you think that is the best soil for wheat-culture around here? Yes, when we have rain. It holds the moisture better.
3091. You have apparently a great deal of herbage and edible scrub round about here even at the present time? Yes. Though the herbage is rather stunted there is plenty of mulga and other edible scrub.
3092. And yet the country round about here seems to be comparatively unstocked? Yes, it is not stocked to the extent it generally is.
3093. What is the great deficiency in this part of the country, from a pastoral standpoint, at the present time—is it the lack of water? No, they have plenty of water on nearly all the runs. They are short of water at Barnato, an outstation belonging to Nelyambo. Last year was very dry, and a lot of the stock there died.
3094. Was any effort then made for the purpose of keeping the stock up? Yes; they had forty or fifty men on for four or five months cutting scrub to keep the sheep alive; but since the last rain there has been no necessity to cut scrub any further.
3095. You know of the proposal to run a railway from Cobar to Wilcannia? Yes; I have heard of it.

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3096.

- E. P. Kevan. 3096. Do you care to express an opinion as to whether that would or would not help to advance the interests of this portion of the district? I think it would; I think it would cause settlement along the line, and open up a lot of good country. There is a lot of good country here, and it wants population on it.
- 12 Oct., 1899. 3097. When you say "good country," do you mean for pastoral purposes only, or do you think it is possible for people to go in for agriculture combined with pastoral pursuits? Most of the land between Cobar and Wilcannia, along the proposed route for the railway, is fit for agricultural and pastoral pursuits combined.
3098. But, assuming the land to be good enough, do you think that the rainfall in most seasons would be sufficient to give some return in the way of crops? Yes.
3099. From your point of view, then, a man would be justified in taking up land in this district with the view of combining agriculture with pastoral pursuits, if he had railway communication with the seaboard? Yes, I think so. On most of the stations there is a little agriculture. At Bulla station, 11 miles from here, they have two 10-mile blocks, and they have had 60 or 80 acres under cultivation, though there is none this year. Last year they had a little.
3100. This being a changing station for the coaches, I presume that you have some idea of the passenger traffic? Yes.
3101. Is it considerable? Sometimes there are a few passengers. Nearly every coach that goes through is pretty well loaded up with something or other.
3102. A good few passengers go through altogether? Yes.
3103. So far as passengers are concerned, this coach route has to compete against the Broken Hill route, has it not? Yes.
3104. The greater number of the people going to Wilcannia at present take the railway and go overland from Broken Hill? Yes, they come that way, too.
3105. So that, whatever number may travel through from Cobar to Wilcannia at the present time, does not represent by any means the whole of those that now travel to and from Wilcannia? No.
3106. At present the coach fare between Cobar and Wilcannia is £4 4s., single, is it not? Yes.
3107. Assuming a railway to be built from Cobar to Wilcannia, and the fare reduced to 20s., which the Railway Commissioners estimate would be the fare, it is probable that, then, a greater number of people would travel between those places, is it not? Yes; I should think so.
3108. In addition to the saving of money there would also be a saving of time in travelling by rail? Yes.
3109. And the journey would not be such a trying one as it is at the present time? No. It would be a great deal better going by train than by coach.
3110. At present a coach journey from Wilcannia to Cobar involves about thirty-six hours' continuous travelling, does it not? Yes; two nights and a day.
3111. Do you have much demand for water for travelling stock? There have been no stock travelling through here lately. There is no other tank between here and Wilcannia, and when the drovers cannot get permission from the station-owners to take water for their stock (because the station-owners have no surplus water for themselves) the stock have to go up the river to Bourke, or down the river, towards Adelaide and Melbourne.
3112. Prior to the bad seasons commencing, was there much of a drift of stock this way towards Cobar? Not much. I think that only about 20,000 sheep have passed this tank whilst I have been there.
3113. There seems to be a long distance unprovided for by means of Government tanks between Wilcannia and Bulla tank? Yes. The original intention was to put a chain of tanks right through between Cobar and Wilcannia; but only four were completed, between Cobar and here, excluding Bulla tank. The tanks projected, between here and Wilcannia, were never made.
3114. The failure to put down tanks between here and Wilcannia renders those that have been put down comparatively useless? Yes. If stock were going from Cobar towards Wilcannia they could go only as far as Bulla, so far as public watering places are concerned.
3115. If stock-owners should wish to take their stock from Wilcannia to Cobar, along this road, the first 89 miles would be waterless, except on the chance of getting a little water from the stations? Yes. If the stations could not supply them they could not get through at all.
3116. Do you know the country between here and Wilcannia? Yes.
3117. Do you think there will be any difficulty in getting sufficient watersheds and holding ground to obtain water supplies for railway purposes, similar to the tank you have here? The Inspector of Public Watering-places, Mr. Donaldson, of Hay, has been here, and he told me that there were some good places; and Mr. Tully, the Inspector of Stock at Wilcannia, said the same thing.
3118. But you yourself have been along the route between here and Wilcannia? Yes, and I do not think there would be any difficulty in obtaining good catchment areas and good holding ground for a water supply for the railway.
3119. Is there a plentiful supply of pine timber in this district? Yes; there is a good belt of pine round about here.
3120. Do you think there would be any outlet in Cobar for pine if the proposed railway were constructed? I think so. The teams when they are going back always take pine logs as back loading into Cobar.
3121. So there would be some traffic for the railway, from carrying timber into places like Cobar, where there is not a natural growth of pine? Yes.
3122. Do you know if there is stone near at hand suitable for ballast? Yes, there is good ballast stone round about here. There is also good building stone.
3123. I take it, from what you have said, that you think that the proposed railway would be of advantage to the district generally, and would eventually repay the country for the expenditure? Yes, I think it would. It would cause settlement and plenty of traffic for the line.
3124. You think it would create traffic itself because of the new settlement? Yes. The line from Cobar to Nyngan is, I think, paying now very well.
3125. *Mr. Shepherd.*] Where do you get your stores from? From Cobar generally.
3126. How do you get them delivered here? When the horses are being fed here, we get our stores brought by the teams; but when there is plenty of grass, and the horses are not being fed here, we have to go in for our own rations.
3127. How far are you from the river Darling? About 42 miles.

3128. What does it cost you to get goods from Cobar? £3 10s. a ton now.
3129. Of course, it would cost you very much less than that if the proposed railway were constructed? Yes.
3130. Then, you would rely entirely on the railway for bringing your stores, and so on? Yes.
3131. Is wheat the only crop you have cultivated here? No; I have tried lucerne and barley. Lucerne grows very well here in a good season.
3132. You have had to depend entirely on the rain? Yes; we have no irrigation.
3133. In what year was it that you got the 4 tons off the 10 acres? In 1897.
3134. Have you any idea what the rainfall was in that year? No; I have not. I kept the register, but have delivered it over to Mr. Cotton, Inspector of Stock.
3135. Was that 4 tons of wheat? Yes.
3136. You did not grow any for grain; you cut it all for hay? Yes; I cut it all for hay.
3137. And I think you said you manured about half the area? Yes; I put 200 loads of manure in altogether.
3138. Five acres with manure, and 5 acres without manure? Yes.
3139. Did you grow any lucerne in the same year? No.
3140. When did you grow the lucerne and the barley? In 1893.
3141. Had you about the same area sown that year? No; I put in only about half an acre of lucerne, to try it as an experiment. I got about 1 cwt. of lucerne.
3142. Did you estimate what the average would have been per acre for the lucerne crop? I put in about half an acre altogether, and got only about 1 cwt. of lucerne.
3143. And that was in a fairly good season, I suppose? Yes; the season was not a bad one. The ground was very hard. I do not think it had ever been ploughed before.
3144. That could hardly be called a success? No.
3145. What quantity of barley did you have in that year? About the same area.
3146. Did you have about the same return for the barley? No; the barley grew very well.
3147. Do you know what weight you got off the half acre? I cannot say the weight exactly; but I got about three loads—I should think about 12 or 14 cwt. altogether. It grew pretty high, as there was plenty of water near it.
3148. Do you think there is a large area of land round about here that would be equally good for cultivation? There is plenty of good agricultural land.
3149. In which months do you generally get a rainfall here? In January and February we have most of our rains.
3150. Do you not get any rain in the winter, as a rule? We have a little, but not much.
3151. Do you not get enough to enable you to put your crops in? We have to chance that. We put them in generally in May. We have not had much rain this year since May.

E. P. Keenan.  
12 Oct., 1899.

FRIDAY, 13 OCTOBER, 1899.

[The Committee met at Barnato out-station, Nelyambo holding, at 4.45 p.m.]

Present:—

WILLIAM THOMAS DICK, Esq. (VICE-CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD. | JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

William Rodier, grazier, Tambua station, sworn, and examined:—

3152. *Vice-Chairman.*] How many miles is Tambua from Cobar? The homestead is 40 miles westerly from Cobar. W. Rodier.
3153. What is the area of your holding? 128,100 acres. 13 Oct., 1899.
3154. Can you give the Committee an idea of the carrying capacity of your run? It was fixed by the appraisers, at the last assessment, at one sheep to 7 acres. My holding consists of two sections—Tambua and Mulga Downs. That assessment refers only to Tambua.
3155. Would Mulga Downs carry more or fewer sheep per acre? Fewer, I think. I think that was assessed at one sheep to 10 acres.
3156. Where do you generally send your wool to? Cobar.
3157. Do you suffer any inconvenience owing to the distance you are from a railway-station—40 miles? Yes. I have to do all the carriage from there, and it is not always convenient to get teams.
3158. What is the rate of carriage by teams from your run to Cobar? From 30s. to £2 a ton. It varies according to the times.
3159. For stores outwards does the same rate prevail? About the same.
3160. Can you indicate to the Committee in what way pastoralists in your neighbourhood would be benefited by the construction of the proposed railway from Cobar to Wilcannia? They ought to get cheaper carriage, for one thing, and certain carriage, for another. The railway would also be of great assistance to them in sending fat sheep to market and in getting buyers to come up to look at store sheep.
3161. At present, on account of the distance from a railway, you have a difficulty in inducing buyers to come to inspect, with a view of buying store sheep? Yes.
3162. If the proposed railway were built, do you think you would be able to send large drafts of your stock away, during times of drought, to parts of the country where there was more feed? It would be a great help to us. We should either have to do that, or chance their dying. Now we have to cut mulga; and, if they live, they live, and if they die, they die.
3163. But this cutting of mulga is a process which, of course, must soon end, if you have many droughts? Yes; once it is cut out. It is very difficult to cut mulga in such a way that it will grow again.
3164. Does the distance of 40 miles to a railway offer any great obstacle to the transit of fat stock to the Sydney market? They lose in condition and in value.
3165. If the proposed railway were constructed, do you think you would be enabled from time to time to truck consignments of fat stock to the Sydney market? Yes; I do. 3166.

- W. Rodier. 3166. Would being able to do that be of considerable benefit to you and other pastoralists in a similar position? Yes, I think so.
- 13 Oct., 1899. 3167. Do you think, then, that one practical effect of the construction of the proposed railway would be to cause a substantial addition to the carrying capacity of your holding, owing to the fact of your being able to get your fat stock away when you would like? Well, I should be able to get rid of them when they were in good condition, and not have to cut scrub for them, and even then perhaps let them die.
3168. Taking year-in and year-out, would that effect a considerable saving to the pastoralists of this district, do you think? Yes, I do.
3169. *Mr. Watson.*] Have you tried any cultivation? Yes, a little.
3170. With what result? This year, I think it is hardly a criterion; but I have taken 3 tons off 3 acres this year.
3171. Have you been cultivating for a long period? For about five years.
3172. On the average, how has your cultivation turned out? Fairly; I have been cultivating only during the worst years of my experience. I have seen a crop of 3 tons to the acre in the district.
3173. On what class of soil have you tried cultivation? The red soil. We have nothing else.
3174. Is there much more of it in the district that you think is similarly suitable for cultivation? Yes; in good seasons. It depends entirely on the seasons.
3175. How long have you been in the district? Fifteen years.
3176. Taking an average over that time, supposing you had a railway to your door, do you think it would pay you to go in for cultivation to any material extent? I have had a fair amount of success with a small area, in growing wheat for hay, but I have not had sufficient experience of farming to be able to express an opinion as to whether it would pay to grow wheat for grain; but Mr. McPherson, of Paddington station, grew wheat for grain, which turned out a success.
3177. Can you say what year that was in? I think it was in 1894, but I cannot say definitely.
3178. Do you think there are any means that could be adopted to cause closer settlement, or a greater carrying capacity in this portion of the country, speaking generally? Yes, I do. The first step in that direction would be the extermination of the rabbits. For my own part, I think that the easiest method of dealing with the rabbits is to catch them, kill all the females, and allow the males to go free.
3179. Has that method been successful in your own experience? Yes, it has. In 1891, the stations round about here were bare of grass, and the rabbits had practically died out. Subsequently, with the better seasons and a greater amount of grass, rabbits increased, but to a much smaller degree on my station than on the surrounding stations, with the result that in 1895 I was sending away more wool than I had previously sent, whilst other stations had a reduced quantity as compared with their previous output. I have no doubt that if my method of getting rid of the rabbits were persevered in generally, it would settle the question of the rabbit-pest.
3180. Is it usual round about here to wire-net the holdings? Yes; I think the majority of them are wire-netted.
3181. Do the pastoralists adopt any other means to destroy the rabbits—for instance, in the way of poisoning and trapping? Yes; they have tried those methods, but with comparative failures, because the rabbits in good seasons apparently increase faster than they can be destroyed in that way.
3182. Which of these methods do you think is the least expensive? I say my own; because I have proved it to be.
3183. How do you secure them—by trapping? I have invented a trap which is set in the burrows, and catches them alive.
3184. Does that method of trapping involve any great expenditure in the way of labour, in proportion to the number of rabbits caught? My method is the more economical in the long run, because, although I may not kill or trap as many as other pastoralists may, still mine is a surer way of preventing an increase, and of gradually exterminating the rabbits.
3185. What are the other means by which this country could be made more profitable, by having a greater carrying capacity? Ringbarking and cutting, and cutting up the paddocks into smaller areas, and making more water.
3186. The catchments for water are pretty numerous and good round about here, are they not? Yes, very good.
3187. And, as a general rule, you can get good holding ground? Yes.
3188. So it is only a matter of expending money to secure water against the times of drought? Yes.
3189. Do you think it is likely that pastoralists under present conditions will go in for ringbarking and the other means you have just mentioned? Yes, I think so. It is already being done in the district, and in an increasing measure.
3190. Do you think that this country is in any way suitable for smaller pastoral settlement at some future time? If the rabbit difficulty were met, I think that this country would be suitable for pastoral settlement in smaller areas than obtain at the present time.
3191. What do you think would be the minimum area of the country round about here necessary to give a man a fair chance of making a living, assuming he had sufficient capital to turn it all to account? I do not think he could do with less than from 10,000 to 20,000 acres.
3192. In favourable seasons would such settlers be able to combine a little agriculture with pastoral pursuits, if they were near a railway? Yes, they could.
3193. So, in your opinion, there would be some development of population consequent on the construction of the proposed railway? Yes.
3194. There are now, are there not, resumed areas which are open for smaller settlement in 10,000-acre blocks? Yes.
3195. Do you think that the distance from market has had any deterrent effect in regard to the taking up of those blocks? Yes, I do.
3196. In some cases, though, I suppose the resumed area would contain land too poor to enable a man to make a living on 10,000 acres? In some cases, no doubt.
3197. In such cases an increased area would be necessary, even with a railway? Yes.
3198. *Mr. Shepherd.*] Would you kindly explain the comparative state of the country at the time when you first came here and at the present time? When I first came here I made a lot of money, and I continued to make money until the rabbits came, but since the rabbits came I have not done so.

3199. Do you attribute the great falling off in the production of wool chiefly to the increase of the rabbits? Yes, I do. W. Rodier.

3200. In cutting the mulga scrub, I think you said you cut it in such a way that you did not kill it? Some you can cut and it will grow again; but some will not. Speaking in the main, half or more than half dies. You want careful men to cut it. 13 Oct., 1899.

3201. Will you explain how it is cut to prevent it from being killed? Yes, by leaving one limb with branches on it.

3202. Have you ever tried a system of lopping the limbs at some distance from the ground—for instance, putting a heavy bill-hook on the end of a stick of some length, so that you can reach up some distance? No.

3203. Do you not think that that would be a good plan? Whenever lopping is done, men have to climb the tree, and I do not think a man with a bill-hook would do as much as a man with an axe—a man with an axe, I think, would feed more sheep than a man with a bill-hook.

3204. But is not the difference compensated for if you can preserve the life of the mulga trees? We in this district do not suffer from scarcity of mulga, and perhaps we get reckless in regard to it, because we have plenty. We never cut down currajongs; we always lop them, and they grow again beautifully. In some places, where I have cut the mulga completely out, the grass has improved considerably.

Edmund Francis Hayes, station inspector, Australian Mortgage, Land, and Finance Company, Ltd.,  
sworn, and examined:—

3205. *Mr. Shepherd.*] Have you been in your present position a long time? Five years. E. F. Hayes.

3206. Did you occupy any position under the company prior to that? No; that is the period of my association with the company. 13 Oct., 1899.

3207. Have you been in the habit of visiting this district frequently? Yes, pretty frequently during the last five years.

3208. And during the whole term of your office under the company you have experienced bad seasons here? Yes. When I came here first, namely, in 1896, the season was a bad one, compared with some seasons, but a very much better season than there has been here since then.

3209. Has the number of sheep in the possession of the company in this district decreased much during the last five years? Yes.

3210. Can you state what the percentage of decrease has been? We shorn 130,000 sheep here in 1895—that is, for both Nelyambo and Barnato—and this year we have shorn not quite 40,000.

3211. To what cause do you attribute that great falling off? A great deal to the destruction of the country by rabbits and drought combined. The country has been eaten out by rabbits since 1889.

3212. I suppose that you, like nearly all other squatters in the neighbourhood, have had to resort to scrub-cutting in order to keep the sheep alive? I reduced the number of sheep a good deal by selling some of them, but we did cut scrub. In the first year that I came here a great quantity of scrub was cut.

3213. What effect, do you think, the construction of a railway from Cobar to Wilcannia would have on the whole of the country that would be served by that railway? I do not think it would have a great deal of effect, except that it might cheapen carriage a little, and would facilitate people's journeys. They would not have so rough a time as they have now with coaches and buggies. But, so far as squatting interests go, I do not think it would mean much.

3214. Are you not greatly inconvenienced sometimes by reason of the high rate of carriage from Cobar to this place? The cost of carriage from Cobar to here is not unreasonable.

3215. Taking the whole length of the proposed line, do you not think that people at Wilcannia and other places at a greater distance than this place is from Cobar are greatly handicapped by the present high rate of carriage? I think that the railway would greatly convenience Wilcannia, so far as passenger traffic goes, but I do not think that wool would go by rail from Wilcannia to Cobar, if the river were open.

3216. Of course the time they suffer most now is when the river is not navigable, but, during the time the river is navigable, they use the river by sending their wool and other produce either up the river to Bourke, or down the river to Victoria and South Australia? No doubt a railway to Wilcannia would make things more certain for people living out there, and so it would to a great extent for everybody along the line. They would always have a get-away, if they liked to go to the expense of trucking stock, or they could bring feed to the stock by means of the railway.

3217. Do you think that the construction of the proposed railway would induce more settlement in the district—on the part of small holders, for instance? I think that in a really good season, homestead leases would be taken up, but I doubt if people would be able to make a living in that way in this district, year-in and year-out. I may, however, say that my experience is that if people once settle on the land near a railway, they do not readily leave it; whether they are doing well or not, they stop there.

3218. In construction, the most expensive portion of this railway would be about the last 10 miles this side of Wilcannia, which it is estimated would cost nearly one-fifth of the whole of the expenditure on the proposed line;—do you think it would be equally convenient to the people who are interested in the railway, if it were to stop short within 10 miles of Wilcannia, with the view of saving £100,000? For the Wilcannia people it would be infinitely better to have the railway within 10 miles than not to have a railway at all.

3219. There is another suggestion—the cost of a bridge across the river Darling would be the largest item in that expenditure, and there is a convenient place for a station about half a mile on this side of the river;—it would, of course, be more convenient if the people of Wilcannia had to go only about half a mile to reach the railway at that station, instead of having to go 10 miles in order to reach the railway? Yes, it would.

3220. I suppose that you have no traffic whatever with Wilcannia? No.

3221. Therefore, you would not be interested in the railway beyond this point? No; I do not think it would make any difference to us. It all depends on the freights. For instance, if the railway were to run past within a reasonable distance of Thackambie, where we have one of our wool-sheds, it might pay us better to truck wool on the railway to the river, if the river freights were low—in fact, the same consideration applies to the Barnato shed. The insurance rates are very high when the river

- E. F. Hayes. river is low ; but when the river is high the insurance rates are not so high, consequently it might pay us to truck wool from here by rail to the river.
- 13 Oct., 1899. 3222. There is, of course, a project for locking the river which would render it permanently navigable ;—do you think, in a case of that kind, it is likely that any quantity of wool would be sent to the river ? It would entirely depend on the differential rates on the railway and the rates of insurance on the river.
3223. You think that the squatters generally would adopt the cheapest route ? Undoubtedly.
3224. I suppose you have thought over the matter of the proposed railway ? I cannot say that I have given it much consideration.
3225. Can you think of anything in connection with the proposal which would be likely to assist the Committee in coming to a conclusion ? I think you have asked me all the questions I could have suggested. With regard to settlement, of course one man has one opinion, and perhaps another man has the reverse opinion. I think it is possible that, upon the mulga country, men might take up homestead leases ; but I do not think that is agricultural country. I do not think that wheat would grow in this district in enough seasons to make it pay. I doubt whether it would pay one year with another to grow even enough to feed the horses used in the station work. It is so often a failure. When you get a good crop and stack it, you have to run the risk of mice and other vermin eating it. I suppose, however, that all stations would put in sufficient wheat to try it for horse feed ; but I do not think it would be very successful over a number of years.
3226. Has any attempt been made here at cultivation ? We always put in what we think will give us enough horse-feed—anything from 30 to 60 acres ; but we do not often get anything off it.
3227. But, in a fairly good season, you might get a fairly good crop ? Yes ; I think we might get 30 cwt. of hay per acre.
3228. *Mr. Watson.*] I think you said that the question whether wool would be sent along the proposed railway would depend on the freights ? Yes.
3229. Can you tell the Committee what you pay at the present time for the carriage of wool by steamer from Nelyambo to Adelaide ? I think that the cost, including insurance, comes to £4 2s. 6d. this year.
3230. I suppose that, the river being comparatively low this season, the cost is higher than the cost would be with a full river ? I am speaking from memory ; but I think that three years ago the insurance was about £1 10s. per £100, but two or three barges have been sunk since then, and the companies will not insure as low as they used to insure.
3231. Do you remember what was charged, including insurance, from Nelyambo to Adelaide on a full river ? I think we got our wool down for £3 10s. at the end of 1895.
3232. That is as low a charge as you know of ? Yes.
3233. *Mr. Harper*, the Chief Traffic Manager, informed us in his evidence on the locking of the river Darling that greasy undumped wool is taken from Bourke to Sydney in some cases at as low a charge as £2 12s. 6d. per ton ; allowing for the extra distance from Wilcannia we might assume that wool could be conveyed by rail from Wilcannia to Sydney for £3 per ton ; do you think that, with a railway at Wilcannia taking wool at £3 per ton through to Sydney, this railway would then have a chance of competing against the river ? If the railway would carry wool from Wilcannia through to Sydney at £3 per ton I think that we should truck wool from Barnato, and also the Nelyambo wool at Thackambie, to Sydney.
3234. Assuming that the railway freight were even a little higher than the river freight, do you think that the rapid transit would be a sufficiently large advantage to the wool-growers to cause them to pay that slightly higher freight ? Yes, a slightly higher freight. It would be a matter of calculation, including the interest on the capital value of the wool.
3235. Speaking generally, I suppose it is always an advantage to be in a position to catch certain sales ? Yes, as a rule ; unless there is some marked thing foretelling a higher market later on.
3236. But it is an advantage to be able to take advantage of an early market, if you wish to do so ? Yes, undoubtedly.
3237. And I suppose there are some years during which, under present conditions, the river is of no advantage as a carrying medium ? Yes, there are.
3238. And in those years there is no doubt that the railway would get the wool traffic ? Yes, no doubt ; in fact, people would draw their wool to the railway by road rather than have to keep it waiting perhaps for twelve months.
3239. I think you said, in reply to *Mr. Shepherd*, that the railway would be of some assistance to pastoralists on or near the line, in allowing them also to get their stock away in times of drought if they should wish to do so ? It might be so.
3240. Does it sometimes happen in favourable seasons that you have any considerable number of fat stock that would be fit for market if you had the means of getting them to a market ? I think that in those seasons the sheep would most likely be travelled in to the railway at Nyngan. It would not be likely in a good season, if the roads were open and the sheep were fat, that we should truck them at Thackambie or Barnato. We should walk them as far as we could.
3241. We have been informed by witnesses who gave evidence during our journey down the river that sometimes pastoralists there have some thousands of fat sheep, for which there is not outlet—that is, that although a number of the sheep may be fat, on the plain country the roads are not sufficiently good for the owners of the sheep to be able to get them away, and they have been compelled to sacrifice them by selling them at a nominal price in order to clear the stations a little ? That is quite true ; and it might occur here.
3242. In such a case it would be of great advantage to have an opportunity of getting them away by rail ? Yes ; a great deal would depend, too, on the differential rates.
3243. You think that if the freight on this railway for the carriage of fat stock were on a similar scale to the freight on the Bourke railway, there would be a fair amount of traffic on this line in carrying fat stock in good seasons ? I daresay there would be in good seasons. I think that fat stock would then go to Sydney ; but it is impossible to judge what the traffic would be.
3244. Do you know what the rainfall here is ? For three years past it has been very light—8 inches, 5½ inches, and this year, up to now, 4 inches.
3245. Do you know whether the rainfall this year and a few years previously has been greater or less than it was about Nyngan ? It has been less here.



3246. Considerably? This year, at any rate. At Nyngan the rainfall was  $2\frac{1}{2}$  inches when it was only 50 points here; and I think that the rainfall in the last two or three years has been less here than it was at Nyngan. E. F. Hayes,  
13 Oct., 1899.

3247. With regard to wheat-growing, people have found that even during these comparatively dry years they have been able to grow wheat successfully not far from Nyngan, have they not, lately? They have at Narramine; but I do not think that anybody has done much good with wheat-growing about Nyngan, or in fact as far as Nevertire; but, there is not much wheat country near Nevertire.

3248. And there is not much wheat country near Nyngan? No; but, there is more there than there is about Nevertire.

3249. Is there much land available at the present time in this district for homestead leases on the resumed areas of the various runs? Yes; there is. All Barnato, which is an out-station of Nelyambo, is a resumed area, and is all available for homestead settlement.

3250. So it is quite possible that, if the proposed railway were constructed, a portion of Barnato might be taken up by homestead lessees? I know that quite as arid country has been taken up by homestead lessees down the river; but it has a water frontage. I do not know of any back blocks that have been taken up by homestead lessees, which are in so arid a country as this.

3251. Do you think that the river-frontage country is of any more advantage to a man with small capital than the back country? I do not think it is, except that he has water. As a rule it is teamsters that take that country up as selections, and the traffic on the road and river causes them, I think, to take up those selections.

3252. Is it not a fact that in dry seasons the river-frontage country is less fit for carrying stock on a small area than is the back country? I should not like to say that. I think that on the river-frontage country you would require fewer acres to carry a sheep than at Barnato.

3253. To what do you attribute that? The creeping salt-bush principally.

3254. Does that grow only on the river-frontage country? It does not grow on the mulga country out back, or, if it ever did grow there, it has all been eaten out.

3255. You have not had much grass on the river-frontage country for some time, have you? No; but, it is good herbage country.

3256. Do you think that an area of 10,000 acres of the class of country about Barnato is sufficient for a homestead lessee to make a living upon? I think that he could do as well on 10,000 acres as he could do on 20,000 acres—I mean, in proportion.

3257. How many sheep do you think a homestead lease would require to carry in order to keep a man and his family? At the present price of wool, I think that 500 would be sufficient—that is, I think that the homestead lessee could get a better living from the 500 sheep than he could get by working for £1 per week.

3258. But, assuming that the present price of wool were not maintained, what, then, do you think would be a fair number of acres for a homestead lessee to have? Proportionately, as wool fell in price. If it fell 50 per cent., he would want 50 per cent. more in acreage.

3259. Do you think, taking the average price of sheep for some years past, that 1,000 sheep would be sufficient to maintain a man and his family? Yes; I think that a man with 1,000 sheep would make a good living.

3260. And, with this class of country, if a man had capital enough to improve his holding, do you think he could carry 1,000 sheep on 10,000 acres? It would take him all his time. The land would have to be a picked piece, and he would have to take an average, year in and year out.

3261. So it would seem that a 10,000-acre block is, on the average, rather small for this class of country? Yes, perhaps it is.

Sydney Hamilton, manager, Nelyambo station, sworn, and examined:—

3262. *Mr. Watson.*] What is your position? I am manager of Nelyambo holding, which includes S. Hamilton. Barnato. 13 Oct., 1899.

3263. What is the area of the holding? About 900,000 acres.

3264. In ordinary seasons, how many sheep does it carry? From 70,000 to 80,000.

3265. How many is it carrying at the present time? About 40,000.

3266. How long have you been on the holding? Since February, 1896.

3267. So all your experience here has been with bad seasons? Yes.

3268. Have you considered the question of railway communication, and its possible effect on the pastoral industry of the district? I have not studied it very much, but to a certain extent.

3269. How do you think it would affect the pastoral industry of the district? I do not think it would affect it very much.

3270. Do you think it would be of any benefit to the pastoralists in the way of carriage? Slightly.

3271. At present you get your supplies, I suppose, in the main, by river? Yes, when there is an open river.

3272. And the wool from Nelyambo goes down the river usually? Yes.

3273. To where do you send the wool from Barnato? I generally send it from here to Cobar by team.

3274. Assuming that the rates on the Wilcannia-Cobar line were to approximate to the rates existing on the Bourke line, do you think you would be likely to use the Wilcannia-Cobar railway for the carriage of the wool from Barnato towards Sydney? Yes, I think so, certainly.

3275. Would you use the Wilcannia-Cobar line for the carriage of the Nelyambo wool, if you could send it from Thackambie to Sydney for £3 7s. 6d. per ton? Yes.

3276. Whether there was an open river or not? It would depend on what the freight on the river was.

3277. You know what that freight has been when the river was open? Yes. I do not know about the insurance, which is attended to at the head office, and is rather a heavy item; but the freight, with which I have to do, is less than £3 7s. 6d.

3278. We have received information from several sources that the insurance on wool between Wilcannia and Adelaide or Melbourne is never less on the river than from 14s. to 16s. per ton? In that case, I should send wool for less than £3 7s. 6d., from Nelyambo, by river.

3279. What is the rate you are paying at the present time for carriage by river? £2 1s. 6d., exclusive of insurance.

3280. Is that under a special contract? Yes.

3281.

- S. Hamilton. 3281. Does it include rail to Adelaide? Yes, it includes delivery at Adelaide.
- 13 Oct., 1899. 3282. Is the wool from your station sold in Adelaide, or does it go right through to the London market for sale there? It generally goes through to London.
3283. What would your clip amount to in an ordinary season? For 70,000 or 80,000 sheep, 1,100 or 1,200 bales.
3284. The steamers, in consideration of having a large quantity, make a special cut-rate for you? Yes.
3285. I suppose that the steamers at present get a fair amount of trade in carrying agricultural produce from South Australia or Victoria up the river? Yes.
3286. Assuming that, on this railway, through rates were charged from (say) Dubbo to Wilcannia, it would then cost about 10s. 6d. per ton to deliver agricultural produce at Wilcannia;—do you think that the steamers could carry that class of produce to Wilcannia as low as that? I really do not know what the rates are from Adelaide to Wilcannia.
3287. We have been informed by some of the steamer people that the lowest at which the steamers could afford to carry produce from Echuca or Morgan to Wilcannia would be £1 per ton for big lots, and if that is the case it would appear that the railway could carry more cheaply than the steamers could carry that line of goods? Yes.
3288. If the steamers were to have no up-river loading of flour and similar produce, do you think that that would have the effect of causing them to raise their freights on general river loading? Possibly it might have that effect.
3289. Do you think that the lightest possible kind of railway, or something in the nature of a tramline, would be sufficient for the necessities of the district, allowing for a low rate of speed and comparatively light loads? I should fancy it would, so far as the amount of produce that the line would carry or the passenger traffic is concerned.
3290. You do not seem to think there would be much probability of an expensive line paying? I should fancy not.
3291. It has been suggested that this railway might afford the pastoralists a means of getting fat stock to market;—do you think that would be the case? Yes; if we had any fat stock, I suppose it would.
3292. You have not had any during your three years' experience here? No.
3293. I understand that you had experience on the Bogan and Lachlan Rivers before you came to this district? Yes.
3294. You sometimes had large quantities of fat stock for market? Yes.
3295. And the railway communication you found of great benefit to you? Yes.
3296. With a railway it would be possible for a man to send to market fat stock in smaller lots than would be payable without railway transit? Yes.
3297. Have you made any attempt at cultivation during the three years you have been here? Yes; but with very little success. However, the three seasons I have been here have all been bad ones.
3298. The bad seasons you have had have been in common with those experienced nearer the coast? Yes.
3299. So that the failures you have had during these last three years would not necessarily imply that it would be impossible to grow crops here? No, not impossible.
3300. Have you attempted any irrigation on Nelyambo? None at all.
3301. In going along the river we noticed that a number of small irrigation plots were in operation; can you give any reason why irrigation has not been tried at Nelyambo;—have you no suitable land there? We have not an irrigation plant; and there is only one plot where we could go in for irrigation, and the seasons have not been suitable for starting it, and it has not been the policy of the station to tackle irrigation.
3302. Do you think that any of the land on the Nelyambo river frontage is suitable for irrigation? Yes, possibly, on a small scale.
3303. With permanent water-holes in the river adjoining? Yes; there are such water-holes, but we have not attempted to utilise them.

MONDAY, 16 OCTOBER, 1899.

[The Committee met at the Court-house, Cobar, at 10.30 a.m.]

Present:—

WILLIAM THOMAS DICK, Esq. (VICE-CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD. | JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Peter Snelson, Mayor of Cobar, sworn, and examined:—

- P. Snelson. 3304. *Vice-Chairman.*] How long have you resided in this town? Eleven years.
- 16 Oct., 1899. 3305. You were acquainted with the town of Cobar previous to the extension of the railway from Nyngan to Cobar? Yes.
3306. Can you indicate to the Committee in what way the construction of that railway materially affected the condition of things in Cobar? Yes. In the first place, by carrying improved machinery to Cobar, the railway assisted in the development of the mines. They got machinery at a cheaper rate. The copper-mine had been closed down for about four years. The cost of carriage of copper from here to the railway at Nyngan was too much to be paid out of the results from the low-grade ore; but, through having the railway from Nyngan, the proprietors of the copper-mine were able to get improved machinery, in the shape of smelters. These had to be worked with coal and coke, and now, of course, by means of the railway from Nyngan, the carriage of coke and coal is cheap. To-day, as you see, the town is in a flourishing condition, through having the railway from Nyngan. The population of the place must, I think, have increased nearly fourfold since the opening of the railway from Nyngan to Cobar.
3307. Do you think that if the railway from Nyngan to Cobar had not been constructed this rich mineral district would have remained practically in the same condition as it was previous to the construction of that line? I do. 3308.

3308. Do you know whether any mines or mining districts adjacent to Cobar have been developed owing to the extension of the railway from Nyngan to Cobar? Yes. P. Snelson.
3309. Will you name them? Mount Drysdale, 25 miles from Cobar; Mount Hope, about 110 miles from Cobar; and Nymagee, between 65 and 70 miles from Cobar. 16 Oct., 1899.
3310. What was the condition of those places previous to the construction of that railway? Very similar to that of Cobar; they were almost deserted.
3311. Presuming that there were, within an equal distance from Wilcannia, mining fields similar to those you have mentioned as being close to Cobar, do you think that the extension of the railway to Wilcannia would lead to a similar development of mining? Certainly.
3312. For what reason do you hold that opinion? The necessary machinery could be taken to them by rail to develop the mining property, the same as mining property has been developed in Cobar.
3313. And all other necessities could be more easily conveyed thither? Yes; coke and coal, and other material that was required for use there.
3314. During the inquiry on the proposed extension of the railway from Nyngan to Cobar it was stated that land would be more readily taken up, and that a certain amount of cultivation would probably be indulged in along the line, if that railway were constructed;—can you state whether those predictions have been verified by experience? Yes. At the Nyngan end of that railway I notice that there are several farms now under cultivation, and with very good crops.
3315. Have the resumed areas along that track been taken up? I cannot answer that question positively. I know that a good deal of work has been done by the Government in ringbarking and scrubbing the country, and I believe that a good many of those blocks have been taken up since.
3316. Do you know whether an increase in cultivation of the character carried out at Hall's holding has been brought about by the construction of the Nyngan-Cobar line? The increased cultivation might have occurred whether the Nyngan-Cobar line had, or had not, been constructed, because it is within 12 miles of Nyngan.
3317. I find, too, that it was stated in the same inquiry that the country west of Cobar towards Wilcannia is of a somewhat better character than the country between Cobar and Nyngan;—do you agree with that opinion? I am not acquainted with the road between Cobar and Wilcannia for more than about 30 miles out, and with respect to that portion, I think the country is similar to the country between Nyngan and Cobar.
3318. Do you know whether the tract of country between Cobar and Wilcannia is mineral-bearing? Only from what I have heard. I have seen specimens of copper that were got somewhere in that direction.
3319. Do you think it is likely that coal will be found along that track? Some years ago, before the railway was constructed from Nyngan to Cobar, a man—I think a shearer or a boundary-rider—who was working on one of the stations north of the route proposed for the railway from Cobar to Wilcannia, brought me in a piece of coal, 6 or 7 lb. in weight. I burnt some of it, and it burnt beautifully. In fact, I could not tell it from Newcastle coal. I made inquiries in order to find out whether he had brought it from Louth, or whether he obtained it from one of the steamers that run up and down the river there; but I found out that they used only wood. It is not likely that he could have fetched it from there, and the railway was then no nearer than Nyngan, and he came from the direction of Louth, he having been at work either at Wittagoona or Gidgee. His name was Doyle, and he described the country as being a broken sandstone country.
3320. Are there any indications of limestone deposits between here and Wilcannia? Yes; about 7 miles out of Cobar towards Wilcannia.
3321. Would that lime be of use in smelting operations at Cobar? I do not know that the mine-owners at Cobar are using lime now; but under the old system of smelting they did use lime. There is also fire-clay at the same place. Fire-clay at present is used at Cobar for making furnace fire-bricks.
3322. Do you know whether close to the route proposed for the Cobar-Wilcannia railway there is stone of a proper quality for ballasting? Yes, I think there is.
3323. Would you say that the slag from the furnaces here would make good ballast for the railway? I think it would.
3324. Can you give the Committee any example of the difficulty of transit between here and Wilcannia? Yes. The distance is a long one, and the roads are not very good. The roads are not macadamised, and people travelling are on the road a very long time, and during the last drought most of the fodder and station supplies required at places in the direction of Wilcannia went from Cobar, the river traffic being stopped through the Darling being low. There was great difficulty then in getting teams to take out the supplies, on account of want of water; the country being dry, and the Government tanks being a good distance apart, the teams often found it very difficult to make the stages for the water.
3325. Do you think that the wants of the district between Cobar and Wilcannia, and around Wilcannia, would be fully met by a light line, almost of the nature of a tramline, with a service not exceeding 10 miles per hour? Yes, I think they would, for the present, at any rate—unless some fresh developments were to take place.
3326. Would it be infinitely better than the present connection? Yes.
3327. Can you inform the Committee whether any small holdings have been taken up near Cobar since the construction of the railway from Nyngan to Cobar? Yes; nearly all the 10-acre lots available within the population area have been taken up.
3328. Where were they situated? From about 2 miles to, I think, 6 miles out of Cobar.
3329. For what purpose are they being used? They have not been taken up a very long time.
3330. Do you know what the people intend to do with them? From private conversations which I have had with some of the people, I know that they have taken them up with the idea of growing lucerne and having dairy farms and poultry farms.
3331. Leaving out of consideration the recent almost unprecedented period of drought, in how many seasons (say) out of ten do you think an agriculturist in this district could expect to have a fair crop? Previous to the last drought there were about five seasons out of seven in which a fair crop was obtained. I may add that one lessee, Mr. Scanlan, has successfully grown crops on his homestead lease, about 8 miles out of Cobar, in the direction of Louth, and about 3 miles north of the route proposed for the railway from Cobar to Wilcannia.

- P. Snelson. 3332. Can you say whether the area he cultivated is a picked area, or whether it is a fair average of the land in the district? It is a fair average of the land in the district.
- 16 Oct., 1899. 3333. *Mr. Watson.*] I take it from the evidence you have given that you are in favour of the construction of the proposed railway from Cobar to Wilcannia? Certainly I am.
3334. Do you anticipate that any benefit would result to Cobar from the extension of the railway from Cobar to Wilcannia, or would it not make any difference to Cobar? I do not think it would make very much difference to Cobar. Perhaps it would be the means of people coming from Broken Hill and White Cliffs to Cobar, and money might be brought here for the further development of the mines. At present I look upon Cobar as self-supporting, now that we have the railway here from Nyngan. So far as Cobar is concerned I do not think that it would benefit very much from this new line.
3335. You are not advocating an extension of the railway from Cobar to Wilcannia on any local grounds? Certainly not. I look at the project from a national point of view.
3336. From what you think would be in the public interest? Yes. I consider that the increased traffic would not benefit Cobar, because the line from Nyngan would then be a through one—Cobar would no longer be the terminus. People wanting to go (say) to Broken Hill from any part of the country above Bathurst, or out towards New England would come this way, but only just pass through Cobar—they would not stop here.
3337. I presume that there would be an opportunity for produce grown on the western line between Orange and Nyngan to find its way westward through Cobar to Wilcannia? Yes. Within the last eight or nine years pretty well the whole of the country from Dubbo to Nyngan has been taken up for agricultural purposes. There are some very large farms, and I consider that in times of drought, such as we have passed through during the last few years, and are experiencing now, there would be an outlet for the Nyngan produce to go westward to Broken Hill, Wilcannia, and White Cliffs, and other places in the west.
3338. During the last few years there has been a steady and continuous extension of agriculture westward, has there not? Yes.
3339. People now are cultivating areas which a little while ago were thought to be too far west, and to have too small a rainfall to be fit to grow wheat? Yes.
3340. They have proved that it is possible to grow wheat in those parts of the country with a comparatively small rainfall? Yes; and to grow it very successfully.
3341. *Vice-Chairman.*] In a letter to the *Sydney Morning Herald* of 6th October, with reference to the proposed railway from Cobar to Wilcannia, this statement is made as to its effect on the pastoral industry: "With sure communication there will be more profits in ordinary seasons, and less loss in drought";—do you think that that would be the general result of the construction of a railway from Cobar to Wilcannia? Yes.
3342. And if that were the general result, do you think that that would encourage the taking up of homestead leases, and bring about, therefore, closer settlement in the district? Yes. I think that if the railway be extended from Cobar to Wilcannia, the people between Cobar and Wilcannia will receive benefits similar to those that have been received by the people here through the extension of the line from Nyngan to Cobar.

Walterus Le Brun Brown, Police Magistrate and Mining Warden, Cobar, sworn, and examined:—

- W. Le B. Brown.  
16 Oct., 1899.
3343. *Mr. Shepherd.*] How long have you been located at Cobar? I have been located at Cobar about eighteen months, but I have known the district between Cobar and Wilcannia for the last twenty-five years.
3344. Where were you residing before you came to reside at Cobar? I resided permanently at Wilcannia from 1874 to 1886, and I have been there once or twice since. I was stationed as Police Magistrate at Wilcannia before I came here, and I have also been stationed at Milparinka as Police Magistrate and Mining Warden.
3345. Do you think that the projected railway would largely benefit Wilcannia and the country between Wilcannia and Cobar? Yes; I think it would benefit it considerably.
3346. Will you kindly explain to the Committee in what way? It would benefit it in this way: In drought time, by affording people an opportunity of getting their stock away. During the time I was at Wilcannia fat stock were selling at Sydney, Bathurst, Orange, and Dubbo at big prices, whilst similar stock were perishing in the Wilcannia district in hundreds of thousands, because the people could not get them away. I am speaking of fat sheep particularly. If there had been a railway to Wilcannia those stock could have been removed. I also think that probably there would be closer settlement on some of the land adjoining the proposed railway if it were constructed. Some of that land is very good wheat country.
3347. Are those the chief benefits that you think would be derived from the construction of this railway? Yes; I think those are the chief benefits that would be derived from it, and also in giving the people an opportunity to get goods backwards and forwards, which would be a very considerable benefit, especially when the river is not navigable. Very often the river is not navigable for a lengthened period—for two years at a stretch sometimes.
3348. Do you think that the country would benefit very much, also, by this railway enabling the squatters to send to market smaller lots of sheep than they can send at present? Yes; in drought-time it is almost impossible for them to send stock away (because they cannot travel) which they could send away by train.
3349. Of course, in sending stock away in the ordinary way, at present it does not pay them unless they have a large number to send at the one time? No; and, as a matter of fact, they cannot send them, because they cannot travel over the country. I have known an instance of a squatter in the Wilcannia district who sent 10,000 sheep away, and at the end of the trip was £600 out of pocket, with the loss of his sheep as well. Those 10,000 sheep would have been sent by train if there had been a railway from Wilcannia, and probably a lot of those sheep were really fat and fit for the butcher.
3350. Do you think it would pay to send sheep from Wilcannia to Sydney at £10 4s. 3d. per truck, or about 2s. 0½d. per head? Yes, sometimes; not always, of course. In times of drought it certainly would.
3351. One great advantage of the railway, I presume, would be that sheepowners would be enabled to take advantage of a high market through getting their stock down in a few days? Exactly; and in selling

selling fat sheep, of course, which otherwise would perish. If they had a railway they could often send fat sheep to the Sydney markets which they could not possibly send without the railway. For instance, I daresay that during this late drought there have been a good many fat sheep in the district which could have been sent away if there had been a railway running through the district, but their owners had to keep them on the station and let them perish. In the old days, I know from experience that hundreds of thousands of sheep were lost. I know the district pretty well. I was appraising for some years in it, and was carrying on the business of a stock and station agent there, as well as that of a journalist.

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3352. Being well acquainted with Wilcannia and its requirements, do you think that it would suit the Wilcannia people just as well if the railway were to stop short (say) half a mile on this side of the river, instead of crossing the river—which would effect a very great saving in the expense of constructing the line, by avoiding the bridging of the river? I think that if the railway were to go to Wilcannia at all it ought to go farther even than Wilcannia; still, so far as Wilcannia itself is concerned, I think it would suit the people there just as well if the railway were to stop on this side of the river. I think that the railway would have more probability of paying if it went farther than Wilcannia, more especially if there were a light line from Wilcannia to White Cliffs.

3353. The estimated cost of this proposed line from Cobar to Wilcannia is £497,000, and the estimated income is £6,800 per annum; that leaves a loss of £20,510 a year;—do you think that the country would be justified in constructing this line in the face of that heavy loss? No, I do not.

3354. Do you see any prospect of a large increase in the income in the immediate future? Not to any very great extent. I should have thought that the income would be more than is estimated by the Railway authorities.

3355. Of course, if anything could be pointed out, such as an immediate prospect of a large increase in traffic, it might justify the construction of the line; but you say that you do not see any immediate prospect of the revenue being increased? Not to any very great extent.

3356. Are you acquainted with White Cliffs? Yes.

3357. Do you think that the construction of this railway would have a great effect on the mines there? I do not think it would have a very great effect on the mines there, but I think there would be a good deal of traffic. There is a good deal carried on that road. I do not doubt that a light line between Wilcannia and White Cliffs would pay, so far as that particular line is concerned, for a good quantity of goods go backwards and forwards to White Cliffs, and the stations round about also would have a good deal of carriage.

3358. Now, when the river is not navigable, I believe that the people at White Cliffs get their supplies chiefly from Broken Hill? I think they do get a good deal from Broken Hill.

3359. At a very high rate of carriage? Yes. Of course, it is very hard to say what the rate of carriage in that district is in drought times.

3360. Is there any other information you can give the Committee which would assist them in coming to a conclusion in reference to this railway? No, I do not think there is, except that I think that probably some land would be occupied for farming purposes which is now lying idle. There is a good deal of good wheat country in the district.

3361. Is the rainfall sufficient to justify the cultivation of that land? I think it would be. They get good prices, and they reckon that if they get a crop once in three years it will pay them. Of course, in such seasons as we have had of late, farming would not pay at all.

3362. I suppose that the last four years we may put aside as being almost unprecedented? Yes, I think so. There has been nothing like them in my experience during the last twenty-five or thirty years.

3363. Do you think that Cobar would largely benefit from the construction of the railway from Cobar to Wilcannia? I do not know that it would benefit largely from it.

3364. Do you think that it would induce small settlers to take up leases of 10,000 or 20,000 acres;—do you think that the railway would facilitate matters for them? Yes, I do.

3365. *Mr. Watson.*] You said, in reply to Mr. Shepherd, that you thought that in fair seasons a number of fat sheep would be trucked between Wilcannia and Cobar for the Sydney market. I think there would be.

3366. In the estimate of traffic which was made up by the Railway Commissioners' officers, they allowed for 600 trucks of sheep from Wilcannia in the course of a year;—would that, so far as the main line is concerned, be absolutely new traffic? Yes, it would.

3367. Therefore, when the Railway Department credit the projected line with only the amount of freight chargeable over its own length, they are not giving the full amount of traffic which that would mean to the railways of the Colony? I do not think they are.

3368. For instance, the through rate from Wilcannia to Sydney is £10 4s. 3d. per truck; Mr. Harper, in his estimate, credits the Wilcannia-Cobar line with only 29s. 8d. per truck of that amount; therefore, the amount credited to the projected line from 600 trucks, as estimated, is £890, whereas the total new revenue accruing from these 600 trucks to the railways of the Colony would be over £6,000, at a through rate; do you think that the fact that this new revenue would be brought to the main line absolutely in addition to what is now carried over it should be considered in relation to the question of constructing this line? I think it should be.

3369. Practically speaking, any traffic that came from the Wilcannia end of the projected line would be absolutely new traffic over the railways of the Colony right down to Sydney? Yes.

3370. And consequently we have a right to consider that, to some extent, in dealing with this question? Yes, I think so.

3371. Do you know that there is a lot of land included in the resumed areas of the various runs between Wilcannia and Cobar, which is now open for settlement by means of homestead leases? Yes.

3372. Do you think there would be any probability of that being taken up more quickly if this line were constructed? I think so. I think the homestead leases might be made to pay in that district if this railway were constructed. I am quite sure they do not pay at present, and I do not think that they ever have paid, but I am sure that they would have a better opportunity with the railway.

3373. Would it afford the homestead lessees an opportunity of getting rid of any fat stock which they might have occasionally? Yes, it would.

3374. And cheaper supplies, I should imagine, would also be an important item to a homestead lessee with small capital? Yes, I certainly think so. If a homestead lessee had a few hundred fat sheep, or even

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even a smaller number, he could truck them away. If the roads were bad he could truck them away, if he could not travel them, and, of course, it would not pay a homestead lessee to travel a small lot of sheep.

3375. During our visit of inspection we were informed that on some of the resumed areas the present occupants are paying as low as 14s., 15s., or 16s. by way of rent for a section of 640 acres? Yes.

3376. Do you think it would pay a homestead lessee to give a higher rental than that, if he had railway communication? I think I am safe in saying that the land would be worth more with railway communication, so far as rental is concerned, than it is at the present time. But I am of opinion that the pastoral runs in the Western Division, under present conditions, are rated altogether too high.

3377. But, whether they are rated high or low, the Crown would be entitled to a greater return if there were railway communication, than without it? Yes. I think that if the pastoral tenants can afford to pay now 14s. or 15s. per section, they could afford to pay more if they had railway communication.

3378. By reason of getting cheaper supplies and a greater outlet for their stock or crops? Yes; it would make a material difference.

3379. So that, whatever benefit would accrue through the construction of the railway, in the way of facilitating communication, would result partly to the Crown as the landlord of this part of the Colony? Yes, I think so.

3380. I understand that there is a little or no alienated land between here and Wilcannia? No.

3381. In your capacity as Mining Warden, formerly at Wilcannia and now at Cobar, what is your opinion of the country between Cobar and Wilcannia, from a mining point of view? I think that some of it is auriferous, and that it might at some future time be developed for gold-mining.

3382. Any indications of copper? I have not seen or heard of any.

3383. Do you think it is likely country for copper? No; I should not say so—not this side of Wilcannia.

3384. Beyond Wilcannia you had some experience of the country also? Yes.

3385. What is your opinion of the possibilities out in that direction? I think the possibilities are that it will be a very large mining district.

3386. For any particular description of mineral or for a number of minerals? I think it will be a large copper district; I dare say gold, too. I do not think there is much doubt about it as a copper district.

3387. If copper-mining were developed there, this railway would be of considerable importance in assisting such development? Yes.

3388. Speaking as one who has had a lot of connection with mining matters, in your official capacity, do you think it is likely that mining would have reached its present development here supposing there had been no railway communication to Cobar? I daresay not. But that is a matter upon which it is very hard to form an opinion.

3389. But, I suppose, we may take it for granted that with the lower-grade ores which you usually get at a depth, cheap or easy communication, either in taking away ore or in bringing coal to the mine, is a matter of the first importance? Yes; most decidedly. I think there would have been a great deal more mining in the Wilcannia district if there had been railway communication there, especially in the Grassmere and Nuntherungie country. I know that there are good copper indications there, and that syndicates have refused to touch it on account of want of communication.

3390. *Vice-Chairman.*] Sometime ago you held the position of appraiser in the Wilcannia district, did you not? I held it under the old Act as lessees' appraiser. I never appraised for the Crown.

3391. In that position you naturally gained a pretty intimate knowledge of the country? Yes. I have been over most of it in the olden days.

3392. How does the country between Cobar and Wilcannia compare with the country between Nyngan and Cobar from a pastoral point of view;—is it practically the same? I should say that practically it is much about the same; I do not think there is a great difference.

3393. Do you think that after the construction of this line there would be a tendency towards closer settlement in the way of homestead leases along the railway line? Yes; I think there would be.

3394. Do you know whether there are any engineering difficulties between Cobar and Wilcannia which would offer any serious obstacle to the construction of an extremely light line—practically a tramline? I do not think there are—until of course you come to the river.

3395. As indicated by a question put by Mr. Shepherd, a considerable reduction in the annual cost of this railway, namely, a reduction of £3,465 per annum—would be brought about by making the terminal point at a short distance on the south-eastern side of the river Darling; if that saving were effected, and if there were a further saving by laying down a line of a lighter construction than that proposed, and taking into consideration the fact that in estimating the annual revenue no credit is given to this line for the new traffic that would be brought by it on to the main line, would you still hold the opinion expressed in your answer to Mr. Shepherd that it would not be in the best interests of the country to construct this line? No. I should think that if the revenue could be increased beyond those figures, and the expenses decreased, the construction of this line would be in the interests of the country.

3396. When you say "if the revenue could be increased beyond those figures," do you mean that the revenue of this line should be credited with some of the new traffic that would be brought on to the main line by it? Yes; I do think so. I may say, in regard to the advantages to Cobar, that I think one great advantage that the Cobar people would derive from the construction of this line would be that the freight would be considerably less. Now they pay a local freight on the short line from Nyngan to Cobar, but with a greater length of line I think that through rates might be allowed on the Cobar section, and, if so, that would be of great advantage to the Cobar people.

Edwin James, storekeeper, Cobar, sworn, and examined:—

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3397. *Vice-Chairman.*] How long have you resided at Cobar? Sixteen years.

3398. Do your business operations include the supplying of people some distance west of Cobar with stores? Yes.

3399. How far do those operations extend? We have gone out to most of the stations between here and Wilcannia.

3400. Do you find your operations at present much handicapped by the absence of a railway out that way? I do not think so.

3401. Is the road-carriage either difficult or expensive? Certainly not expensive. I take it that the margin between the railway freight, based on the present rates, and the team freight is a very narrow margin at the present time. E. James.  
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3402. Then you do not think that the proposed extension of the railway—regarded, at any rate, from the point of view of supplying stores—would be of much benefit to the stations which you now supply? Not on a financial basis.
3403. Do you think that it would lead to the direct carriage of stores from Sydney to stations along the line? No; I think it would shut Sydney right straight off.
3404. From which places would they get their goods then? Melbourne and Adelaide.
3405. By that you mean that the construction of a railway from Cobar to Wilcannia would bring the river Darling into active and successful competition with the railway from Sydney? Yes; down as far as Trangie.
3406. I suppose you make this statement being fairly well acquainted with the general railway rates, and also with the rates on the river? Yes; it is based upon actual experience. For instance, I have landed goods at Louth from Adelaide at 25s. a ton. I can get them from Louth to Cobar for 45s. That makes £3 10s. from Adelaide. The cost of carriage from Adelaide to Wilcannia would, of course, be less than that.
3407. What is the cost of carriage from Sydney to Cobar for the same class of goods? Getting it by the truck, at the present time, £7 12s. 6d. per ton; but if people, such as small storekeepers, are not able to make up a full truckload, they have to pay £11 9s. 7d. per ton.
3408. Is the general course of your business, then, with Adelaide firms? No, Sydney.
3409. Will you indicate to the Committee why, with such a great difference between the rates, you still patriotically trade with Sydney? Yes; we cannot control the rainfall, or the amount of water that is in the rivers.
3410. The uncertainty of the rivers? Yes.
3411. I presume that the rate of £3 10s. per ton from Adelaide to Cobar prevails only with a full river? Yes; when steamers can travel.
3412. Can you state how often during the last ten years you would have been able to obtain your goods in that way? I think about one year in two years. I am speaking of about twelve years previous to the last three years, and of the river as far as Louth.
3413. Does the obtaining of the goods by river impose upon you the necessity of holding very large stocks? No.
3414. You simply take advantage of the river when it is up, and otherwise you use the railway and obtain your goods from Sydney? Yes; we have done that. I have not done any business with the Adelaide or the Melbourne market for several years.
3415. Since the railway has been open from Nyngan to Cobar, have you obtained any consignments of goods by river from Adelaide? No. Those remarks of mine as to a saving of £1 per ton apply only to third-class goods—the higher classification.
3416. You say you think that from Wilcannia to Trangie, in respect to the class of goods you have indicated, the Sydney market would be entirely shut out when the river Darling was navigable? Yes; if rates were according to the present rate-sheet.
3417. With respect to the carriage of wool, can you offer any opinion as to which direction wool grown between Cobar and Wilcannia would be sent, if the proposed railway were constructed? I can only offer an opinion; but I would reasonably expect that the wool would go to Wilcannia for conveyance down the river.
3418. Do you know the rates for the carriage of wool from Wilcannia to Adelaide, or to Melbourne? No; I do not.
3419. If the rates from Wilcannia to Adelaide, or Melbourne, by river, with insurance and other expenses, were practically equal to the rates from Wilcannia to Sydney by rail, do you think that pastoralists and other wool-growers would prefer the river instead of the railway as a means of communication? That would be governed altogether by the domicile of the owners of the stations, which, in regard to that district, is very largely Victorian; also by the factor as to stations being under cover to financial institutions in New South Wales or Victoria.
3420. It would not be merely a question, then, of pounds, shillings, and pence? Not altogether. I suppose that if there were a large margin in favour of the New South Wales market, then even the Victorian market would be overlooked in favour of the New South Wales market.
3421. Certainty and rapidity of carriage are both desirable, are they not? Yes.
3422. And they are both to be obtained by railway, but seldom by river? Yes, that is so, at present; but under the Federal Constitution, I take it, one of the first steps would be to make the Darling permanently navigable.
3423. That fact, of course, would weigh considerably with pastoralists, would it not? Yes.
3424. *Mr. Shepherd.*] I gather from what you say that you are of the opinion that, if this railway were constructed, it would act in favour of South Australia rather than of New South Wales? Undoubtedly.
3425. Do you think that it would really drain the country between Cobar and Wilcannia? There can be no question about that.
3426. And you think, then, that New South Wales generally would not be benefited by the construction of this line? Certainly not.
3427. *Mr. Watson.*] You gave it as your opinion that the construction of this railway from Cobar to Wilcannia would probably result in the trade between Wilcannia and Cobar and on to Nevertire being carried to Melbourne or to Adelaide? Yes.
3428. You base that opinion on the existing rates? Yes.
3429. If through rates were applied to the traffic between Wilcannia and Sydney, do you think then that trade would probably go in the direction you have indicated? Perhaps in that case not quite so far as Nevertire, but as far as Nyngan. I base that opinion upon taking the average mileage on the through-rates system from Wilcannia to Nyngan as against the general through rate by rail.
3430. Which class of goods would that be for? Third-class. I am speaking only of the higher-class goods.
3431. But it would hardly pay steamers to carry higher-class goods only? No. They form the bulk of the traffic, though.
3432. You said that you could get third-class goods to Louth for £1 5s.? Yes, £1 5s. I have paid £1 7s. 6d. for case-goods.
3433. Have you had a contract of that description? Yes—that is, before I purchased the business I now have, I was managing at Cobar for Barton Brothers, and we did business with Adelaide, and I am giving you actual figures. 3434.

- E. James. 3434. Were there any special circumstances surrounding the freight quotation? None whatever.
3435. Was it, for instance, during the wool season only? No; all through the year.
- 16 Oct., 1899. 3436. During our recent visit to the river, we were informed by steamboat proprietors and others interested in the trade, that the lowest at which they could carry goods up or down was 30s. a ton? Thirty shillings is the maximum that I have paid to Louth.
3437. It was stated to us that that was the lowest they could charge, even with a full river? Thirty shillings, to the best of my knowledge, was, I think, the highest we ever paid to Louth from Adelaide by the river.
3438. Do they charge a greater amount on the river for wool than for the class of goods you have mentioned? I cannot say that—I know very little about the wool freights on the river—but I think so.
3439. We were informed that the freight for wool about Louth amounted to about 50s.? Wool is very much more bulky.
3440. But still they get a bigger load of it? Yes; I cannot say anything positive about that, and therefore will not hazard an opinion.
3441. How long ago is it since you got your last lot through that way? Between eight and nine years.
3442. If the Railway Commissioners are anxious to draw traffic from Wilcannia, would it not be possible for them to impose rates similar to those which are now in force at Bourke, for the purpose of competing against the river for traffic? It is quite possible for them to do so, but I do not think that on broad lines the railway could ever possibly compete against the river for traffic, excepting at a ruinous loss of income.
3443. For a considerable distance down the river from Bourke, the Railway Commissioners are now drawing wool, and sending supplies by the railway; according to your theory, they must be doing that at a loss, because they are successfully competing against the river for a considerable distance down? Of course it lands one in the alternative of two positions—either those who are not similarly circumstanced are being fleeced inordinately, or the Railway Commissioners are losing money.
3444. In regard to the lower-class goods, do you think there would be any probability of the traffic going the same way as you said the higher class goods would go? No. Classes two and three, I think, would go by the river, but the lowest classification goods would come from Sydney. Practically class 2 is wiped out on the railway by the truck arrangement. The margin between is so small that practically there is no difference. I think, however, that even the lower-class goods would be landed more cheaply from Melbourne or Adelaide, as far as Cobar.
3445. Class 1, which is the lowest, includes all the heavier lines, does it not? Class 1, I think, would also go that way, because there is not much margin between £6 5s. 8d. for class 1, and £7 10s.
3446. Truck-loads of chaff, sugar, kerosene, galvanised iron, and fencing wire are brought to Cobar for £4 10s. per ton, which includes a local rate between the main line and Cobar? Yes; that is inclusive of the local rate.
3447. Therefore, if the proposed line from Cobar to Wilcannia were constructed, there would be no probability of retaining the local rates with any success? Then that class of goods would certainly come from Sydney, even if the proposed line were constructed, because, unless there was some really good margin, no one would dream of ordering goods from Melbourne, and taking the risks of the river, when they could get them up so quickly from Sydney. I am speaking only of classes 1, 2, and 3—certainly classes 2 and 3.
3448. We were informed at Wilcannia that, judging from the amount paid now in freight and insurance—leaving out of account delays and loss of interest on capital while wool was in transit—a very large proportion of the wool would go Sydneywards at a through rate approximating to what is now being charged at Bourke; bearing that in mind, if the river steamers were to have taken from them that heavy traffic of wool, and the class of goods you have just mentioned as being likely to come from Sydney, would the steamers be so likely to carry the other and smaller portion of the general traffic at the rate you have spoken of;—if you were to take away a large proportion of their traffic, is it likely that the steamers could carry the remainder so cheaply on the river? Perhaps not; but I do not think that the construction of the proposed railway from Cobar to Wilcannia would affect in any material degree the present destination of wool, because the margin between the low rate that is paid at the present time for carriage by teams, and the railway rate of carriage, as based upon its present freight, is so small that there is no inducement for consignees to alter the destination of their wool. I may add that I know that goods have been carried from here to Marfield at £2 5s. per ton by team, and I question very much if the railway would carry from Wilcannia to Cobar for £2 5s. a ton.
3449. But the railway, while probably charging a high freight between Wilcannia and Cobar, would probably also carry to Sydney at a very slight increase on £2 5s., because, in a long haul, the railways carry very cheaply; they have delivered sugar at Bourke at £3 a ton freight? But that is practically a monopoly. I do not think that can be fairly used as an argument, because it is absolutely a monopoly which very few men could operate upon, because they must get up 200 tons at one time to be able to take advantage of that rate, and 200 tons of sugar at the minimum price for whites, say £17, equals £3,400 on a thirty days' purchase, a deal confined to one firm in the west, only, and can have no general application, and is absurd as an argument.
3450. It is beyond the scope of most men's business? Yes.
3451. But it is always true that with railway freights you can do a long haul at much less, proportionately, than a short one? Not now, practically, for at Cobar we pay more proportionately at the end of the line.
3452. But, supposing through rates be applied, you can do a long haul more cheaply than a short one? Yes. We have competed here against the existing branch line from Nyngan to Cobar, by bringing goods from Girilambone and Coolabah, on the main line, across by teams, and by that means have landed goods here from the main line at less cost than we should have had to pay for carriage from Nyngan to Cobar.
3453. That would go to show that the local rate from Nyngan to Cobar is a disadvantage to the Railway Commissioners rather than an advantage to them? They have reduced their figures considerably since then.

Neil Morrison, auctioneer and commission agent, Cobar, sworn, and examined:—

- N. Morrison. 3454. *Mr. Shepherd.*] How long have you resided at Cobar? Over nineteen years.
- 16 Oct., 1899. 3455. Are you thoroughly acquainted with the country between Cobar and Wilcannia? Fairly well acquainted with it.
3456. Will you favour the Committee with your opinion as to the benefits that would be likely to accrue to the country between Cobar and Wilcannia from the construction of the proposed railway? The benefits that would accrue, so far as the country between Cobar and Wilcannia is concerned, would be the



the providing of means for receiving and despatching that which they require more cheaply, conveniently, and regularly than at the present time. The railway might also cause settlement in some places along the track between here and Wilcannia, and, therefore, an increase of population to a small extent.

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3457. Do you think that the railway would be likely to induce settlement, in the shape of homestead leases, between here and Wilcannia? Yes, in some parts. The whole of the country is not fit for small settlement, but there are parts likely to be occupied.

3458. What do you think would be a sufficient area to support a family? That would depend greatly on what means they took in hand for their support—grazing or agriculture. I do not think there is very great benefit to be derived from the country. They might make a living such as people do in other parts, or, perhaps, a little more, with areas of not less than 10,000 acres.

3459. Has cultivation been carried on to any extent between Cobar and Wilcannia? Not to any great extent; but there are several places where there are small farms just for growing fodder. People have not gone into the matter of cultivation beyond ploughing and chancing a crop.

3460. Have you any idea what the results have been? They have been fairly good in some seasons; in others they have had none at all. Sometimes they have had a very heavy crop. It entirely depends on the season.

3461. Prior to 1896, what do you consider the seasons have averaged;—how many seasons during the past ten years, for instance, have been considered fairly good? About six out of ten.

3462. Prior to 1896, did any large losses of stock occur? No, not particularly.

3463. Had there been a general increase up to that time? Yes, I think so.

3464. At what do you estimate the losses since 1896? I consider that the losses have been, generally, 50 per cent—making allowance for the increase that there ought to have been, but has not been, and the fatality amongst the living stock.

3465. In the event of the proposed railway being constructed, do you think that it would facilitate the removal of stock, in bad seasons, to better pasture? Yes; it would be taken advantage of in that respect, in my opinion. There are places from which, if the season become very bad, there is no possibility at present of getting the stock away. The only chance of keeping them alive is by means of tree fodder. Water is scarce and grass is beyond reach altogether, so far as droving sheep or any other stock is concerned. But the lives of a great number might be saved if there were a railway by which they could be trucked to other parts at once. In many instances that is now being done about here.

3466. Do you think that the stock-owners would be largely benefited also by being able to send away by means of the railway smaller quantities of sheep than they can send away under existing conditions? I do think so. As things are now, unless stock-owners have a large mob which they can take away by road, it does not pay them to take any away. Two hundred or three hundred sheep might be sent away by truck and pay, when it would not pay to take them away by any other means. You may have ten head of good cattle which you cannot take away, and which you try to keep alive, and the result now is that you have only their bones left; whereas, if a truck on a railway were available, 60 or 80 miles west of Cobar, they might be put into a truck and taken to a better part and disposed of.

3467. If the proposed railway were constructed, do you think that it would be largely availed of in the face of the river being rendered permanently navigable? Yes, I do; so far as the requirements are concerned. Of course, there is not a very large population, nor a very great demand, between here and Wilcannia; but I think that rather than depend on an uncertain river, people would take advantage of the railway in preference to the river, in order to have quick transit of their produce, and a direct return from its sale; in fact, many people have actually told me that rather than risk their wool being left twelve months on the river, they would pay a higher freight to get it to market and get their money back.

3468. They would rather pay extra freight by rail? Yes. It is a very common thing for men to have to wait six months for returns on their wool when they send it by the river.

3469. Have you any idea of the average period the river is navigable, leaving out the last four years? Yes; I think you might get it navigable three months in the year pretty regularly. There are seasons in which you might not get a navigable river for more than twelve months; but, on the average, I think that you may depend upon it about three months in a year.

3470. Have you any idea of the quantity of goods of various descriptions which are delivered from Cobar on the road to Wilcannia? No, I have not. There is not a very large quantity. They are taken all ways.

3471. Chiefly by coach, I suppose? To Wilcannia itself, I suppose, the greater portion of the light wares are carried by coach. They are taken in large parcel-post baskets, and the coaches are generally loaded three times a week with this class of goods. In many instances, cheese, butter, ham, and fruit are carried in tons by coach, at a high rate of freight. This also applies to the river coach line.

3472. Does any appreciable quantity of that find its way to Wilcannia? Nearly all of it; very little is delivered on the road. There are very few habitations on the road. You sight only one station in the whole of the distance from Cobar to Wilcannia. There are branch roads running to the stations; but on the main road there are hardly any residents, and the goods are generally carried directly to Wilcannia. Light wares, such as clothing, drapery, and hats, go in great quantities right through to Wilcannia, and even to Broken Hill.

3473. I suppose that this railway would absorb all that goods trade, except, perhaps, the post parcels? Yes. We often have to send forage by team, the rivers being very low for long periods.

3474. It is estimated that the cost of this railway would be £497,000, and the estimated traffic on the line comes to only £6,800 per annum, and the annual cost would be £27,300, leaving an annual loss to the country of £20,510;—can you see any prospect of the traffic on the line increasing to such an extent as would justify the expenditure of this money? No, I cannot, just now. I do not think that the line would anything like pay for the next ten years.

3475. Can you see any prospect of the improvement of the country? Yes.

3476. Supposing that the proposed railway were constructed, do you think there would be a large increase of population or trade sufficient to justify the country in going to this large expenditure? No; I do not think there would be a large increase of population on this particular branch. I believe that as a national concern it might be looked upon as a paying one in the future, but not in the near future.

3477. What is your opinion about the pastoral capabilities of the holdings;—do you think they are likely to be thoroughly resuscitated, or do you think they have been permanently injured by rabbits and droughts?

They

**N. Morrison.** They have been permanently injured, there is no doubt about that, and their recovery is very doubtful. During the heavy droughts and the destruction by rabbits of all smaller fodder, edible bushes and such like, a terrible raid has been made on all the larger scrub, and it has become scarce—such as mulga—and unless the country should recover natural fodder by grasses and so on, so as not to interfere with the scrubs for a few years, it will not have any chance of recovering; but if we get three or four good seasons the scrub will recover. The rabbits have ringbarked the smaller scrubs which were so plentiful in this district, and have finally killed them.

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3478. Has not a great deal of the edible scrub also been killed by cutting down? Yes, the larger scrub has; but the smaller scrubs, which the rabbits have destroyed, were only cropped by the stock, and that did them no harm. The rabbits, however, have killed those as well as the large scrub.

3479. And the scrub that is useful for feeding stock cannot well be resuscitated by seeding, because the rabbits eat the young plants? I do not think it can be. The matter is one to be judged by experience, but so far the scrub has been dead a couple of years. The seasons have of course not been very good, and it might grow again, but I doubt it. If the proposed railway were constructed, it might be the means of increasing traffic. I believe it would be, from Wilcannia and places beyond, such as White Cliffs, Broken Hill, and other places, from which people would travel this way, instead of going through the other colonies. The journey from Wilcannia alone, either way, at present, by the only means of travelling available, occupies two nights and a day, without resting on the road in any way. It is a bad road for water and everything else. The journey is a very disagreeable one. At such times as we had here last week we have many people in town from that direction—people and race-horses come even from White Cliffs and Broken Hill at present, although the journey is a very heavy undertaking. People have to travel to that part of the country, and, I think, that on the railway from Sydney the traffic would be materially increased by the extension of the railway to the Wilcannia district. I think also that the proposed railway would certainly be of benefit to Cobar. It would establish a connection with a place in regard to which we have no chance now, the river being the opposing factor. Some people may think it is a good thing to have Cobar a railway terminus; but I have always thought that if we were connected with Broken Hill by rail it would be a good thing for the Colony generally; but, of course, you have to look at the expense of taking a railway all the way to Broken Hill.

3480. Are you aware of any mineral deposits that have been discovered between here and Wilcannia, the development of which is likely to be assisted by this railway? Minerals have been discovered in small quantities, 60, 70, and 80 miles from Cobar, slightly north of the projected line; but there being no water, and people being at a great disadvantage in searching, the discovery has never come to anything. I believe that all the country about here is mineralised, so far as the ranges are concerned.

3481. What class of minerals has been discovered? Gold and copper. I have heard of other kinds of minerals said to have been discovered in the district; but I have seen only those two in quantities.

3482. *Mr. Watson.*] Do you think, then, that there would be any greater probability of prospecting being gone on with if the proposed railway were constructed? Yes, I think there would be every probability.

3483. It would give the prospectors a greater chance of getting cheap supplies and so on? Yes. The construction of the line would mean a lot of men going into the district who associate themselves with that calling, and in their leisure hours they might see something that would induce them to go further, and there is no doubt that the country would at any rate be prospected.

3484. That is not the case at the present time? No; it is quite impossible.

3485. From your own knowledge, do you think that as regards minerals the district is likely looking country in places? Yes, a large tract of it is very likely looking country.

3486. I believe that you, with others, have sent out prospecting parties occasionally? Yes.

3487. Was that to the country between here and Wilcannia, or further on? I have had something to do with prospecting between here and Wilcannia, and also beyond Wilcannia. I have sent out a man or two now and then to have a look at matters in the direction of Wilcannia, and on one occasion I made arrangements to send a party beyond Wilcannia; but after searching a week or two they could not get any water. They came back with a good report, but the undertaking was too great to go any further with, and we abandoned it. In many other directions—east, north, and south—I have been associated with parties, on several occasions, in sending men a distance of 70 or 80 miles to search for minerals, and in some cases we have been very successful, and in others we have had to give it up.

3488. Generally speaking, you consider there is a large area of mineral-bearing country between here and Wilcannia? Yes; there is a large area of it.

3489. Is any mining now going on at Gundabooka? Yes; some of those mining there are parties from Cobar.

3490. Their work, so far, is largely in the nature of prospecting? Yes.

3491. Are the prospects encouraging? Yes; they are in one particular instance I know. Of course, we do not know much about each other's business. It is generally kept quiet.

Thomas Byrne, hotelkeeper, Cobar, sworn, and examined:—

**T. Byrne.**  
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3492. *Mr. Watson.*] You were formerly a resident of Wilcannia? Yes.

3493. Do you know the district well between Wilcannia and Cobar? Yes; I know better the district west of the Darling—in the direction of Broken Hill and Mount Browne—but I have a fair knowledge of the district between here and Wilcannia.

3494. Do you know the proposal before the Committee—to construct a line of railway from Cobar to Wilcannia;—do you care to express a general opinion as to the advisableness of doing that, from a national point of view? I do not think that at present the line would pay. The country between here and Wilcannia is very sparsely populated, and I think that the population there is not likely to be increased very much, even with a railway, for some time to come. That country seems to me to be much poorer than the country west of the Darling. I think that west of the Darling population would be increased by the construction of a railway from Wilcannia to Mount Browne and Nuntherungie.

3495. The population there would be mainly a mining population? The pastoral country there as well is better than the pastoral country on this side of Wilcannia.

3496. But I presume that you would look to mining for your main development west of the Darling? Yes.

3497. In respect to what particular class of mining would you expect the development to occur? All classes. There are opal-mining, copper-mining, and, at Mount Browne, gold-mining. T. Byrne.  
 3498. Would the proposed railway be of advantage to them? Certainly. They have to draw their supplies now from wherever they can. When the river is open Wilcannia is a depôt for the supply of places west and north-west of that town. They have occasionally to pay exceedingly high prices when the river is down. 16 Oct., 1899.
3499. Have you been out Nuntherungie way? Yes.
3500. You have seen the copper "shows" at Nuntherungie? Yes.
3501. What is your opinion of them? I have a very high opinion of them. The ore is good, and seems to be payable.
3502. And railway communication would be a good help to that? Yes. I do not see how it is possible to develop it without railway communication.
3503. Do you think that the proposed railway would have any reasonable chance of competing against the river when it was fit for navigation? I am certain that so far as traders are concerned they would make use of the railway in preference of the river, because of the delay and uncertainty of the river. It would be only people like Rich & Co.—in a very large way—who would avail themselves of the river. I lived in Wilcannia for eighteen years, and I should prefer to pay a great deal more freight in order to get goods regularly. I have had goods stuck on the river for two years at a time, and eventually they had to be sold where they were.
3504. You say that you would not expect the proposed railway to pay for some time to come? No. The prospect between here and Wilcannia is so poor that I do not think the railway would pay for some time to come. I do not think that the population between here and Wilcannia would be very greatly increased.
3505. Would not this railway lead to a larger number of people taking up small pastoral holdings between here and Wilcannia? From my general knowledge of the country between here and Wilcannia, I do not think that a great deal of it would be taken up. No doubt a little would be taken up.
3506. You do not anticipate, then, that the traffic between Wilcannia and Cobar would be of a heavy character? No, I do not. Still, I think there would be a fair amount of traffic in wool, and also in stock. The railway would afford great facilities to squatters, especially in times of drought, to get wool away, and also to get stock away in smaller quantities than it would pay them to send in any other way.
3507. It has been suggested that, instead of building a railway of expensive construction, something in the nature of a light tramway, suitable for only a low rate of speed, would be sufficient to meet the requirements? I think it would. I believe it would answer the purpose.
3508. You do not think there would be any necessity for a very high rate of speed? No, I do not, so long as the people had regular communication. That is all they want.
3509. A big saving in capital cost is a consideration that might influence Parliament in adopting a scheme? Yes. I think a light line would answer the purpose just as well.
3510. The country is fairly level, is it not? Yes. It is fairly level, you may say, from here to Tarrawingie, which is a long way past Wilcannia.
3511. You think that the people of Wilcannia and the people living north and west of that town are deserving of consideration in the way of better means of communication than they have now? Yes, most certainly they are.

John Leah, Council-clerk, Cobar, sworn, and examined:—

3512. *Vice-Chairman.*] You are Council-clerk of Cobar and also legal manager for some mining companies at Cobar? Yes. J. Leah.  
 3513. How long have you resided in Cobar? Twenty years. 16 Oct., 1899.
3514. From your long residence here, you have an intimate knowledge of the country to be served by the proposed railway? Yes, I have.
3515. Would you indicate to the Committee in what way the construction of the railway from Nyngan to Cobar has affected the general prosperity of this district? Yes. Had the railway not been constructed to Cobar, the Great Cobar Copper-mine would have been shut down—it could not have been worked in such a way as to pay. None of the gold-mines could have been worked. The mines could not have got their machinery, and the development of the field could not possibly have gone on, the ore then being raised being of so low a grade. The railway coming to Cobar enabled the Great Cobar Copper-mine to get coke to smelt their ore, and to get new machinery, which they could not have got with land carriage and without a railway. As a matter of fact, it would have been impossible for the Great Cobar Copper-mine to work without a railway, as no teams could have carried the coke they required. The railway has also induced a cheaper method of treatment by enabling that company to send their metal in the shape of mattes to be refined at Lithgow. It has also enabled the Cobar-Chesney mine to open up their copper deposits, and treat their ore, which otherwise would have had to lie idle. As regards the development of the town since the railway was opened, I may say that the annual value of the property here in 1892, when the railway was opened, was £10,824. For 1899 it is £21,647. That is to say, it has increased twofold. I estimate that the population has increased two and a half times in that period.
3516. Has the effect of the Nyngan to Cobar railway upon the mining industry been confined solely to mines in Cobar and its immediate vicinity, or within 50 miles of it? No, it has not. That railway has enabled the Nymagee Copper-mine to be worked to advantage—to be re-opened after being closed down, and to employ about 300 men at the present time. The distance of Nymagee from the Nyngan-Cobar railway is 46 miles by the road.
3517. Seeing there is every indication that the district around Wilcannia is highly charged with minerals, do you think it is reasonable to expect that a general development in population and in prosperity would follow an extension of the railway from Cobar to Wilcannia, in the same way as it has followed the opening of the railway from Nyngan to Cobar? Yes, provided that there is the same quantity of minerals, or something approaching it; with this exception—that the new railway would have the river to contend against at Wilcannia.
3518. In other words, the proposed railway would give equal facilities for the development of mineral country, if it exists, near Wilcannia, as have been given here by the extension of the railway from Nyngan to Cobar? Yes; it would not only do that, it would also assist the main line by bringing into use coal and coke from Lithgow, and would thus assist in developing another industry. 3519.

- J. Leah. 3519. That is to say, besides providing local facilities for local traffic, you are of opinion that the railway from Cobar to Wilcannia would also act as a feeder to the main trunk line of this part of the Colony?  
 16 Oct., 1899. Yes.
3520. Would you indicate to the Committee in what way the railway from Nyngan to Cobar has affected pastoral properties along that line, and within a short distance of Cobar? I am not able to say in what way it has done that, except that it has given them cheaper railway carriage; but it has opened up the country between Nyngan and, at any rate, Hermidale, 29 miles from Nyngan. A lot of small holdings have been taken up, and agriculture has been gone in for at a good many places along there.
3521. Do you think that the progress of settlement in the way of small holdings has been retarded during the last four or five years by the persistent drought? I am certain it has.
3522. Is it reasonable to anticipate that along the Cobar-Wilcannia extension there would be an increase of settlement in the way of small holdings? I think that undoubtedly there would be—given fair seasons; but if we get four years more like the last four years, no one is likely to go in for increased settlement, for, as a matter of fact, those there now cannot make a living.
3523. What agricultural operations have been carried on between Cobar and Nyngan? I think there are about eight or nine different holdings, the owners of which, in a fair season, have made a living by growing wheat and cutting it for hay and chaff.
3524. Can you offer an opinion as to the relative character of the land between Nyngan and Cobar on the one hand and of the land between Cobar and Wilcannia on the other hand? I think that one is practically the same as the other, but the rainfall is a little better at Cobar than it is further west. The average rainfall at Cobar for the seventeen years terminated at the end of 1898 was 16·27. The lowest rainfall during those years was in 1888, when it was 5·29; the rainfall ranging from that 5 inches up to 31 inches, the highest. Taking the twelve months just passed—part of 1898 to September, 1899—the rainfall has been about the same as it was in 1888, with this difference: on either side of 1888 there was a fairly good year. On one side the rainfall was above the average, and on the other it was up to it.
3525. Would you care to offer an opinion as to whether the land between Wilcannia and Cobar is of such a character that with fair seasons a holder of (say) 10,000 acres would be able to carry on a little agriculture together with a certain amount of sheep-raising? I think he could in fair seasons.
3526. Do you think that that area is sufficient along that route to afford a man and his family a decent living? I do not think he could do with less than 10,000 acres.
3527. Do you think that an area of 10,000 acres is sufficient? Yes; but even with 10,000 acres no poor man would be able to go on the land, for he would have to make improvements in the shape of water.
3528. Can you state whether much of the resumed area in close proximity to the railway from Nyngan to Cobar has been taken up since the construction of that line? Yes; a good deal of it. As far as Hermidale very little of the land available, where the line goes through the resumed areas of the runs, is not taken up now.
3529. Can you say whether that increase in occupation has been mainly due to the construction of the railway from Nyngan to Cobar? In a great measure it has. The scrubbing by the West Bogan scrubbers has assisted it since; but the opening of the railway was the main cause.
3530. Do you think that a similar result would follow from the extension of the railway from Cobar to Wilcannia? It would, near the towns.
3531. The present proposal is to build a line which, though called a light one, would cost something like £2,400 a mile up to the Talyawalka Creek;—do you think that the wants of the district would be met by the construction of a much lighter line, at much less cost, with a speed of about 10 miles per hour? Yes, I do.
3532. Would such a line, while coping with all the available traffic, give all the main advantages which a railway usually confers on a district? Yes; for that district; because, at present, the people there have no facilities at all. It is necessary to make either a railway or a road there, and I think that the railway would cost about the same as the road. If a railway had been open now to Wilcannia it would have got a lot of the Broken Hill traffic.
3533. You have had considerable experience in forwarding goods in this district? Yes.
3534. And you are of the opinion that the character of the road between Cobar and Wilcannia has considerably hampered the transmission of goods west of Cobar? It has altogether blocked it, except in exceptional cases.
3535. Can you state whether a good road could be constructed at a moderate cost, or not? It could not.
3536. Do you think that a railway from Cobar to Wilcannia would offer the pastoralists of this district facilities for the carriage of fat stock? Yes, it would.
3537. Would the severe losses which are usually experienced in times of drought, in this western district especially, be minimised by the running of this railway? Yes, they would. Pastoralists would be able to get their stock away sooner.
3538. Can we reasonably expect that such traffic would form a fairly large item in the returns of this railway? Yes, I think it would.
3539. At present, owing to the long distance from a market, and the absence of quick communication, pastoralists are unable to send any except large consignments of sheep to market;—would this railway enable them frequently to dispose of small lots of fat stock? Yes, it would.
3540. You indicated, in replying to a previous question, that it might probably happen that the river Darling would be a serious competitor against this railway? Yes, in certain cases.
3541. Would you explain that in detail;—in what lines? The river-carriage is cheaper for the distance. As regards the carriage of the class of traffic likely to go to a mining district, the river could not compete against the railway, neither could it compete against the railway as regards the carriage of produce. This railway would be made use of for special class traffic—that is, as regards produce, coke, and coal, or matie—in regard to which no river could compete against a railway; and for a great portion of that distance I think that, if the Railway Commissioners were to make the concessions they make below Murtee, we might secure the whole of the traffic. I mean that they would have to treat this railway as they now treat the Bourke line.
3542. If the same policy were pursued with respect to the freights on the railway from Cobar to Wilcannia as has been pursued at Bourke, would this railway then secure the bulk of the trade? I think it would.

3543. With respect to the carriage of wool, is it to be feared that the river would prove a serious rival to the railway, presuming, of course, that the same arrangements were made in the case of the Wilcannia railway as have already been made at Bourke? No; I think that the river, instead of taking traffic from the railway, would bring traffic to the railway. I may mention that in this district, close to the route proposed for this railway, there is any amount of ballast, and that the line would tap a district which would supply firewood for the mines—which is a very important item. There is a big traffic in firewood here now.

J. Leah.

16 Oct., 1899.

Halbert James Edgar, hotelkeeper, Cobar, sworn, and examined:—

3544. *Mr. Watson.*] You were formerly owner of Mulga Downs station, about 60 miles from Cobar, off Wilcannia road? Yes. H. J. Edgar.

3545. How long have you been a resident of the district? Since 1881.

16 Oct., 1899.

3546. Do you think that this proposed railway would be of any material benefit to the people between Cobar and Wilcannia? I think it would be of great benefit to them.

3547. In what way would it serve the pastoralists? By enabling them to get their sheep away. Sometimes they have 1,000 or 1,500 fat sheep, which it would not pay them to drive to the railway at Cobar. But if this railway were constructed they could truck those sheep to Sydney. When I was at Mulga Downs I often had 1,000 or 500 fat sheep which I could have sent away if I had had a railway within a reasonable distance; but it would not have paid me to travel them to Nyngan, and put them on the line there. The distance to Nyngan from Mulga Downs was too great, and the sheep would have been only stores when they reached there. It is only in exceptional years that a man can travel fat stock a great distance in this district, and maintain them in a fit condition for the market.

3548. And does it sometimes occur that although the season is not favourable enough for travelling sheep a great distance, they are fat on the station? Yes.

3549. In the matter of supplies, would this railway be of any benefit to the pastoralists? I think so, and also in getting the wool away. They could get the wool away more quickly, and could also get station supplies easily and quickly.

3550. And more cheaply than by road-carriage, do you think? Yes, I think so.

3551. Mr. Harper, the Railway Traffic Manager, estimates the charge for the carrying of wool over the projected line from Wilcannia to Cobar at 13s. a ton, with, I suppose, a proportionally smaller charge from any point nearer to Cobar than Wilcannia is;—do you think that that rate would permit of teamsters competing against the railway? No; I do not think that they could compete against the railway with that rate.

3552. Even in a good season? Yes; I do not think they could compete against the railway, even in a good season.

3553. Therefore, a saving of the difference between the present charge for the carriage of wool and that amount would accrue to the pastoralist, and also a saving on the cost of the carriage of his station supplies? Yes.

3554. Can you say what the cost of carriage now is from any particular point you may care to mention along that route? From Fulham to Cobar the charge at the present time is £2 10s. a ton.

3555. How far is that? The way the teamsters have to go, the distance would be 100 miles, I think.

3556. Of course, in a good season the charge would be lower than that? Yes.

3557. What would be the minimum charge in a good season? I do not think that the teamsters could do the carrying for less than £1 per ton, even in a good season. Carriage has never been less than £2 10s. in good seasons.

3558. And it is proposed that this railway should carry twice that distance for 13s. a ton? Yes.

3559. If this proposed railway were constructed, do you think there would be any development in the way of smaller holdings, and therefore a larger population along the route? I daresay there would be. I suppose that, if there were a railway along there, some people would be trying if they could do any good with the smaller holdings.

3560. Do you think that there would be a greater probability of a man being able to live on 20,000, 30,000, or 40,000 acres, with a railway, than is the case at the present time? Certainly, a man might be able to live on that acreage if he had a railway.

3561. What was the area of your holding at Mulga Downs? Sixty-four thousand acres.

3562. Taking the general average of the country in that direction, do you think that if a man had a railway within a short distance of his holding, he could make a living on 50,000 or 60,000 acres? Yes, unless the seasons became too bad altogether.

3563. Assuming he had average seasons? Yes; I think he could then.

3564. There seems to be a general impression among the people whom we have examined that 10,000-acre blocks are rather small for this class of country, away from the river frontage? Yes, rather small. I do not think that anything under 20,000 acres would be sufficient.

3565. But if we could get men to take up every 20,000, 30,000, or 40,000-acre block out there, that would mean a large population in the district, with those men and their families? Yes, it would.

3566. I understand that there is a fairly large area of land in that direction which is now open as resumed area? Yes.

3567. And, consequently, there would be no necessity for resumption, in order to provide land for settlement, if this proposed railway were constructed? No.

3568. As one with some experience in pastoral matters, do you think that a man could afford to pay the State a higher rent with a railway than without one? Certainly, he could pay the State a higher rent with a railway than he could without one.

3569. Therefore, it is possible that, although the direct loss, or apparent loss, on such a line as this, might be fairly large, the indirect gain to the State from increased rentals would be fairly considerable? Yes, it might.

3570. And go to make good the loss which the Railway Department might suffer? It might. It just depends on the season.

3571. Are there, to your knowledge, any indications of mineral deposits near the route of the proposed railway? Yes. Gold has been found as far as Bulla, in the ranges to the left of the route proposed for this line, and at Mulga Downs I got a nice little prospect. It was a piece of quartz picked up on the side of the hill at Mulga Downs.

3572.

- H. J. Edgar. 3572. In what class of country was that? Slate on its edge.  
 3573. That is looked upon as likely to contain gold? Yes.  
 16 Oct., 1899. 3574. Were there any indications of copper or of other minerals anywhere in the vicinity? I have heard that south of Mulga Downs specimens have been found—on Barnato run. During the time I was at Mulga Downs a good many prospectors came, but because of want of water they could not stay there.  
 3575. The late Mr. Wilkinson, when Government Geologist, expressed the opinion that a good deal of the country between Cobar and Wilcannia was likely to prove metalliferous,—but that as it had been covered over by alluvial deposit it might be difficult to discover the whereabouts of the lodes;—it would, however, appear from what you say that all the country is not of that flat alluvial description, but that some of it is broken and hilly, and it is quite possible that other outcrops might be found? Yes.  
 3576. Do you know sufficient of mining matters generally to be able to express an opinion as to whether any of the country between here and Wilcannia is likely-looking country, broadly speaking? Yes, it is very likely looking for mineral.  
 3577. And this railway would probably lead to a closer prospecting of it than has been the case up to the present time? Yes, it would.  
 3578. When you were at Mulga Downs did you attempt any cultivation there? No, not personally. Just prior to my leaving Mulga Downs I did prepare a paddock for cultivation, which my brother, who succeeded me, cultivated, and got a good crop from. That country will grow anything, if you can get a rainfall. I have seen a crop at Bulla Bulla, near Jacob's Well—at the time Mr. Campbell was there—which was as nice as anything I have ever seen in the district; indeed, it was a very nice crop.  
 3579. Do you think that ordinarily the rainfall is sufficient to justify a man putting a certain proportion of his land under wheat? Yes. If he could get (say) 12 inches, and if the rain fell just at the time he would like it to fall, 12 inches would be enough for a crop.  
 3580. I mean, do you think that a man with a 10,000 or 20,000-acre block, engaged mainly in pastoral pursuits, would be justified, in view of the average rainfall, in putting in several hundred acres for crop,—assuming he had facilities for getting it away? Yes, I think he would.  
 3581. Therefore, if the proposed line were constructed, we might expect, you think, concurrent with smaller pastoral settlement, a certain amount of development in agriculture? Yes.  
 3582. I understand that you are well acquainted with the land for 100 miles from Cobar? Yes.  
 3583. How would you describe it generally—as good land or poor land, or what? It is land in places which, if it were grubbed, would be good land. There is a lot of good land, although there is some hilly country. Any of the flat-lying land would grow crops.  
 3584. Is not some of the rising ground, where the pine is, good land also? If it were ringbarked and scrubbed it would grow grass. The pine, sandy country, with a fair rainfall, will grow splendid crops.  
 3585. At present there is not a great deal of direct goods traffic between Cobar and Wilcannia, is there? I do not think there is any at all, except by the mail.  
 3586. I suppose that one reason for that is the fact that there is no permanent water along the track, except at the Cobar end? That is all—Government tanks. From Jacob's Well into Wilcannia teams could not travel.  
 3587. There are no Government tanks between Jacob's Well and Wilcannia, nor any other wells? No.  
 3588. The last Government tank towards Wilcannia is Bulla tank? Yes.  
 3589. Do you know of any reason why the Government did not complete the chain of tanks to communicate with Wilcannia? I do not know.  
 3590. Pastoralists who might desire at present to bring their sheep in towards Cobar, if their stations were beyond Bulla, would have to rely on private owners for any water they might be able to spare? Yes.  
 3591. And I do not suppose that, in these later dry seasons, they would have been able to spare much? No.  
 3592. So that, in default of a railway being constructed there, there would appear to be a necessity to put down a sufficient number of tanks to complete the line of communication? Yes.  
 3593. *Vice-Chairman.*] Can you state whether the absence of a railway, while you were occupying Mulga Downs, was so serious a handicap as to lead to your abandoning the holding? It was partly the cause; and the rabbits.  
 3594. With railway facilities for getting away small consignments of stock, you would practically add to the carrying capacity of the run, would you not? Yes.

Robert Kinkead, storekeeper, Cobar, sworn, and examined:—

- R. Kinkead. 3595. *Mr. Shepherd.*] How long have you been in Cobar? Going on for twenty years, I think.  
 3596. You are aware of the proposal for the construction of a railway from Cobar to Wilcannia? Yes.  
 16 Oct., 1899. 3597. Have you given it any consideration? Yes, I have taken it into consideration.  
 3598. Would you kindly make a statement in regard to this proposal? Personally, I should think that it would be a national benefit to have this line. It would bring us into contact with a very large population at Broken Hill, and also in touch with Wilcannia and White Cliffs; and I think it would be of great benefit in that way. Besides that, I think it would open up the country between Wilcannia and Cobar for closer settlement than there is at the present time,—not as things are at present; but if bores were put down, and artesian water were found, I have no hesitation in saying that you have as good country here as any other part of the Colony. Want of water is the great drawback. As to the benefit that some people think would be derived by Cobar from the construction of this line, I think it would be *nil*. In my opinion it would be rather injurious to Cobar; but I think that Cobar should not be considered in a matter of this sort at all, when by the construction of this line you would be benefiting the many.  
 3599. That is the proper way to look at it—from a national point of view? That is the way I look at it. As regards the description that has been given to you of the land between here and Wilcannia, I think that that land is very auriferous in places, here and there; and, therefore, that eventually the line might be the means of opening-up some gold-mines. Gold has been got out there, I know.  
 3600. Do you know the distance from Cobar of the locality where gold has been found? I think between 60 and 80 miles. Further on, I think that some gold has been got at Baden Park—100 or 120 miles from Cobar. Tintago is also a place where I think gold has been got.  
 3601. Do you regard the opening of this railway as likely to assist stockowners? Yes, I certainly do.  
 3602.

3602. In what way would it assist them? In times of drought it would assist them, and in good seasons they would have a means of sending their stock to market. It has been stated that artesian water cannot be found in the district, but we may yet find that it can be found.
3603. I suppose you are aware that experts have examined the country, with a view of ascertaining whether it is likely that artesian water will be found? I am aware of that.
3604. And they have given rather an unfavourable reply? Yes, I believe so. But, with due respect to those people, I am told that they gave the same opinion in regard to other places, and still artesian water has since been found there.
3605. What effect do you think this railway would have on Wilcannia? I think it should be the means of making Wilcannia a good town, by bringing back some of its old prosperity to it. I know, in reference to Cobar, that if we had not got the railway here at the time we did get it, we should not have been in existence now.
3606. Of course, Wilcannia is the principal town that would be affected by this railway? It would be.
3607. But how do you think that it would affect the transmission of goods;—do you think that store-keepers and others would be likely to use the railway in getting goods from Sydney, and transmitting wool and that kind of thing to Sydney, in preference to using the river? I certainly do think they would be more likely to use the railway—that is, were the rates to compare at all favourably with the river rates. I do not mean to say that they would give twice the amount to send the goods by the railway as they would have to pay to send them by the river, but they would have a more speedy and a surer transit by rail than by river. Sometimes goods are stuck up on the river for a long time.
3608. Are you aware what the cost of this line is estimated at? No; but I do not think that the railway would cost a great deal in construction. I suppose it would be a light line over level country, and would not cost very much.
3609. It is estimated to cost £497,000? Yes, but the distance is very long.
3610. And the estimate of income, so far, is £6,800 a year? I do not think the income at the start would be sufficient to pay the interest on the capital outlay.
3611. The annual cost is estimated at £27,310; that would leave the country at a loss of £20,510 per annum to begin with? I quite understand that.
3612. Do you think there is any reasonable prospect of the railway improving the condition of things to such an extent that this amount would be likely to be met within a reasonable time? I do. I have every reason to think so. In the first place, there would be closer settlement. The land is pretty good between here and Wilcannia, and the railway would be likely to get traffic from Wilcannia, and also Broken Hill and White Cliffs; and I think that things would improve, and the traffic receipts would most likely come up to the expenditure.
3613. You think, then, that the country would be justified in spending this amount of money? I do. I think this district has a right to be opened up. You are getting an increased population in the Colony, and you want a place to settle people in.
3614. Do you think that this railway would be likely to induce small settlers—homestead lessees, for instance—to take up small areas of country, from 10,000 to 20,000 acres? I think it would. The land is good enough; the drawback is want of water.
3615. Do you consider that the rainfall is sufficient to justify anyone in going in for agriculture? Not at the present time.
3616. Of course, we may look upon the last four years as exceptional—such as are not likely to occur again perhaps in a lifetime? I hope not. They were bad.
3617. What is your opinion about cheap lines—that is, constructing lines to go at a much less rate of speed than do those which we have at present—say, at the rate of about 10 miles an hour;—do you think that such a service would be acceptable to the people of this district? I think it would.
3618. Do you think it would be sufficient for them? I think it would be very much better for them than the mode of service by road which they have at the present time. A 10-mile an hour service should be very acceptable to them.
3619. A railway of that character could be constructed at much less cost, and possibly Parliament would be willing to vote the money required for the railway, provided its construction would not cost so much as the estimate given here? Yes.
3620. There is another question in connection with this railway—a very expensive portion of it is a bridge across the river at Wilcannia;—do you think that the town of Wilcannia, and the surrounding district, would be equally well served by the railway stopping this side of the river instead of crossing it? The town of Wilcannia would be as well served.
3621. The proposed site for the Wilcannia station is, I believe, about half a mile on the other side of the river, so the majority of the townspeople would have some distance to go to reach the station, even if the line were constructed as proposed; and if the alternative proposal as regards the terminus were adopted, they would simply have to cross the present road-bridge and go about half a mile on this side of the river; and the placing of the terminus there would effect a very large saving, which would reduce the estimated expenditure to a great extent? I think it would be better for the Wilcannia people to have the line terminate on this side of the river, rather than not to have the railway at all.

William Henry Bannister, butcher and homestead lessee, Cobar, sworn, and examined:—

3622. *Vice-Chairman.*] How long have you been in the district? For about twenty years. I think that the proposed railway, if constructed to Wilcannia, would be of immense good to the district in the same way as the line from Nyngan has been to Cobar,—for I firmly believe that if it were not for the construction of the railway from Nyngan to Cobar this town would hardly have been in existence at the present time. I also think that if the railway were carried through to Wilcannia,—although I must admit that at the present time the outlet is not very good,—it would have the effect of opening up an immense area of country, and would do a lot of good. Looking at the matter from a homestead lessee's point of view, I may say that very little land has been taken up by homestead lessees between here and Wilcannia, for the simple reason that at present they would have no means of getting their produce taken away. The distance to a railway is too far for the produce to be carted by teams, but if the proposed railway were constructed they could get their produce taken away the same as we do here, although, owing to the

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bad seasons, the last few seasons we have had very little taken away. Looking at the proposal to construct this line from a stock-buyer's point of view, I may say that all last year and part of this I could have bought fat stock at Kallara and Mount Browne, and other places in that part of the country, if I could have brought the stock to Cobar by rail; but the country being in such a bad state, I had no means of getting them to Cobar. We could not drive them. A railway from Cobar to Wilcannia would induce people to take up a large quantity of land for homestead leases, because then they would be able to get their produce to market.

3623. What area for a homestead lease do you think is sufficient, with a railway, to enable a man to make a decent living for himself and family? Nothing less than 10,240 acres. We have proved that beyond doubt. I have 10,240 acres, and could not do any good with that area were it not for working it in connection with my butchering business.

3624. How far is your holding from Cobar? Seven miles.

3625. Is the character of the country in the direction of Wilcannia generally as good as the holding you have? It is about the same until you get nearer to the river, where the country becomes a little better. I have never been in Wilcannia, though I have been close to it.

3626. And you say that, even with 9,190 acres, you find it difficult to make a do of it? Yes; I think you could make a living on that area with a railway and anything like fair seasons.

3627. You said that, although you would have been able to purchase sheep at Kallara and Mount Browne, the difficulties of transit prevented you from doing so? Yes; I could not get them in.

3628. That state of things practically applies to every pastoralist some distance from the railway at Cobar? Yes.

3629. But if the proposed railway were constructed, small consignments of stock could be trucked and sent to the Sydney market? Yes. Pretty well all the stock I have had to supply to this town in the last eighteen months, has come by rail to Cobar, and, if the proposed railway had been constructed to Wilcannia, it would have been better for me to go that way rather than to draw my supply of stock from the other way. I have been getting it from Bourke and Bathurst—in fact from anywhere I could get it.

3630. Do you think that we may reasonably anticipate that those resumed areas near the route proposed for this railway would be taken up if the railway were constructed? I think so—as homestead leases, but not as homestead settlements. I believe that hardly any would be taken up as homestead settlements. The conditions are too severe, and people will not take the land up under the small area conditions, and put their money into it. This homestead settlement is not suitable for the Western Division. What applies to the Eastern or the Central Division will not apply to the Western Division, where you want a larger area and more liberal land laws for you to be able to do any good with the land.

3631. *Mr. Watson.*] Those resumed areas, about which *Mr. Dick* has asked you a question, have been open since 1884? Yes.

3632. And hardly any of them have been taken up? None have been taken up between here and Wilcannia, except odd ones.

3633. Broadly speaking, they are still vacant? Yes.

3634. So it would appear that if we wish to do anything with them we must give means of communication to people who are likely to take them up? That is my view of the matter. I believe that if this railway were made, a large number of those areas would be taken up, because people could then get their produce away. In a general way, I believe, this railway would have the same effect on Wilcannia as the Nyngan to Cobar line has already had on Cobar. I may also say that I think that all people dealing in stock, or having any produce to remove, would rather send it by railway even if they had to pay a little more than by water, because, although you pay a little more, you get your returns from your agents perhaps in a week, whereas you would have to wait perhaps a month or more if you were to send by water.

Henry Burt Welsh, manager, The Meadows and Kew stations, sworn, and examined:—

H. B. Welsh. 3635. *Mr. Watson.*] How many miles are your stations from Cobar? The Meadows is 42 miles from Cobar, and Kew is about 100 miles from Cobar.

16 Oct., 1899. 3636. You know of the proposal to construct a line of railway from Cobar to Wilcannia? Yes.

3637. Do you think that this railway would affect you in any way, beneficial or otherwise? Yes; it would be beneficial to us in every way, I think.

3638. Affording you a better method of getting rid of your wool, and also your fat stock, when you have any? Yes.

3639. And giving you a good way of getting your supplies? Yes; it would be to our benefit in every way.

3640. Have you had any losses on your stations during the recent drought? Not at Kew, because we have had no sheep there, because of want of water; but we have had losses at The Meadows, though not very heavy ones.

3641. But you have had one of your stations practically unstocked? Yes.

3642. And that of itself is a loss? Yes; especially when you have to pay a high rent for the land.

3643. Do you think that this railway would be of advantage to pastoralists by enabling them to get stock away, during a drought, to more favoured parts of the Colony? Yes; I think it would be, especially out towards Wilcannia.

3644. You think that, by that means, there would be a chance of saving some of the sheep which otherwise would be lost? Yes, in a really bad time.

3645. Where do you send your wool to at the present time? To Cobar.

3646. From both stations? Yes. We have had The Meadows for about twenty years, but Kew only the last two years, during which we have sent the wool from there to Cobar.

3647. You have always sent your wool in from The Meadows to Cobar? Yes.

3648. Have you shorn the sheep at Kew in either of the two years you had that station? No; we have shorn the sheep at The Meadows. We should have shorn them at Kew if we had had water, and then should have brought the wool into Cobar.

3649. Have you any resumed area on either of those runs? Yes; on The Meadows only. Kew is all leasehold.

3650. What is the extent of the resumed area on The Meadows? Sixty-four thousand acres.

3651. Do you think any of the country between Cobar and Wilcannia which would be served by this railway would be suitable for homestead leases, or for other smaller forms of pastoral settlement? Yes; I think a lot of it is, principally nearer to Wilcannia—that is, if the railway were constructed. 3652.



3652. You think that the taking up of land in suitable spots would be likely to follow the construction of the railway? I suppose it would. H. B. Welsh.

3653. Have you ever tried cultivation at The Meadows? Yes. We usually put in wheat every year, and in anything like a good season we get a crop. Although this season has been a very bad one, we shall be able to cut after the recent rain. 16 Oct., 1899.

3654. What do you anticipate you will get from it this year? We may get a quarter of a ton per acre at the very most.

3655. It will be worth cutting, at any rate? Yes.

3656. What area have you usually put in? We generally put in between 20 and 30 acres, but this year we have only 10 acres in.

3657. What has been your average yield? The yield varies a great deal. Sometimes we get an exceptionally good crop, but I suppose that it would average about a ton to the acre. We have had a great deal more than that.

3658. Do you think that you would be likely to go in for a greater area of cultivation if you had a railway adjoining the property? No, I do not think so; at any rate, not much more.

3659. Cultivation is not in your line, I suppose? No; the soil is good enough to grow produce, but rainfall is the drawback.

3660. We find every day that pastoralists are going in for cultivation, even in places that were considered, a little while ago, too far west for cultivation to be thought of there? Yes. We should be able to send a good deal by the railway from the two stations, in the way of fat stock and wool.

3661. You think that the construction of this railway would be of benefit to yourself and to the district generally? Yes; to everybody in that part. I may say that prior to our taking possession of Kew station cultivation was tried there, and some crops were taken off in fair seasons.

THURSDAY, 19 OCTOBER, 1899.

Present:—

THE HON. WILLIAM JOSEPH TRICKETT (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD. |  
WILLIAM THOMAS DICK, Esq. |

JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Charles Frederick Arno Thierman, mine-owner, White Cliffs, sworn, and examined:—

3662. *Chairman.*] I believe you have had a knowledge of that district, and between Wilcannia and Cobar, for the last twenty years? Yes, very nearly twenty years. C. F. A. Thierman.

3663. I believe that the evidence that you wish to give us is in reference to the mineral resources of that part of the country? Yes. 19 Oct., 1899.

3664. Will you kindly tell us, to begin with, your views of the White Cliffs district particularly, its resources, and the probability of its permanence as a mining centre? At present the most developed mines are at White Cliffs. The opal mines there went ahead because the produce of the mines could be sent away by the parcels mails. No coal, fuel, or timber was required. The produce of the opal mines can be removed very inexpensively.

3665. Will you tell us how the mines began to be developed? The original discovery was made by a party of kangaroo hunters. They wounded a kangaroo, and in catching the kangaroo they found some opals on the surface.

3666. When was that? Seven or eight years ago. Since then a number of leases have been taken up, and buyers have gradually come from the continental countries to buy up the products of the mines, and the opals have been brought into prominence in the market.

3667. Is it not within the last couple of years that the field has assumed large proportions? It is only within the last eighteen months or two years that it has become of importance.

3668. And during that time the population has considerably increased? Yes; there are between 2,000 and 3,000 people there now. I think there are probably 3,000.

3669. Can you tell us how many other claims there are being worked there? There are the old leaseholds which were granted by the Government in 40-acre blocks. There must be about fifteen original mineral leaseholds of about 40 acres each. Since those were issued the Government have altered the regulations, and they only allow areas of 100 feet square; but there is a very large number of such claims being worked under the present system. A block of 100 feet square is held by each miner.

3670. Can you give us any idea as to how many of them are being worked at present? Some hundreds.

3671. Can you give us an idea how many of them are being remuneratively worked? Opal-mining is a peculiar occupation. There is nothing on the surface to guide the miner. He merely sinks a shaft and takes pot luck. When he gets to a certain level he expects to strike "potch," and he follows it.

3672. What is "potch"? It is the opal matrix.

3673. When he strikes that what does he do? He follows it horizontally. They are all horizontal, with some few exceptions. Sometimes they strike upright, owing to a dislocation.

3674. How do the rich opals occur? The "potch" gradually begins to show up colour, either green or blue, and sometimes small sparks of red fire. Sometimes they have to follow it a long way, and sometimes they come upon it at once.

3675. Is there any rule as to the size of a rich, marketable opal? No, there is no guide. A miner may get £10 or £1,000 worth in a few hours, and a parcel of opals which he has found may consist of half a dozen qualities of opal. There may be a few ounces of exceptionally high value; then 10 or 20 ounces not quite so good; then a large quantity of inferior opal,—opals which are streaky and have not got a pattern.

3676. Then if a miner comes across one of these rich patches it may run out again? It always does. Then the miner just follows on the same layer again.

3677.

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3677. At what depth do they get these opals? The greatest depth, to my knowledge, is something like 44 feet; but there are levels in some blocks only 6 inches under the surface; they are also 3 feet, 4 feet 16 feet, and so on. In some claims they find nothing until they get down 22, 24, and 26 feet. You merely go down through successive, horizontal layers of sedimentary rock.

3678. The greatest depth that you know at present is 44 feet;—is there reason to suppose that the opals cease to exist at that depth? No reason whatever. At a depth of 44 feet the rock formation becomes more soapy, and it is called soapstone. An exploration which took place quite recently, in deeper ground, shows that the opal matrix continues at greater depths; but there has been so much shallow ground available that there was no necessity to go into the deeper ground.

3679. Nobody has tested the ground to ascertain whether opals could be got at greater depths? Not yet. There have been some shafts sunk deeper, and one got some opal matrix, but there has been no opening-out work done.

3680. Has there been any expert at the mines, sent by Government to test the permanency of the field? The only scientific man who has been out there was Father Curran, and that was three or four years ago.

3681. Has the exploration for opals by all the miners there been a remunerative one. Yes. I think with most of them it was merely a matter of perseverance; they strike the opals sooner or later.

3682. Do you think, from the number of people working there, that it seems a permanent field? Yes. When I left there were, I believe, more men employed in getting opals than had been employed there at any previous time.

3683. Is it a kind of mining that can be carried on by individuals without the outlay of capital? Yes.

3684. They merely sink shafts and drive; and they have the ordinary hand-winding gear? They merely use the windlass. In most cases they paddock the stuff out.

3685. Do you know what value of opals has been taken out of the field during the last eighteen months? That is very hard to come at; but I know that Mr. Heydt (a countryman of mine) and his wife, are buying for the biggest opal firm in Germany. Their purchases amounted to something like £27,000 worth in five months.

3686. Are opals a commodity that varies in value? Yes, subject to fashion.

3687. Does that fashion affect the value of opals to any great extent? No. The fluctuations to which the value of opals is subject are principally brought about by the buyers when some very large finds all come together.

3688. You think, then, that it is the ring of buyers that largely affects the price? The buyers only, because at the present time there is only one opal field of importance in the whole world, and that is the White Cliffs field. The Hungarian and Mexican fields are nearly worked out, and the Indian opals have not nearly the fire of the White Cliffs opals.

3689. Is there any use for opals except for jewellery purposes? First-class opals very seldom get into the trade. There are many people in Europe on the look-out for first-class opals. Second-class opals are used for jewellery, and inferior-class opals are used for buttons for ladies' ball dresses, and for studs.

3690. So there is a variety of uses for opals, independently of their use for jewellery? Yes.

3691. Opals are used largely for other purposes? Yes; for ornamental purposes, for mosaic work, and articles are inlaid with opals; little card-cases and boxes are ornamented with them. They are used very much, especially on the Continent.

3692. Is there anything at the present time to indicate, with any degree of certainty, that this opal-field is a permanent one? Yes, undoubtedly. In the ground which is now worked there are years of production in sight. Only last year a field broke out 9 miles away from White Cliffs—the Bunker field. There are a number of men out there, and there is an almost unbroken formation between there and White Cliffs, which indicates that there are opals all the way.

3693. So that, as far as indications go, this opal-field is not confined to White Cliffs, but it extends a considerable distance beyond there? It extends northwards for miles. There have been opals found to the north as far as Purnanga and Momba pastoral holdings, about 25 miles north of White Cliffs. The same opal-bearing country extends right away towards Yancannia—that is, north and north-west.

3694. Then, according to your views, this opal industry in that district is likely to be a permanent one? Yes, undoubtedly. Sometimes, in case of a great war, the value of the opals is reduced; but that is only temporarily.

3695. Are there any other opal-fields besides those which you have mentioned in Germany and Hungary and India? There are opal-fields in Queensland. The Queensland opal is very brilliant; but it is so impure and so brittle that it is no good for the trade. You cannot get a pure gem in Queensland as you can at White Cliffs. At the present time opals are found at White Cliffs which have not their equal anywhere in the world.

3696. In the markets of the world, has this field already attained a notoriety? Yes; very much notice is being taken of it now. The Consul for Austria, in Melbourne, published a letter recently, on account of some Vienna firms that want to open up a trade in connection with the field.

3697. Independently of the lady and gentleman you have mentioned, are there persons from other countries purchasing opals on the field? Yes, about twenty. Messrs. Hoffnung & Co. have a representative at the field; Newman, of Melbourne, has one; and numerous German firms have representatives there.

3698. So that the market for the minerals is necessarily confined to export buyers, who have to send the opals to jewellers to be treated? Lapidaries in Europe are represented.

3699. It is not an article that can be treated by the people who find it—opals must be treated by lapidaries? Yes; so far that is the case. Several attempts have been made to have the opals treated by a co-operation between the buyers and the lapidaries, but it has not worked well.

3700. Are there any other kinds of minerals in the White Cliffs district, where the opal industry is so flourishing? Yes; about 30 miles to the west of White Cliffs.

3701. Take the district you have mentioned as the opal-bearing district at White Cliffs, and the land away up to the north—are there any other minerals there? No; not where the sedimentary rocks exist.

3702. You think that the district you have mentioned as opal-bearing is confined to the gem only? Yes; that is, so far.

3703. You do not think there are other minerals in those particular places? They have not been found yet. At Momba there are igneous rocks coming to the surface where copper has been found, but the mineral has not been developed.

3704. Are you willing to say whether in opal-bearing country other minerals are excluded, as a rule? I think that district will be exclusively confined to opals.
3705. Now, will you tell us about other minerals to the west of Wilcannia and west and north-west of White Cliffs? About 30 miles west of White Cliffs a great north and south range runs along, which takes its starting-point somewhere to the south-west of Wilcannia, and it runs from there in a north-westerly direction through the western portion of Menamurtee, Gnalta, Nuntherungie, and Wonominta; thence to Ponto Hill, to the west of Lake Cobham; and from there to Mount Browne, Milparinka, and Tibooburra.
3706. You say there is a belt between Wilcannia, Nuntherungie, and Tibooburra—what width do you think that mineral country would be? At Nuntherungie it will be 4 or 5 miles wide.
3707. What character of minerals does it contain? Principally copper and silver.
3708. How do you know that? I did a lot of exploring out there. We hold a lot of mineral country at Nuntherungie—close on 1,000 acres.
3709. Is there a copper outcrop there? Yes; we have immense outcrops of copper. We have an outcrop there 100 feet wide, but it is poor ore. About 2 miles further north we have outcrops of far richer ore, but they are smaller—they are principally at Bunker Hill.
3710. Have you done any sinking? Yes. In the case of the copper-well we have sunk 110 feet, and we have driven 110 feet in, and got a fine vein of copper all the way. It is a gossan lode.
3711. As far as you have gone, are you able to say whether the vein would be of a payable character? Yes; I am very strongly of opinion that it is highly payable for copper.
3712. Have you had any of the ore treated? We have had no large parcel treated, but such tests as we have made show very fair results for copper.
3713. Does the silver you mention occur in connection with the copper, or separately? It occurs partly in conjunction with the copper and partly separate. But the silver-lode at a greater depth begins to show copper. We are down only 90 feet so far.
3714. Was the silver you have come across in small patches, with a big outcrop such as they have at Broken Hill, or is it a distinct kind of country? The silver occurs in large spar lodes; it is in the form of chloride.
3715. Have you had any of that tested? Yes. Four tons of it went about 75 ounces to the ton, and there was about 50 per cent. of lead.
3716. Was there any copper? It was taken out before we reached the copper zone.
3717. That would be payable, would it not? Yes; that could be obtained in large quantities.
3718. It would pay well? It will pay well immediately there is any kind of machinery on the ground. We are in treaty for that now.
3719. How do you get on with regard to water for mineral development? In the mineral leases which we have got there, there are four shafts down to water-level, and in at least two, the water supply is very considerable. We watered 3,000 sheep in a very dry summer, out of one shaft. That means several thousands of gallons a day, and it is probable the water will increase.
3720. Is the water pure or brackish? We are living on it; but it contains copper in solution.
3721. It could be used for machinery purposes? Yes. It does not contain anything that would corrode boilers.
3722. Is the district you have mentioned—White Cliffs and the belt between Wilcannia and Tibooburra—watered by the Paroo or any of its tributaries? No; the Paroo River runs north and south a considerable distance to the east of that district.
3723. There is nothing to water that dry country? No, only flood-waters. The creeks sometimes are raging rivers, and at other times perfectly dry. They are generally dry; but when they are in flood they are rivers miles in width.
3724. So that it would appear that to get a permanent supply of water for that district sinking must be relied on? Either that or excavation—either wells or tanks.
3725. Have they tried boring for water there? Not in that district exactly; but they have away out towards Mount Browne. About 36 miles to the south-east of Milparinka there is a bore which struck a heavy supply of water, but it does not flow. I believe they are going to put a pump into it.
3726. I suppose the belt you have mentioned as existing between Wilcannia and Tibooburra embraces what is known as the Mount Browne district? Yes.
3727. That has got the name of being a very rich mineral district? Yes.
3728. Do you believe in that? I do. But they have a battery out there which is in the wrong place.
3729. Is there anything besides copper and silver there? There is only gold at Mount Browne.
3730. You said something about the machinery being in the wrong place? The present machinery belongs to a syndicate at Milparinka, and was erected some years ago. It is in the wrong place altogether. There are large beds of gold-bearing cement out there which will pay well when communication is opened up between Milparinka and Tibooburra. At Mount Browne there is deep alluvial.
3731. Are the disadvantages with regard to the want of water and want of communication keeping the place back? Under present conditions, to bring gold-saving machinery out there would cost about five times as much as the machinery would cost from the foundry.
3732. I suppose under present circumstances it is almost impracticable to get machinery? Yes, until there are better means of communication.
3733. How far is Mount Browne from Wilcannia? It is 167 measured miles from Wilcannia to Milparinka.
3734. But supposing a railway were constructed to Wilcannia would that be practicable? I believe that if a railway from Cobar to Wilcannia were constructed, machinery could be got out there cheap, especially in the wool season, because teams would be carrying wool. They would take the machinery out and bring the wool back again.
3735. The country between Wilcannia and Milparinka is well watered with Government tanks? Yes. If you draw a line from Mount Browne eastward to Bourke, north of that you can get artesian water; but coming southward from Mount Browne, down towards Broken Hill, we seem to lose the artesian water; the water does not rise.
3736. But still water is got there? Yes, there is water.
3737. It would be necessary to raise it by pumping? Yes.
3738. From your knowledge of that north-western part of the Colony which you have described, and from your

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your conviction that it is largely possessed of minerals of various kinds, do you think that without better means of communication it is impossible to get that part of the country developed, to do justice to its natural resources? The Cobar to Wilcannia line will open up that country.

3739. You think that without some further means of communication than there are at present, it is absolutely impossible to develop the natural resources of that part of the country? Not altogether. In good seasons the richer classes of ore can be sent away at a profit. That line would bring us into contact with the coal-field, and that would allow the treatment of immense quantities of medium and poor ores locally, and then the product could be sent away.

3740. The present disadvantages, and the very frequent occurrence of drought there, make the district almost uninhabitable? Yes. If Broken Hill had no railway communication, that town would be just in the same state.

3741. Seeing that that is such a dry corner of the Colony, do you think it likely that if the mines were largely developed, the stuff would be treated locally; or would the crude ore be sent away? Both. Crude ore would be sent away, and furnaces would be erected out there to reduce ores. Then the bullion would be sent away to the refineries, which would have to be either on the river Darling or at Lithgow.

3742. Would not the want of water militate against the use of machinery? No. We should have tanks and underground water. Close to the mines we have a very high sandstone range, and almost anywhere at the foot of that range, you can get water at a very shallow depth—you can get it a few feet from the surface. People sometimes think that that country is very badly off for water, but it is a better place for underground water than Wyalong—a great deal.

3743. Is it as well off for water supply as Cobar? It is better off than Cobar.

3744. There are proper tanks? Yes; there is a splendid tank close to my company's mines, a tank 25 feet deep, which contains 23,000 cubic yards, and held 18 feet of water when I left, after a tremendous drought. The station people were wishing that it would go dry, so that they might get the weeds out of it. Excavation for tanks is very cheap out there now, the charge being only 6d. per cubic yard.

3745. With regard to the railway project from Cobar to Wilcannia, do you think that that would be the best line to construct in order to tap that north-western corner? That would be a natural highway to open up that country. But there are other mines besides those to which I have referred. There is one on the Ponto Hills, between Wanaminta and Cobham Lake. It was discovered by a man named Sullivan. It is being developed at present by local people, and it is shaping very well. I saw it just after Sullivan had pegged it out, and it looked splendid.

3746. Then you are of opinion that in that part of the country to the north-west of Wilcannia there are minerals in very large quantities—opals, copper, silver, and gold? Yes. The railway would be practically the means of opening up that country, so that it could be profitably worked. It will give access to those fields, and will bring away mine products, and carry stores, timber, building material, and coal.

3747. You say, as a practical mine-owner in that district, having interests there, and having known that part for many years, that the one necessity of the district is to get better means of communication? I do. There is no doubt that the mineral output from those fields, at Nuntherungie and Wertigo will be very considerable.

3748. And the people there at present are suffering very great disadvantages, especially in dry seasons, from the very heavy rate of carriage they have to pay? Yes. Of course, the present has been an exceptionally bad season.

3749. But that is a part of the country which is liable to drought? Yes.

3750. And that makes fodder and horse transit very dear? Yes. It has cost me, for my little party, since Christmas, £150 for horse-feed. Chaff at present comes principally from South Australia.

3751. *Mr. Shepherd.*] Is it not a fact that the field which is being worked at present, is composed chiefly of 40-acre leases? Do you refer to the opals or the copper.

3752. To the opal-field? No; there are only ten or twelve original opal leases which were granted by the Mines Department before the regulations were altered regarding opal-mining.

3753. But do not the original 40-acre leases still hold good? Yes.

3754. And those large leases are principally being worked on tribute? Yes. There are as many as 160 men working on one 40-acre block, to my knowledge, all tributing.

3755. Are many wages men employed there? No. Nobody works at the opal-mines for wages; every man is his own employer.

3756. It is generally considered a good poor man's mine, is it not? Splendid.

3757. What are the tools required for opal-mining? A pick, shovel, windlass, and a rope.

3758. Are the mines worked by open cuttings? Partly.

3759. And partly by tunnelling? Partly by tunnelling, partly by open cuttings, and partly by shafts.

3760. If an open cutting is used to a depth of 40 feet, what do they do with the earth? They run it out in trucks. They have light rails which can be shifted, and they run the stuff out one way one day, and another way another day. There are very large cuttings there.

3761. Is water used in getting the opals? No. Immediately a miner strikes opals he is bound to see that he has done so.

3762. How is the value of the opals determined? The value of the opal is determined according to its brilliancy, the pattern, and the fire in it. I shall have about £1,000 worth here to-morrow morning of all qualities.

3763. With regard to these tributors; who values the opals which they raise? In the first instance the miner enters into an agreement with the owner of the ground, the tributor to receive 75 per cent. of the value of the opals that he finds, and the balance to go to the owner. The opals are taken to the owner and valued. The tributor is then at liberty to sell them at the owner's valuation, or if he thinks he can get more he goes into town and puts the opals before the buyers. It often happens that he gets a lot more by that means, and it often happens that he does not get as much as the owner has valued the opals at. Opal being an article of luxury only, the value is not a standard one like that of gold. It often happens that opals are found that are worth £80, £60, or £40 an ounce. I have seen opals sold at a price as high as £100 an ounce. Opals with red, green, or orange fire are the most valuable. Then there is a certain pattern in them. When the opal is streaky, though the fire may be ever so brilliant, the opal is not so valuable. Some stuff you get hold of may be worth £3 an ounce, some £15 an ounce, some only 10s. an ounce. There are hardly two pieces of opal found which are alike.

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3764. Are the owners always open to purchase the opals at the prices they put upon them? Yes.
3765. And what if the miner does not accept? He can go round the town and see what he can get.
3766. Then he pays the owner 25 per cent. of the value of the opals? Yes.
3767. So if he gets double the amount at which the owner values the opals, he pockets all the rest himself? They are not supposed to do that. The owner must get his 25 per cent. in any case.
3768. I suppose that if the owners value the opals at a certain amount, they are satisfied with 25 per cent. of that? Yes. Those men become very expert at valuing opals in their raw state.
3769. Can you give us any idea of the area of the field which has been proved to contain opals? I should think that the proved opaliferous area is 15 miles long, and 3 or 4 miles wide. But the possibilities are very great, especially as opals have been found 25 miles north of White Cliffs, at Purnanga.
3770. What population would you estimate these opal-fields to be able to carry? The present population is over 2,500—I believe it is nearly 3,000. The cost of living in the district would be reduced if we had better means of communication, and the poor quality of opals could be mined to advantage. It would be a little help to the field because, though it would not interfere with production, it would help people to live at far less expense. We have to pay an enormous price for everything we get out here.
3771. How many men do you think the field would be capable of profitably employing? I should think 5,000 at the very least.
3772. And do you think they would find a ready sale for the opals of those 5,000 producers? Yes; there is very keen competition for the opals. The opal buyers send men to find out who are on opals and who are not, and then they watch them.
3773. Is it not a fact that the sale of opals at present is very dull? Yes, the sale of opals of inferior quality; but opals of good quality fetch more money now than they ever did.
3774. Do you think there is any fear of a market not being available? No. A war scare might have some effect. When the Spanish-American war broke out there was a lull in the business, but afterwards the opals fetched more money than they had ever done before.
3775. What are the chief difficulties that the opal-miners labour under? It is merely the difficulty of getting supplies at a reasonable cost. If there were railway communication they would be able to get provisions and forage, and all other supplies, at the ordinary rates. The railway charges would be of a uniform character. There would not be such terrible charges as we have had during the late dry seasons, for instance.
3776. Is it a fact that no prospecting has been carried on beyond a depth of 44 feet? Yes; that is so, except in one or two places where holes have been sunk, but no opening out has been done.
3777. Have opals been found at the bottom of the deepest holes that have been sunk? I know that rich opals have been found at a depth of 44 feet.
3778. And they are of a quality quite equal to the others? Yes. The deep-level opal, as a rule, is of a finer green than the shallow opal, and is not so broken up.
3779. *Mr. Watson.*] Is there any prospect of the mines you are connected with being developed in a reasonable time? Yes; there is every prospect of it. We are negotiating with wealthy people here now, and I think we shall come to terms.
3780. Assuming that a railway were built from Cobar to Wilcannia, the terminus would still be some distance from Nuntherungie? Yes.
3781. Do you think the Nuntherungie deposits are of sufficient importance to justify, with their development, the making of a tramway between Wilcannia and Nuntherungie? From the mines to the river.
3782. Yes? Yes, because there is a quantity of low-grade ore there.
3783. If a railway were constructed, you would want to get to Wilcannia? Yes; or to some point where communication is cheap, not only to bring the ore down, but also to carry explosives, mine stores, and timber up to the mines.
3784. And coke, if you were going to smelt? Yes; there will be a rough process of smelting carried on at the mines, the same as at Cobar.
3785. At Cobar I understand they reduce the ore to matte in the first instance, then ship it to Lithgow, taking a return freight in the truck? Yes; that would have to be done at Nuntherungie.
3786. That would be the cheapest method of working? Yes; it would allow the treatment of ore which it would be absolutely out of the question to treat under present conditions, and which has to be thrown on one side, if there were proper communication, and fuel could be brought on to the ground.
3787. Assuming that the existence of these deposits and their possible development at Nuntherungie were one of the factors in determining the Committee to recommend this railway, what guarantee is there that your people would not run a line to Broken Hill, in preference to running a tramway to Wilcannia? Well, if we made a line across there it would have to join the Tarrawingie line to bring coal and coke which would have to be shipped from Newcastle round to Port Pirie, taken to Cockburn, then over a private line of railway to Broken Hill; then it would have to go over the Government railway to Tarrawingie, and afterwards run over the tramline from there to the mine. That coal would cost, I should think, a good deal of money by the time it reached its destination.
3788. You think if you had a railway terminus at Wilcannia and the one now existing at Tarrawingie, it would pay you better to connect with Wilcannia by tramway? Yes; even if it were only a horse tramway. That would be the natural highway.
3789. With a view of reaching the Lithgow mines, and having only one handling of the coke or ore? Yes, it would go over the Government railway all the way; but in the other case the coke would have to be shipped round to Port Pirie and brought over different lines.
3790. Of course whether it would be worth your while to go over a number of lines owned by different people, and by sea to Newcastle or Illawarra, would depend upon whether the rates on that route were lower in the total than the rates on the other route? Yes. But from what I am given to understand the rates for coal on the Government railways of the Colony are so low that the other roundabout route could not compete; besides which, Lithgow coal is cheaper than Newcastle coal, and quite as good for the purpose.
3791. You think that if you had a chance you would rather connect with Wilcannia, in order to get to Lithgow? Yes.
3792. You think that if the mines were developed it would pay you to construct such a tramway? Yes, because I believe the possibilities of those mines are in the direction of something very big. The outcrops are

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are extraordinarily large, and the lodes seem to be very continuous, and as deep as we have followed them down they have not deteriorated. In our copper-well the ore at a depth of 110 feet is richer than what we got when we started.

3793. And what is the width of your lode at that depth? That is between 3 feet and 4 feet. It is a perpendicular lode.

3794. And would it pay you well to work ore of that quality? Yes.

3795. You spoke of an outcrop 100 feet wide as being poorer ore;—do you think it is sufficiently valuable to pay for working, in the event of your having better communication? We have not done much in the way of work with big bodies of ore. The deepest we have gone is 65 feet.

3796. And is there any deterioration at that depth? It is just about the same class of ore that we have on the surface.

3797. Then do you think that a large lode would pay for working, supposing you had railway communication? Yes, it would be worked then.

3798. In conjunction with the other? Yes. The principal mine in the group is the Bunker's Hill.

3799. How far from Nuntherungie is that? Sixteen miles towards Wilcannia.

3800. What are the characteristics there;—is it a wide lode? Yes, a very wide lode.

3801. Of rich quality? It is of higher quality than we expected. The lode shows for about  $\frac{3}{4}$  of a mile, and there are very big outcrops. Our party were trying to keep this mine for ourselves, but we were not allowed to do it. We have to let the whole thing go as one compact lot.

3802. Then you were endeavouring to sell the others? Yes. We wanted to keep that or the copper well, and develop it on our own account; but the people we are dealing with said, "We will take the whole thing."

3803. In any case, it would require a considerable amount of capital to develop it? It is not the working of it. The principal cost is in regard to the reduction of the ore and the transit of the mine products. To open up the mine will not cost so much.

3804. Have you, or those associated with the enterprise, made any calculation as to what it would cost to make a tramway from the mines to Wilcannia or Broken Hill? Yes. I went over the whole distance between the mine and Wilcannia. It is level country, and there will be no difficulty in making a tramway; but between the mine and Tarrawungie there are long stretches of very loose, sandy country, and the line would be half the time buried in sand. There is no doubt that Wilcannia is the place to which to bring the line.

3805. Even from an engineering point of view it will be easier as regards maintenance? Yes.

3806. Could you form any estimate as to what the tramway will cost? No. But in the construction of a line for the conveyance of ore, the work need not be of a very substantial character, as long as you can drag a train of trucks over it by horse or steam traction.

3807. *Mr. Dick.*] In your contemplated development of this copper and silver country, have you considered the question of bringing the ore or the reduced material to the river, and then sending it down by river to Adelaide or Melbourne? No. If we meant to do that, when we got down the river we should have to ship it from Morgan to Port Adelaide, or Port Pirie, and that would be as expensive as to ship it from Nuntherungie to Broken Hill.

3808. Then it would be neither economical nor practicable to carry out the development of that country by such means? No. It will have to do until we have a line, and then we can only deal with ore of the highest quality, and we shall have to leave the great bulk.

3809. As regards low-grade ores, every additional handling adds to its cost, and reduces the chance of treating it at a profit? Yes. Until we get a line of railway we can only send away picked ores. We are picking the ore now—all the stuff that goes anything over 30 per cent. of copper.

3810. Are you aware that the history of the development of Cobar before the railway was made somewhat resembles what you have outlined as the history of your copper-field? Yes. Cobar was in a worse position when the mines there first started than we are in now.

3811. Is it a fact that at Cobar, just as you outlined in the case of Nuntherungie, high-grade ore alone paid the tariff, and that it was soon worked out? Yes. They sent some thousands of tons of picked ore away, as we shall have to do if we do not get railway communication. We shall have to leave all the medium-grade and poor ore behind.

3812. As soon as the railway was constructed to Cobar the medium and low-grade ores were treated at a profit? Yes.

3813. And Cobar increased rapidly? Cobar has become a place of great importance.

3814. Do you anticipate that, with the construction of a railway from Cobar to Wilcannia, and with some sort of connecting link between Wilcannia and Wertigo, either private or public, the same developments are likely to take place? Yes; there is every probability of it. There is not merely one mine, but a regular group. There are five big lodes included in twenty-five mineral leases.

3815. How does that compare with the area of rich mineral country at Cobar? It is every bit as extensive as Cobar. I do not know exactly the extent of ground held and worked there under lease. We hold 1,000 acres, and some people outside of our holding have more, and that is a very considerable extent of country.

3816. Do you think there is still a large area of unprospected country there? Yes. Between us and the Ponto Hills, and southward towards Wilcannia, there are chains of mountains which have not been prospected.

3817. May we regard that tract of country from Wilcannia north as one with certain assured mineral resources, and with perhaps large possibilities? Not north of Wilcannia, but north-west. The country north of Wilcannia is mostly flooded. The mineral country is west and north-west of Wilcannia. There is a great probability that the Nekarboo Ranges between Cobar and Wilcannia will be developed. Several things have been found out there, but it is a very waterless country. The country between Cobar and Wilcannia is worse than the country beyond Wilcannia.

3818. Will the railway as far as Wilcannia be of material assistance to that district? There is no doubt that a railway as far as Wilcannia will overcome no end of difficulties as regards mining, and any other industry which is carried out there.

3819. Could you state in what way that district could afford revenue for such a line? The line, in my opinion, would pay the interest and working expenses, and not only that, it would get the trade which is now

now passing through Wilcannia, and it would also bring a lot of trade from Mount Browne way which is now going to Broken Hill and Adelaide.

3820. As far as the mineral resources of that district are concerned, we may safely dismiss all thought of river-carriage as a means towards their development? Yes. If there were smelting works anywhere on the river, the river could be used; but there are not, and if there were smelting works on the river, they would not be in direct communication with the coal-field.

3821. The only way to make smelting possible on the river is by having a railway communicating with the coal-fields? Yes; and the natural line would be from Lithgow to Cobar and Wilcannia.

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James William Boulton, Superintendent of Public Watering Places and Artesian Boring, Department of Mines and Agriculture, sworn, and examined:—

3822. *Mr. Watson.*] You know the line of country through which the proposed railway is to pass between Cobar and Wilcannia? Yes.

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3823. During our recent visit of inspection the Committee were struck with the fact that although a chain of Government tanks had been put in from Cobar in the direction of Wilcannia, their construction had ceased at Bulla, 80 miles from Wilcannia,—can you give us any information in reference to that? I have not the papers in the Department, but the real reason for that is that between Bulla and Wilcannia, in nine seasons out of ten, there is a very fair natural water supply at Gunyulka and Poopelloe Lakes and the Talyawalka.

3824. Did I understand you to say that Poopelloe and the Talyawalka have water more frequently than not? Yes, that is the information. I remember that that was one of the reasons why it was not deemed an urgent matter when the tanks were constructed. The Department undertook the watering of that road, and made all the provision that they thought was necessary. Since then we were asked to resume that Coonavitra tank, but they wanted a very large sum for it. Then the survey of the railway seemed to indicate that there would be an alteration in the road, and that it would entirely avoid the Coonavitra. Then a further matter crept up, the alteration in the survey of the main traffic road, which is now to break off about 8 miles on the Wilcannia side of Jacob's Well, and run right up to Cultowa.

3825. How long ago was that diversion of the main road? Quite recently; so recently that we have only just got the Ministerial approval of the tank to go down between Jacob's Well and Cultowa. It is thought that they will make the route absolutely open in any season. We did not do anything between Coonavitra and Wilcannia, because of the railway. We thought the road would be deviated to follow the railway line. The railway is a considerable distance off the road, after you leave Coonavitra. The papers are with the local officer now, and I can only speak from memory.

3826. During their recent visit, the Committee travelled along a cleared road for many miles;—is it proposed to abandon it? Yes. About 8 miles from Jacob's Well there is a bend in the road, and it is from that bend that the road is to go. It will make the distance to Wilcannia considerably shorter.

3827. It is proposed now by the Lands Department that the main road shall follow a much more northerly course than has been the case hitherto? Yes. I understand it will be more direct too.

3828. Do you know whether that new road is as much subject to flooding as the old one? I think it will avoid a great deal of that Talyawalka country.

3829. You seem to be of opinion that the construction of another tank between Jacob's Well and Cultowa will be sufficient to serve the traffic? Yes; it will keep the road open then in any season, because the natural water on this road, from Jacob's Well to Wilcannia, is available for so many seasons. So they will really have the advantage of an alternative route there.

3830. The local evidence seems to point in the direction of Lake Poopelloe and the Talyawalka and Gunyulka having been dry for a considerable period. Yes, they have. They are outflows from the river. When the river reaches a decent height they get filled, but the river has not been much above summer-level for a long time, and those places have gone short.

3831. Have you been out from Wilcannia in a northerly or north-westerly direction in connection with Departmental work? Yes; I lived north of Wilcannia for fifteen years.

3832. In view of the convenience provided by your Department, which road would probably be adopted in order to get to Mount Browne, if there were railway termini at Wilcannia and Tarrawingie? The Wilcannia route, undoubtedly.

3833. Why? Because it is quicker and cheaper.

3834. Is it easier country? Yes; and you have such an objectionable coach journey from Tarrawingie to Mount Browne. You have the same from Wilcannia to Mount Browne; but it is a more direct route. Everybody would go that way to get from here to Mount Browne or Milparinka. Besides, for the goods traffic, it would be a tremendous advantage to be able to get to Wilcannia. We are shipping stuff now from the Department for a couple of bores on that road, and we have to send those things all the way round by Adelaide. They are transhipped from there on to the railway to go to Petersburg where the South Australian narrow-gauge rail system commences; then they have to be transhipped on to the narrow-gauge line, and to be handled at Tarrawingie again. If they could be put on the train at Sydney, one handling would be sufficient.

3835. As regards the ordinary transit of goods, the people would not care much whether they got them from Adelaide or Sydney, as long as they got the cheaper market? Of course not.

3836. Assuming that they had equal facilities for getting goods to Wilcannia and Broken Hill, do you think that a road to Wilcannia from Mount Browne and Milparinka is so much better watered and better drained that they would choose that route? I am sure that they would choose it; it is a far better route in every way, because out from Wilcannia, 9 miles, we have the tank called Mulga Valley Tank; then 18 miles out, the Dry Lake Tank; 32 miles out, the Beefwood Well; then beyond that, about 9 miles, is the Menamurtee Well; 11 miles beyond that is Tarella (Government) Tank; and 24 miles beyond that is the Peak Tank; then about 14 miles further, the J.K. Tank; then beyond Morden station is the Murleppa Tank; then you get the Paldrumata Bore; then Cobham Lake, practically a permanent water supply; then there is a very large waterhole beyond Cobham—the Coelly, and there is a place at Milring—a scakage; then you get to Milparinka, where there is a fine dam and Government well. From Milparinka to Tibooburra there is the Warratta Tank, and so it goes on right through to the border. You may say that we have water supplies, on the average, on that route 15 miles apart, *via* Milparinka. The other road—the road from Tarrawingie to the Queensland border—coming down from Milparinka breaks off

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at about Cobham Lake, 8 miles on the Wilcannia side, and comes down to the Wonominta waterhole and the Pack Saddle, Bencannia Lake, down through Fowler's Gap to Tarrawingie. That road is very badly watered naturally, and nothing has been done by the Government on that road. We are doing a little now. We are proposing to put a tank at Wonominta waterhole, and putting pumping gear in the bore at Pack Saddle. Beyond that, the only Government watering-place is at Sandy Creek bore. One or two persons have got private tanks on the road, and travellers have been able to get water; but there is no comparison between the accessibility of the two roads. It is all in favour of the Wilcannia route. The object we had in view was to do everything we could to bring the traffic to the railway centres of this Colony.

3837. In any case the drift of trade, from the early times, as far as Milparinka is concerned, has always been through Wilcannia? To a very large extent. Until the advent of the Broken Hill railway, the traffic used to go direct to Wilcannia and down to Hay; but the opening of that railway to Broken Hill and Tarrawingie took a certain amount of traffic to South Australia. One used to be able to get rations from there fairly cheap.

3838. During the last few years of drought, Wilcannia, with no river, has not been in a position to supply? No. When I was in that district I have known wool to be detained there for four years; and I have known flour to be £40 a ton in Wilcannia. Then the teams used to go down to Burra to get supplies up. It was only in extreme seasons that the trade came from Burra. Under natural conditions the trade came through Wilcannia.

3839. You think that, with the construction of a line to Wilcannia, the trade which has been partly taken from it would return that way? I think it would. To show what the effect of watering the roads has been, I may mention that a lot of trade has come in owing to the watering of the Milparinka and Wanaaring Road, that otherwise went to South Australia.

3840. So it would seem that, although the Bourke railway is a considerable distance from Mount Browne, even at present it has been able to compete to some extent with the railway to Broken Hill? Yes; and if you extend it to Wilcannia, you will still further attract traffic.

3841. Attract the trade at a much shorter angle? Yes. I am strongly in favour of this Wilcannia railway; I lived there so long, and know what the effect will be on the country. It will render life possible on the 10,000-acre blocks, where it is utterly impossible at present.

3842. From your acquaintance with the district and pastoral pursuits, do you think that the construction of the proposed railway would have any effect in regard to small pastoral settlement? I am sure of it. It is the land-carriage that kills the small man. We have had to pay as much as £7 to £10 a ton for getting our casing up.

3843. A man who requires a small quantity has to pay more than the man who requires a large quantity, and whatever disabilities would operate against a large owner would press with increased severity upon the small man? Yes. I am confident that if they had increased railway facilities, the operation of the 1884 Land Act, as regards the taking up of homestead leases, would have been a far greater success than it has been. There is no question that the western country is good pastoral country when we have good seasons, and it is one of the most healthy parts of the country for stock that you could possibly get; and, there is another thing, if facilities were given to pastoral people to get their stock away in time of drought, things would be very much better.

3844. The railway would do that? The railway would do that, and it would help them in other ways. They would then be able to get horse feed and other goods in the district at a fair rate, which they cannot do now.

3845. During the Committee's recent visit, they found that once you get off the river the number of homestead leases taken out of the resumed area is exceedingly small? Very small.

3846. I take it as your opinion that, if a railway were constructed, that part of the resumed area would, to a large extent, be availed of for homestead settlement? Yes.

3847. *Chairman.*] You were talking about trade being drawn towards Cobar by the railway from Cobar to Wilcannia;—do you think there would be any fear of that trade going by Wilcannia down the river to Adelaide? I hardly think so. There would be some risk of that, but the river is a very uncertain factor.

3848. You seem to think the great necessity for a railway is to make habitable that north-western part of the Colony? Yes.

WEDNESDAY, 25 OCTOBER, 1899.

Present:—

THE HON. WILLIAM JOSEPH TRICKETT (CHAIRMAN).

The Hon. ANDREW GARRAN, LL.D.  
WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

William John Hanna, Principal Assistant Engineer, Roads Branch, Department of Public Works, sworn, and examined:—

W. J. Hanna. 3849. *Chairman.*] Are you acquainted with this proposal to construct a railway from Cobar to Wilcannia? I have not made any special study of it, but I have a knowledge of the country.  
25 Oct., 1899. 3850. How long is it since you were there? About ten years.

3851. Starting at the Cobar end, what kind of country would you consider it in regard to railway construction? It is comparatively level; but it is a poor class of country.

3852. We want your evidence, particularly with regard to its suitability for railway purposes;—is it mostly red-soil country? Yes, and sandy.

3853. Do you think it would be suitable for what we now call our light lines of railway—railways without ballast? Yes, the greater part of it would be very suitable for light lines.

3854. The country is of an easy character for railway construction? Yes.

3855.



3855. Do you think it is sound country;—is there any fear of trains sinking into the ground? No, not very much. There would be in certain places, probably. Some of the black soil of the flats resembles the Talyawalka land in character; it may be a little treacherous.

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3856. Do you know the line of railway from Narrabri to Moree? I have not been up there for about fifteen years.

3857. Do you think this is a suitable class of country for laying a light line of railway? Yes.

3858. As far as your knowledge goes, would there be many viaducts to construct on this line? There would be at the Wilcannia end for 8 or 10 miles; but there would be nothing of any magnitude on the other portion.

3859. When you get towards Wilcannia, about 10 miles on the Cobar side, then the trouble begins? Yes.

3860. I believe you have some knowledge of that country in regard to building crossings? Yes.

3861. Will you tell us about that? About the only difficulty that we have experienced there was in connection with the sinking of some of the piers of a bridge in the Talyawalka embankment. That was due to two causes—I think first, the surface scour, which, as a rule, is easily checked; the second cause is more difficult and dangerous—that is, that after long droughts the ground opens, large cracks are formed, and when the flood-water comes down it finds its way into the cracks and in some places converts what before was ground as hard as a brick into a soft mass. I think that was the chief cause of the subsidence that we had in one of the Talyawalka bridges.

3862. Were those wooden bridges? Yes; the ordinary plain beam bridges, with three pile piers.

3863. Did you drive the piers down to a great depth? The driving was about 15 feet. I built only one of the bridges.

3864. Did the one that you built stand? Yes; but it was not in such a trying position as the one that gave way. The one the piers of which sank was a bridge over one of the principal water-courses. The one I built was over a shallow water-course, where the water had more spread, and the current was not so much concentrated.

3865. Do you think the difficulties there are so great that it would very largely increase the cost of railway viaducts? No, I do not think so.

3866. How would you avoid that softening of the surface about the pier? I do not think it could be avoided.

3867. The piers would have to be of a very substantial character in a place like that? Not necessarily so. I should think piles would be as good in that ground as concrete—they are so much lighter.

3868. You do not think it will be necessary to go in there for big concrete piers to cross the Talyawalka Creek? I do not think so.

3869. A strong wooden bridge is all that would be required? Yes. I do not think it would be necessary to take much more than ordinary precaution, because this was the only bad case that we had, and it was not a very serious matter.

3870. This broken country extends for about 10 miles on the Cobar side of Wilcannia? Yes, from 8 to 10 miles.

3871. It has been suggested that possibly the railway, made with the view of saving expense, may stop 10 miles short of Wilcannia;—do you think that would suit the purposes of the traffic, or would it not be really avoiding the very part where you want to get over the rough country in bad weather? I do not think it would be allowed to remain there.

3872. If the work is carried out, you would not advocate that the railway should stop short of Wilcannia? No; certainly not. The township is on the opposite side of the river to Cobar. It would not be advisable to go right into the town. There is a very good site for the terminus on the opposite side of the river, a sandy rise, which would be found suitable for railway buildings.

3873. I suppose the road from Cobar to Wilcannia is really only a bush road? That is all. The only money we have spent upon it has been in clearing, with the exception of that portion which crosses Talyawalka Creek, about 8 miles.

3874. It is not in contemplation to form and metal that road? No; there is not sufficient traffic to justify such an expenditure.

3875. So I suppose that for many years to come it will be left as at present, a kind of bush track, or railway communication may be provided for that part of the country? Yes.

3876. It would be almost absurd to attempt to form the road? The traffic would never justify it.

3877. How much a mile is spent on this class of road? It varies very much according to the amount of the traffic on the road—probably from £3 to £5 per mile.

3878. You are pretty well acquainted, are you not, with that part of the country? Yes; fairly well.

3879. Have you formed any opinion as to whether railway construction would be advisable or not in the interests of that part of the country, also whether it is likely to bring in a fair return to the State? I do not think it would pay now.

3880. What do you mean by "now"? It is too late. If the line had been constructed before such good communication was established with South Australia probably the traffic might have been retained by New South Wales.

3881. You are speaking now of a line to Broken Hill? No; only of a line to Wilcannia. Business arrangements are so complete now that I do not think it would be possible to divert the traffic which is now going to South Australia. The small amount of traffic that would remain for the line from Cobar to Wilcannia would not give anything like a fair return on the cost of construction.

3882. I suppose you are aware that White Cliffs is likely to develop into a large mining centre? Yes.

3883. That part of the country will have a considerable future owing to the minerals it contains;—do you think that if a line were constructed to Wilcannia the trade would come by way of Wilcannia and Cobar to Sydney? Probably it would, but that would depend very largely on the freight to Sydney as compared with that from Broken Hill to South Australia. Ore is carried very cheaply to South Australia.

3884. You think they would send it the cheapest way? Most decidedly.

3885. You assert that trade relations are very strong with South Australia;—do you say that from actual knowledge, or from hearsay? I was about seven years at Wilcannia and Broken Hill, and I am giving my own opinion from personal observation.

3886.

- W. J. Hanna. 3886. You think that that part of the Colony is estranged from New South Wales? I think it is too late now to divert the traffic.
- 25 Oct., 1899. 3887. *Dr. Garran.*] I understand that you have metalled a portion of the road over the Talyawalka flat? Yes.
3888. Have you had any flood over it since you made that piece of road? Yes.
3889. A strong flood? We had one that went right over the embankment.
3890. Did it do any damage to your road? Yes; but not so much as I anticipated.
3891. What was the nature of the damage? It cut through the embankment in one or two places, washing away part of it.
3892. How high was your embankment? I should say from 7 to 9 feet.
3893. If the coaches drive on that road when the water is still over it, they will have to be very careful to keep on that bank? They would not go over the embankment; it would not be safe.
3894. I understand that one might almost drive a coach over when the water is up? No; it would be too risky. When the water was over the embankment it would be soft, and they might come upon a place where it would give way.
3895. Is there a pretty rapid current? Not a very rapid current—a current of about 3 miles an hour.
3896. Suppose the embankment had been lower, would it not have been safer? I do not know that it would.
3897. Supposing it had been only 2 feet above the ordinary level? The damage would have been less; but I do not think it would have been less in proportion.
3898. How many days was the water over your road? It must have been a week. I am alluding to the exceptionally high flood that did so much damage in Bourke in 1890.
3899. It would not do to make the railway as low as your road? No.
3900. The railway works must be carried higher than that? Yes, if you want to keep them dry, and keep the railway running at all times.
3901. It is quite impossible to lay a railway on the surface, and take your chance of its being safe? It is not impossible, but would be risky; there would be a good deal of repairing required, which would probably amount to relaying after each heavy flood. Still it is worth considering, in the event of a railway being constructed there, whether it would not be advisable to take that risk, as the extraordinary floods occur so seldom.
3902. It is a question of the cost of repairs after the construction of the line? Yes.
3903. If the railway did take the surface level it would probably be shut up for several weeks in the case of a big flood? Yes.
3904. There is no other way of avoiding the expense of crossing this 7 miles of bad country unless you take the risk of a surface line? No other way; it would require a viaduct across the greater part of that length.
3905. Even in the case of a common road, you have raised the banks 7 feet? Yes, we have. The total distance is about 8 miles. We have only constructed an embankment about half-way across. It was started at first with a view of getting over the worst creeks and deepest water, and then gradually extending it.
3906. None of it has sunk owing to the softness of the ground? No.
3907. Have you any pile-driving? Yes; the bridges in that embankment are all on driven piles.
3908. Do the piles stand well? Yes, except in the instances I have mentioned.
3909. As far as you have gone you have gained a little experience as to what the railway works there would have to be? Yes.

THURSDAY, 26 OCTOBER, 1899.

Present:—

THE HON. WILLIAM JOSEPH TRICKETT (CHAIRMAN).

The Hon. ANDREW GARRAN, LL.D.  
WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

William John Hanna, Principal Assistant Engineer, Roads Branch, Department of Public Works, sworn, and further examined:—

- W. J. Hanna. 3910. *Mr. Watson.*] Were you in charge of the Wilcannia Road District when some of those bridges were placed in position? Yes.
- 26 Oct., 1899. 3911. How long were you there after the road bridges were erected? From memory, I may say that only one was erected during my term at Wilcannia, and I do not know that any have been erected since.
3912. When Mr. Dick and I went over the projected route from Wilcannia towards Talyawalka Creek, 8 or 9 miles according to the railway survey, we saw several bridges—I think nearly half a dozen of them? Yes.
3913. Were they all erected in your time? No, only one. The one on the Cobar or eastern side, the longest one, I think.
3914. Had any of those bridges sunk whilst you were there through the erosion of the soil round the piles? Yes; two or three settlements had taken place, but not anything serious had occurred. The bridge you probably saw went down after I left. I think the pier must have sunk about 4 feet.
3915. Around quite a number of the piles, or sections of piles, supporting the bridges, we noticed that the soil had been scooped out by the action of the flood-waters, to a depth, in some cases, of 5 or 6 feet, and in other cases to a greater depth? Yes.
3916. With the apparent result of leaving the bridges much less safe than they otherwise would be? Quite so.
3917. Do you know whether any precautions are to be taken to prevent that in regard to future bridges in that locality? The precaution we take in a case of that kind is to surround the pier with stones, which check the current striking the piles. It is the eddy produced by the current striking the piles that stirs up the earth, which is very fine, and carries it away.
3918. Is that an expensive operation? No; it is inexpensive.
- 3919.

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3919. And it is quite sufficient to keep the pile from being undermined? In most cases it is.
3920. Then further along towards Wilcannia we find certain portions of the road consisting of a metal track laid level with the surrounding country, and liable to be flooded? Yes.
3921. That was some distance after we passed the embankment;—there we were informed there had been a soaking away of the black soil from under the metal, letting it settle below the surface of the surrounding country, and it afterwards had to be made up again? I did not think the surface would wash away from underneath the metal; but I should not have been surprised to have heard that it had scoured on the down stream side. If it occurred in that way I should think it was due to the water getting into the cracks which I described yesterday, and carrying a portion of the soil away in that way.
3922. It seems that the Talyawalka Creek about there consists of quite a number of channels, any one of which might be looked upon as the main one? The Talyawalka Creek itself is the main channel, and the others are overflow channels. There are several of them.
3923. Do you know of any method by which the extent of flooded country to be crossed could be reduced—I mean any other track which would give us a chance of reaching Wilcannia without crossing so much flooded country? I do not think there is any place where you would get a narrower crossing than at the site of the present road.
3924. The railway follows the Ivanhoe-road during the last 10 miles? Yes; the Cobar-road joins the Ivanhoe-road about 8 miles from Wilcannia. The reason for that was that the extensive works necessary between the high ground and Wilcannia should be common to both roads.
3925. The railway is to cross the Talyawalka Creek to Wilcannia, at about the same place? Yes; the length will be practically the same, I should think.
3926. And you think that that is about the best possible place that we could get? I am certain about that.
3927. There are a number of small sandhills taken advantage of by the railway surveys? Yes; and the road also takes advantage of those sandhills.
3928. It seems that any viaduct for railway purposes would require stones to be put round the piles to safeguard them? Yes, to check the eddy; either that or sheathing.
3929. It is proposed in this scheme to run an embankment for some  $3\frac{1}{2}$  miles of that last 8 or 9 miles to the river? That would be about half the distance.
3930. Hardly half? I should think it would hardly be safe.
3931. You think it would require more viaducts? I think so.
3932. After that 8 miles between the high ground on the eastern side of the Talyawalka Creek and the Darling River there is to be  $2\frac{1}{2}$  miles of ordinary construction and 3 miles of embankment, leaving only  $2\frac{1}{2}$  miles as a viaduct;—do you think that would be sufficient? I do not think it would.
3933. Has your experience been that the floods have occasionally run over embankments that you have constructed? Only once; that was in 1890—the flood that did so much damage at Bourke.
3934. For a considerable portion of the route you had no embankment? None, I think, on about two-thirds of it. When the water was running over the bank it seemed to me about 4 to 6 inches higher on the upper side than on the lower side. There was, in places, a strong current over the bank.
3935. Then, if your embankment had been constructed the whole distance, with the exception of openings or bridges, the water would have been a good deal higher than the 6 inches you speak of? Undoubtedly.
3936. Do you think it is probable, then, that more than  $2\frac{1}{2}$  miles of opening would be required? I certainly think so.
3937. Or else they would probably have the line below water level in a bad flood? Yes.
3938. It would seem to be almost as good to make no attempt to get above the high-water level as to only do it in a partial way? A flood like that of 1890, I think, should be provided for.
3939. If an attempt is to be made to get above high-water mark it must be above the 1890 flood-level? Yes.
3940. And that would probably require more viaducts or openings than are at present provided for? That is my opinion.
3941. The alternative is not to attempt to make any banks to carry the railway on, with the certainty of having water over it in flood time? Yes.
3942. *Mr. Dick.*] Is it a difficult or expensive matter to maintain that 8 or 9 miles of road across the Talyawalka area once the road is formed? I do not think so. I should say that the cost of maintenance would be rather below the average, the climate being so dry.
3943. Owing to the fact that it is very seldom flooded? Yes.
3944. Could that road be put into a condition to carry a heavy and continuous traffic which might be brought by a railway terminating just outside the Talyawalka flooded area, without much expense? The whole of the flat is under water in flood time, from the dry ground right into Wilcannia, with the exception of the sand-hills.
3945. Would it be an expensive matter to put the road in that condition? It would be rather an expensive matter, inasmuch as a larger number of flood openings would have to be provided than we have provided in the existing embankments—that is, in proportion to the length.
3946. Would that necessitate the carrying of the embankment right through to the bank of the river at Wilcannia? Yes; with the exception of the sand-hill.
3947. That would be necessary only if you desire to keep your road above flood-level, would it not? Yes.
3948. Suppose we left the road at its present level, and during a time of flood carried passengers by boat from the station or somewhere outside the Talyawalka area, would any material inconvenience be felt by the people of the district from such an arrangement? It would have the effect of stopping all traffic except the passenger traffic, but at such times all heavy traffic is carried by the river.
3949. How would the construction of a road above the flood-level compare with that of a viaduct and an embankment to carry the railway, both as regards original cost and the cost of maintenance? In this case I should say there would be very little difference between the cost of construction, or the difference would be comparatively small.
3950. Then, if it is deemed advisable to take the railway to within 9 miles of Wilcannia from that point of view it will be desirable to construct it right up to the river bank? Yes, most decidedly.

John Harper, Chief Traffic Manager, Department of Railways, sworn, and further examined:—

- J. Harper. 3951. *Chairman.*] When you were examined on the 5th of April last, you gave a statement of the probable traffic that would accrue to the line between Cobar and Wilcannia, if constructed? Yes.
- 26 Oct., 1899. 3952. In that statement, which you were afterwards examined upon, you seemed to have gone carefully into the probable inward and outward traffic; but have you taken into consideration in that estimate any indirect earnings that would accrue to the general line of railways? No; I have given simply the sectional earnings of the line.
3953. Have you gone into that question since? It was mentioned to me that I was to be questioned on it, and I shall be glad to answer any questions about it. No one could tell what the profit for the main line would be out of that traffic.
3954. Admitting that your figures were correct, and that the direct result of the construction of this railway for that particular length would be an income amounting to £6,812 16s. 8d. a year, would it not be possible to say, if the bulk of that traffic came on to Sydney, what profit would accrue to the main line? We do not know what is the net profit of any particular items on the main line. We cannot tell what profit there is on passenger traffic separately from the goods traffic.
3955. But would not the main line benefit considerably if an additional amount of traffic came on to it? Yes, on some of the items. "Considerably" is rather a comprehensive word. The main line would benefit by any new traffic that found its way on to it.
3956. What you mean is that unless you could positively say that this traffic on any portion of it was certain to come to the railway that does not now come to it, you could not say that the main line would be benefited? It would depend upon the conditions under which it was given to us, and upon the class of traffic. If it were carried at a half-penny or three farthings a ton per mile we should make no profit out of it. The trucks would probably have to be hauled back empty between Wilcannia and Cobar. With such a low grade traffic as produce there would be no profit at all.
3957. The intermediate traffic would be infinitesimal? Yes, except during the wool season. There would be a profit; but the difficulty is to tell you what the profit would be.
3958. You could not give us any indication as to the amount? No, it would depend upon where the traffic was hauled from. Naturally wool would be hauled to Sydney. Produce might be hauled from Dubbo, Narramine, Orange, or Sydney.
3959. Would what you say apply to the passenger item? It would apply to that too. As a matter of fact, probably a good deal of that passenger traffic would be absolutely local, confined to the line between Wilcannia and Cobar.
3960. Witnesses have told us that the road is now so objectionable with the two nights which have to be spent in the coach, that people often go round by Broken Hill to Sydney? I should imagine that if their interests lie to a certain extent in that direction, they would continue to go that way. They have a much shorter coach journey to Adelaide.
3961. With regard to additional earnings by means of passengers, this position presents itself: suppose you did not have to put on any additional carriages to accommodate passengers from Cobar to Sydney to bring on the passengers that were conveyed from Wilcannia to Cobar and back, then would not the earnings of the railway be increased to that extent? My difficulty is in telling you what proportion of passengers would avail themselves of the line. It would be a guess as to what the passenger traffic is likely to be on that line.
3962. Has not the experience been that where these lines have been extended to such places as Cobar and Bourke, the passenger traffic has become a very large item? You mean the passenger "travel." Of course it has increased, but the greater distance you get away the less proportion there is of "travel," on account of the higher fares preventing people from travelling so frequently.
3963. Since you were examined we have had some experts in mining matters here, and Mr. Pittman has furnished us with a map showing that in that district between White Cliffs and Tibooburra there is a considerable stretch of mineral country, comprising large copper and silver deposits;—have you, in your estimate of probable traffic, looked at the possibility of there being a large population there that would give you a passenger traffic? My impression of that district is that its traffic will inevitably go to Tarrawingie or Broken Hill. That route has the advantage of a shorter railway distance, and the difference in road-travelling is not so great as to counterbalance that. As a matter of fact, the trade finds its way by that route now.
3964. If it came into Wilcannia, do you think that the minerals to be treated would be likely to come by way of Cobar, or to go down the river to Port Pirie? Of course, I do not know the nature of the minerals in that district, or whether it would pay to carry them over such a long land route. I should not think the traffic would ever assume a very large volume. If the developments were of such a character as to warrant the minerals being carried over that distance, and there were a great quantity of them, there would be a development in the shape of a railway.
3965. Supposing a second Cobar were to break out a little to the north of White Cliffs, do you think that would be a good thing for the railway? Its position would not be so favourable as Cobar, because you would have the added distance, and I imagine that under Federation the better route for these people would be by an extension from Tarrawingie.
3966. *Mr. Watson.*] They say they cannot get to a coal-field that way? At Port Pirie they can treat all the ores from Broken Hill. It would be a greater distance to Eskbank than to Port Pirie, and the sea-freight added would not represent anything like the difference in mileage. I think it is 52 miles from White Cliffs to Wilcannia. The place is 576 miles from the coal supply. Then Port Pirie is 253 miles from Broken Hill, Tarrawingie is 42 miles, that makes 295 miles, and another 100 miles to Adelaide, making 395 miles, as against 576 miles.
3967. Would there not be considerably more handling if the ore went down to Port Pirie? Assuming that the narrow gauge were extended to Tarrawingie, there would practically be no handling at all. The stuff would go through on narrow-gauge trucks.
3968. I suppose you will admit that the renewal of working at the Cobar Copper-mine has made a great addition to the railway traffic? Yes, in more ways than one; because that and the development of gold-mining have added so much to the population; and whilst we derive a large revenue from the carriage of ores and coal, we also derive a much more profitable revenue from the carriage of supplies for those engaged there. But at Cobar we have the whole business; there is no guarantee that we should have the business, so far as supplies are concerned, at either Wilcannia or White Cliffs. 3969.

3969. Do you know what tonnage of coal goes from Lithgow to Cobar? No; but I could get it for you.
3970. I suppose it would be a considerable item? Yes. A lot goes from Rix's Creek in the north also, which clearly shows that the western coal does not represent all that they want at Cobar. I will get a return showing the quantity of coal the company carry to Cobar, and the quantity of matte sent to Eskbank.
3971. I understand you to say that, in addition to the river, you think that the tramway at Tarrawingie is also a serious competitor for any traffic north of Wilcannia? Yes; for any traffic north and north-west of Wilcannia.
3972. The Tarrawingie tramway would not be a competitor for minerals unless it were extended to the field? No. I can scarcely conceive that large quantities of ore will be carried to that point.
3973. We have been told that if the railway line were taken to Wilcannia they would make a tramway to connect the mineral field with the railway? Yes; I daresay you have often heard of these projected schemes. I do not know that they could make a tramway there that would pay.
3974. *Chairman.*] Have you given any attention to the idea of making these light railways of lighter and cheaper material than they are made of at present? The only experience we have had is what we call our pioneer lines.
3975. Do you think we could go further in that direction? I do not. The Condobolin line is a line without ballast, and, as regards that line, we are limited to three classes of engines. We have to haul considerably less loads than we haul on the main line.
3976. Sixty-pound rails are provided for on this line;—are they the lightest that you would recommend? I should not advise that we should have lighter rails, and you require plenty of sleepers under the rails if you are not going to use ballast.
3977. As regards this western country, do you not think that, with the advantages of better communication, having the grand soil that there is there, and with anything like a rainfall, there would be inducements for people to go out there and settle on blocks of (say) 20,000 acres? Unfortunately the rainfall is not there, and that is a thing we cannot provide for. I do not know what they could produce out there, unless it is wool, and the rate for wool is a cheap one.
3978. Has this opinion always prevailed since you recommended the line to Cobar;—have you always held the view that that part of the country would not pay for a railway? Personally, I have always entertained that view.
3979. But has not Cobar been a surprise to you? Yes, I must confess that it has; but the circumstances of Cobar are vastly different from those of Wilcannia. Cobar was practically in the middle of our railway system. They had not the advantage of a river there. Wilcannia has a river, and it has the advantage of the Tarrawingie line.
3980. You are aware now that Federation will probably be accomplished within a reasonable time; do you think that the prospects of a railway to the Darling at Wilcannia are better now since Federation is likely to come about than they were before? I should think they would be, because, assuming that such improvements are not made in the river as will provide for the trade of Wilcannia, then I think in all fairness the question should be faced (if it is necessary to give railway communication) as to which is the better point to give railway communication from. Naturally, one would say, looking at the thing fairly, and dismissing the provincial aspect of it, that a South Australian connection would be the better one.
3981. I suppose you recognise that, to get to this part of our colonies, it is necessary to have railway communication or to leave the roads almost in a state of nature, there being no middle course? I do not think much can be done with the roads.
3982. *Dr. Garran.*] When you are making a railway to a new inland township, and tapping a new centre of traffic, does the analysis of your figures enable you to form a fair conjecture as to what the passenger traffic per 1,000 of the inhabitants is likely to be? Yes, for this reason: that we take districts similarly situated on existing lines of railway, and we compare the "travel" per head of population. Of course, where they are as distant as Wilcannia, you require to discount the settlers who are nearer, by reason of the higher fare which would exist between the termination of the projected railway and the big centres of population.
3983. We are told that Wilcannia has a population of 1,000, and that White Cliffs lying behind it has a population of 2,000; that gives a population of 3,000;—could you form a conjecture as to what passenger traffic the line to Wilcannia would throw on to the Cobar line? £2,000 per annum was the estimate both ways.
3984. That is not a guess, but it is based on an analysis of existing figures? Yes. Where we can get anything like a comparison we do so. In this case it is especially difficult, because you have on one side Broken Hill, a competitor for the passenger traffic, and you have the great distance from the centres of population.
3985. You put down the amount at £2,000—that is to say, that each passenger will spend £1 on that section of the line? Yes.
3986. Have you based that £2,000 on the population of Wilcannia and the surrounding district? Yes.
3987. The Cobar traffic is practically a monopoly for the railway at present? It is, absolutely.
3988. But if you go to Wilcannia you will not have a monopoly there? No; we shall have competition from the districts around Wilcannia, both from the river and the Broken Hill railway.
3989. The Tarrawingie railway and the river would be competitors? Yes.
3990. So you would not get the same relative proportion of traffic that you would at Cobar? No; we could not expect it.
3991. The reason why Cobar has been such a success is the mineral development? Yes.
3992. If it had been a purely pastoral township, would the line have paid? Certainly not. I think I can give you the result of the pastoral industry of Cobar. We have 6,000 bales of wool from there—that is, about 1,000 tons. From that wool we derive a revenue over the whole line through to Sydney of about £6,000, and the Cobar proportion of it would be about £450.
3993. Have you got a purely pastoral township on your list which would give us the traffic to be expected from a purely pastoral place? Moree is a purely pastoral district; but it differs very materially from Wilcannia.
3994. Hay is a purely pastoral district, is it not? Yes.
3995. But you have competitors there? Yes.

- J. Harper. 3996. Suppose that you had no competitors, would the pastoral traffic at Hay pay for that line? It would not.
- 26 Oct., 1899. 3997. Not if you got the whole of it? No.
3998. Bourke is not a fair district to compare? No; it has a lot of Queensland traffic.
3999. Now that the Government has bought the Tarrawingie railway, I should gather from your remarks that under Federation it would be to our interest to extend that line northerly into the mineral district? I think it is a fair thing to assume that it could be done.
4000. Would it not be a better speculation to do that than to make the Cobar to Wilcannia line, under the idea that we could bring that mineral traffic to Sydney? Yes.
4001. If the Government decided to make a railway to that mineral district, supposing that there are good mines at Nuntherungie and Mount Browne, it would be more our policy to make it from Tarrawingie than from Cobar? Yes. There would be more profit for the Government from haulage over this section of the line to the border, and I am quite sure it would be more economical, and tend more to the development of the mines.
4002. That is to say, it would suit the mineral industry better, and it would suit the finances of this Colony better? Yes.
4003. The attempt to bring the traffic by Cobar is an unnatural attempt to take it to a more distant port? It is forcing the traffic out of its natural channel.
4004. To carry it over the Blue Mountains to a more distant port? Yes.
4005. Then, looking at the imminence of Federation, and the probability that as soon as that is accomplished the railways in the district on the Darling, or near the Darling, will be made in the interests of the district, if not in the interests of Sydney, you think we had better wait before we commit ourselves to an expenditure of £500,000? That is my view—precisely the same view that I expressed in connection with the river when giving evidence in reference to the locking of the Darling.
4006. If we spend half a million in making a railway there, we cannot get the money back again? No; and if the Federal authorities decide to improve the navigation of the river, there will be practically no traffic for the railway.
4007. Suppose we made the railway, and the mineral district developed well, and the people there should wish to be connected with the Darling or with Tarrawingie, would not their wish govern the policy of the country? It would go a long way.
4008. We should then have that railway on our hands? I suppose that is what would occur.
4009. I understand your figures to mean that this line promises a loss of £20,000 a year? That is it.
4010. Would that be a serious loss just now? Yes.
4011. Hitherto we have always looked upon our railway extensions with a view to a metropolitan connection; two years hence this will be looked at by people, not merely identified with Sydney, but from a broader and more Australian point of view? I hope so, if the true Federal spirit is going to exist.
4012. And the interests to be conserved will be primarily considered? Yes.
4013. Even supposing we continue to make our railway in each Colony the Federal influence will count for a great deal? Yes.
4014. Have you given any attention to the question of the quantity of food necessary to sustain a starving sheep twelve months? No; I do not know that anyone has absolutely tried it. You can sustain sheep on very much less than is required to keep them in health and strength.
4015. I think we had a witness who said that it would require 4 lb. of food per day? That is wrong. In most districts you can feed a sheep at a cost of 6d. a week.
4016. In answer to question 549, you say, "We have carried 27,000 tons of fodder for starving stock this year,"—you have no notion of the number of sheep that were provided for? No.
4017. Then you have no figures that would give you any information as to how much it would cost to keep a flock of sheep alive during a drought? No; circumstances differ so much, and the character of the sheep differs so much.
4018. On the whole, I gather that on mature reflection your view with regard to this line is that the best policy for the country is delay? Yes, I think so.
4019. Looking at it from a railway point of view? Yes.
4020. Suppose local interests are conserved by improving the river, or making a railway to Broken Hill, that is a different question? Yes.
4021. But looking at our railway interests, do you think we ought not to be rushed into an expenditure of half a million? That is precisely what I think.
4022. *Mr. Watson.*] From that estimate of a loss of £20,000 a year, in connection with this proposed railway, you have to subtract whatever accrues as profit to the main line out of that new traffic? Yes.
4023. For 1,000 tons of wool which you estimate to come from Wilcannia the main line would get by far the greater portion of the receipts, would it not? Yes.
4024. The local line is to get £650 for wool? Yes.
4025. We were informed at Wilcannia that they could afford to pay £3 5s. for railway carriage to Sydney for wool; on that basis there would be between £2,000 and £3,000 accruing on that? Yes, the gross amount.
4026. You put down fat stock at 600 trucks, which would come towards Sydney? Yes.
4027. The proportion of the price that you put down to the local line is 29s. 8d. per truck, whereas the charge to Sydney is £10 2s. 9d.? Yes.
4028. That would be over £6,000 from that item altogether? A little over £5,000.
4029. You have not formed any estimate of the number of passengers that would travel through? No, I could not.
4030. It would be fair to assume that a much greater number would travel to Sydney by rail than by the coach and the railway? I should think so.
4031. At present the single fare from Wilcannia to Sydney is £7 1s. 6d. by coach and rail, whilst the return fare is £12 14s. 6d.; we may assume, therefore, that there would be a large increase in the number of passengers on that particular route? That is to say, including all who want to travel.
4032. Unfortunately, there being three ways of reaching Wilcannia by coach, the traffic is so distributed that it is difficult to ascertain the number of passengers? Yes; and even then you have a deal of local traffic—people travelling to stations or to Bourke.
4033. The three lines seem to be about equally distasteful to people who travel by them, with the exception

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exception that the one to Broken Hill offers a smaller coach journey to civilization, and for that reason is often taken; but we have a right to assume that most of the passengers would prefer, if they wanted to reach the seaboard, to come to Cobar by railway instead of going to Broken Hill or Tarrawingie without a railway? That would depend upon their ability to pay. I am committed to that estimate of 2,000 passengers.

4034. Would it be safe to say that half of those passengers would come through to Sydney? I should not think so. A thousand passengers would be three passengers every day. I do not think the population there would give that number of passengers.

4035. The miners from White Cliffs would want to travel to Sydney? Not more than once or twice a year.

4036. Is there not more travelling amongst mining population than amongst farming population? There is.

4037. At any rate, a fair amount would accrue to the main line from the passenger traffic in addition to what has been stated? Yes.

4038. With regard to the 6,000 tons of goods, was that an estimate of goods required for supplies on the field? It principally represents forage, bran, and flour. We could not look at the goods; they could carry them from Broken Hill and beat us.

4039. They cannot beat you from Broken Hill? I would not like to say they could not. The rates that operate on the river have not been brought into competition with the railway. They have the Darling trade already on their line.

4040. The river people have had competition amongst themselves locally? Yes; but the South Australian people are so satisfied to secure the trade of the Darling by the river that their rebates are aimed at river-borne traffic. If there is any possibility of their losing the traffic they will extend their rebate system to rail-borne traffic to Broken Hill.

4041. From information which the Committee gathered at Wilcannia and on the river, there does not seem any possibility of bridging the distance between Wilcannia and Broken Hill unless by the construction of a railway, so as to compete with this railway to Wilcannia? We should have to charge £10 a ton for ordinary merchandise, and to-day they are delivering goods at Broken Hill at something like £2 4s. 6d. a ton. They are carrying goods from Broken Hill to White Cliffs, 150 miles, at £3 10s. a ton.

4042. They have to employ camels? The rates have gone up everywhere where they employ camels. Our rate, even if they had six truck-loads, would have to be nearly £8 a ton for truck loads of 6 tons. There is a margin between that rate and the other of £4 10s., available for road carriage.

4043. That is, taking it as delivered at Broken Hill? At Wilcannia. If the goods are carried at £3 10s. a ton from Broken Hill to White Cliffs—a distance of 140 miles—there is nothing to prevent them from being delivered at £3 10s. a ton at Wilcannia from Broken Hill.

4044. The evidence was that there were no such charges possible between those points by road; but that, of course, if a railway were constructed the rates would be lower? My information was obtained from contracts that have been made at the rates mentioned. I do not know whether that rate for the Kallara wool was contradicted at Wilcannia; but I am in a position to prove it. It is 50s. a ton. That shows what the rate can be.

4045. That 50s. a ton is by river? Yes.

4046. But we are speaking about road-carriage? I mention that to show that the information I have about the road-carriage is probably as reliable as the information that I had about the river-carriage. I had a conversation with you the other day about the stock estimate. They can truck their stock through for Broken Hill for £6 5s. 3d. per truck. Our rate is £10 2s. 9d.—a difference of nearly a shilling per head of sheep.

4047. They would have 150 miles of travelling? The stock are not all produced in the neighbourhood of Wilcannia.

4048. Once you leave the river you get away from the fattening country? Anything on the river would find its way to Bourke; it would not come down to Wilcannia.

4049. Do you mean that they would go by river from Wilcannia to Bourke? Not from Wilcannia. Most of the best country lies to the north of Louth, not below Louth; and anything at Louth would go through Cobar or Bourke.

4050. The evidence given to us all down the river was that you do not get into poorer country till you got some distance below Wilcannia, towards Menindie? The rent of the runs would indicate pretty well where the best country is.

4051. In any case people reasonably near a railway with fat stock will go to that railway rather than go the same distance by road? Yes; if the road is not favourable.

4052. But the road can hardly ever be very favourable for travelling fat stock, as compared with the railway? There are times in that country when stock will fatten while travelling.

4053. Is it not an advantage, from a butcher's point of view, to have sheep or any other kind of stock ready for killing as soon as they are fat? Yes.

4054. They do not want to fatten them off and on again? But, on the other hand, it is better to have them carried 300 miles than 600 miles by rail. The shorter the time they are in transit, and the lower freight, would operate in favour of Adelaide as the stock market for that district.

4055. Would it be a lower freight? Yes; it is £6 5s. 2d.

4056. That is after travelling to Broken Hill by road? Yes; and they would have to travel to Wilcannia by road. There would be no extensive production of fat stock anywhere within 50 miles of Wilcannia, because the country is not suitable for fattening purposes.

4057. Can you tell us roughly what proportion would represent, on the traffic we have mentioned, the profits the main line would get? I could not do that.

4058. I mean roughly? Not even roughly. It would depend on the conditions under which it was carried. If our waggons balanced—if we had loading in either direction—the profits would naturally be greater.

4059. A good deal of the country which the Committee travelled over between Cobar and Wilcannia seemed of very fair quality, and a large proportion of it has resumed areas open for settlement? Yes.

4060. It was stated in evidence that if a railway were constructed, the smaller pastoralists might be willing to take up those resumed areas, because then they would not only be able to get supplies more cheaply,

- J. Harper. cheaply, and to get their wool away more easily, but they would have an outlet for fat stock;—any traffic of that description would be largely in addition to what you have estimated? Any that came to us. I was going to mention the case of a district which was thrown open for homestead settlement, where the conditions were fairly favourable—that is to say, they were within a comparatively easy distance of a railway. It was between Byrock and Brewarrina. I think that there are very few homestead leases in that district now, and there is no comparison between that country and the country between Cobar and Wilcannia. I would rather have 1 acre there than 10 acres at Wilcannia.
- 26 Oct., 1899. 4061. *Mr. Dick.*] How much wool now goes past Bourke down to Adelaide or Melbourne? No wool goes past Bourke.
4062. The policy now pursued by you attracts to the railway the wool from half-way to Wilcannia, and practically all towards the east of the Paroo River? Yes.
4063. Do you think the construction of a railway from Cobar to Wilcannia and the adoption of the same policy which has been pursued at Bourke would lead to practically the same results, namely, that wool for some distance below Wilcannia, and from the direction of Mount Browne, Milparinka, Tibooburra, and all other places, would all concentrate at Wilcannia for carriage to Sydney? No, I do not.
4064. Will you indicate why you think a different result would follow in places apparently so similar? For this reason: as far as Dunlop and Toorale stations are concerned, the owners have large interests in New South Wales. We make a contract which includes those two clips of wool in connection with other clips, and the business of the owners is concentrated in Sydney; but there is no inducement to send any of the clips below Dunlop and Toorale to Sydney. Winbar and Kallara have been quoted better terms than Dunlop and Toorale, but they will not bring us their wool.
4065. Are there not some stations south of Bourke that have not those special conditions attaching to them, and whose wool still goes to Sydney? The wool from the intermediate districts between Dunlop, Toorale, and Bourke comes to Sydney by reason of the fact that they find it difficult, in consequence of our having the Toorale wool, to get freight down the river. They are practically compelled to come to us.
4066. From what we gathered on the river, there seems to be no dearth of steamer competition, the steamers are numerous, and the business hardly pays? They have had bad seasons, and competition is keener to Wilcannia than it is above Wilcannia.
4067. Considering that the railway, if constructed, would undoubtedly deprive the steamers of all their present traffic in the way of fodder, would the railway be able to successfully compete with the steamers for that wool at £3 a ton? I should not like to say that we could successfully compete at £3 a ton. Even assuming that we were in a position to do it, I do not think it would be a good thing to charge £1 a ton less from Wilcannia than from Bourke, and less than we charge from Cobar. Then there is another phase of the matter to be looked at. A great deal of that wool would have to be shipped from Sydney, the conditions being such that it would have to go to either Adelaide or Melbourne as it does now. It is in the hands of Adelaide or Melbourne houses or financial institutions.
4068. Is there much wool shipped from Sydney to Melbourne? Yes, a considerable quantity.
4069. In reply to the previous question, did you consider the effect of the certainty and regularity of despatch by rail, as against the uncertainty of carriage by the river, together with the question of insurance? Of course I can speak by comparison, as far as the railways around the river are concerned. At Karaberry, on the Murrumbidgee, we cannot get the wool, and at Toganmain, within 9 miles of the railway station, we have to quote a rate which barely pays us, to prevent the wool from going down the river. The same applies to stations within a comparatively short distance of Hay.
4070. Then your estimate includes about how much wool which might be obtained from the district of which Wilcannia is the centre? About one-half. I have taken more than half really.
4071. You feel certain that very little more, if any more, can be obtained by a railway constructed to Wilcannia? I should rather think it would be less.
4072. Several witnesses whom we examined indicated that if a railway were constructed from Cobar to Wilcannia they would be able practically to increase the carrying capacity of their runs, inasmuch as at frequent periods during the year they would be able to truck small loads of fat sheep which the cost of droving now prevents them from sending away to market? You can only judge on that relatively. We have never had since Cobar has been opened—and it has had some good seasons—more than 300 trucks of stock from Cobar in any year, and that is a far better district than the Wilcannia district. The Wilcannia country is not a fattening country, and it is more central for them to go to Broken Hill from a great deal of that district than to go to Wilcannia.
4073. How would you compare the possible traffic area around Wilcannia with the actual traffic area at Bourke;—is it much inferior? Yes; Bourke has south-western Queensland traffic, and we have there a large area of splendid country where we nearly always get rain. At Bourke you have Queensland to draw on, because, whilst the Queensland Government put a tax on wool coming into this Colony, they will let as much live stock come in as we can take, without duty.
4074. You do not think that Wilcannia is the centre of as good a district as Bourke? Certainly not.
4075. In regard to mineral development, are you aware that the construction of the railway from Nyngan to Cobar has led to the development of the Nymagee field? That, coupled with the high price of copper, and the improved method of treating the ore.
4076. Has not the railway had a real influence on the Nymagee field? Yes; but the influence is not very great there. They only got the benefit of about 25 miles of railway transit.
4077. Presuming that there is a large area of cupriferous country to the north of Wilcannia, do you think it is likely that a similar development will take place after the construction of a railway to Wilcannia? I do not think it would under the same conditions as Cobar, because you would have over 200 miles of additional haulage for the purpose of dealing with your ores, and that would necessarily affect their value.



TUESDAY, 31 OCTOBER, 1899.

Present:—

THE HON. WILLIAM JOSEPH TRICKETT (CHAIRMAN).  
 WILLIAM THOMAS DICK, Esq. | JOHN CHRISTIAN WATSON, Esq.  
 ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

George Marshall, surveyor, Sewerage Construction Branch, Department of Public Works, sworn, and examined:—

4078. *Chairman.*] You are a surveyor in the Public Works Department? Yes; in the Sewerage Construction Branch. I was formerly in the Railway Construction Branch. G. Marshall.
4079. *Mr. Watson.*] I understand that you were engaged in correcting the surveys of the Cobar-Wilcannia railway? Yes. 31 Oct., 1899.
4080. How long ago? Between nine and ten years.
4081. That is the most recent survey that has been made of the proposed line? Yes.
4082. At that time it was looked upon by the Construction Branch as part of the projected line towards Broken Hill, was it not? Yes.
4083. And with a view of carrying the possible through traffic from Broken Hill to Sydney or Lithgow? Yes.
4084. Do you think that if the Department had aimed only at reaching Wilcannia they could have made any reduction in the cost of the line, in view of the fact that then it would be only a branch line instead of a through line? I think they could make a slight reduction.
4085. In which portion of the estimate could the reduction be made? In the earthworks.
4086. And in the grades? Yes; by adopting steeper grades you would get less earthworks.
4087. From Cobar to the Talyawalka, which is about 156 miles, the cost per mile is set down at £2,575 14s., of which earthworks and culverts make up a sum of £600 per mile;—do you think that that might be reduced? It would greatly reduce the cost if, instead of building the railway above flood-level, the lines were laid on the surface, letting the floods run over them.
4088. But the survey, generally speaking, keeps out of the ordinary flooded country till you reach Talyawalka? Yes.
4089. The estimated cost of earthworks, at £600 per mile, was on the basis of a grade of 1 in 100? Yes.
4090. If you increase the grade to 1 in 75, and have a surface line, what saving per mile do you think may be effected out of that £600? About 30 per cent.
4091. That would be nearly £200 per mile? Yes.
4092. Do you think there are any other items in the estimates in which a saving might be made? No; I cannot think of any other.
4093. Do you think there can be no beneficial alteration in the direction of the surveys? No; I am sure of that.
4094. Then, with regard to ballast, you are aware that since that survey was made a greater number of lighter lines have been made almost without ballast? Yes.
4095. Do you think that the country between Cobar and Wilcannia is of a character that would enable ballast to be dispensed with? Part of it; not the whole of it. There is a lot of rotten country there which would require ballast.
4096. What proportion of the whole would that be? I suppose about half of it.
4097. The charge per sleeper has been put down at 4s.;—do you think that sleepers might be obtained at a less price than that? I could not say.
4098. Then, with regard to the last section, from the Talyawalka into Wilcannia—the estimated cost, roughly speaking, is £10,000 per mile;—was that estimate made in view of the experience of the Roads Branch with regard to road-bridges which they had put in over the same ground? I hardly think so.
4099. When your survey was made, were the road-bridges in existence? Yes; they were right across the Talyawalka.
4100. Had any of them then sunk and been raised again? I believe that one or two had.
4101. Consequently, in making up this estimate of £10,000 per mile, you would have in view the experience of the Roads Branch? Yes.
4102. Out of that last 9 miles it is estimated that there are 7 miles below flood-level? Yes.
4103. And in that 7 miles they propose to have 4 miles of opening? Yes.
4104. Do you think that would be sufficient? I hardly think so. I do not think you could block any portion of the water there that has any current at all.
4105. You do not think it would be wise to have an embankment where there is a current? No.
4106. So the estimate there would have to be increased? I think so.
4107. It has been suggested that the terminus of the railway might be made, without any great disadvantage to Wilcannia, at a sandhill about a quarter of a mile from the river bank, a little distance above the town? Yes.
4108. Can you inform the Committee what saving would be effected if that were done, as the saving would mean a certain amount of viaduct over the low-lying land, and a bridge over the Darling? I should say about £33,000 would be the amount of the saving.
4109. Of that £33,000, the viaduct is responsible for £15,000, and the bridge for £18,000? Yes.
4110. Do you think that £18,000 would be sufficient to cover the cost of a bridge;—I understand that the road-bridge cost more than that? I could not say. I never went into the question.
4111. Taking £33,000 as being saved, what would be a fair amount to be put down as the annual cost of maintenance;—do you think 7 per cent. would be too much? I should say about 7 per cent.
4112. It has been suggested that, with the view of catching the river traffic, a siding might be run down from the sandhill of which I have spoken to the river bank;—would that cost much? It would not.
4113. It would only be about a quarter of a mile? About that.

4114.

- G. Marshall.  
31 Oct., 1899.
4114. That would enable the railway to effect a junction with the river just as cheaply as if you went to the other side of the stream, would it not? Yes.
4115. Because from a station on the other side of the stream you would still require a siding to get down to the river-bank level? Yes.
4116. Did you go into the question of water supply in your survey? We had nothing to do with that.
4117. *Chairman.*] Do you, as a railway surveyor, recommend these alterations which have been suggested? Yes.
4118. You recommend the raising of the grade from 1 in 100 to 1 in 75? That would be for a very light line, and for trains of slow speed.
4119. Would it increase the running expenses much? I should not think so.
4120. One in 75 is what you would call an easy grade? Yes.
4121. The alterations suggested, if made, would probably effect a saving of about £60,000? Yes.
4122. Do you think that the bridge across the Darling at Wilcannia is sufficiently stable to carry a light line of railway or tramway? I should think it would; I could not say for certain.
4123. There was some idea that if a railway were constructed as far as Wilcannia, and kept on the Cobar side of the river, private enterprise would construct a tramway to go to White Cliffs and Tarrawingie;—do you think that the bridge would carry a tramway? I should say so.
4124. Have you consulted Mr. Deane about altering the grade to 1 in 75? No; I made my survey for a grade of 1 in 100.
4125. That grade of 1 in 100 would be attained pretty well by going in a straight line and filling in the hollows? Yes.
4126. The grade of 1 in 75 would be got by going over an undulating surface? Yes.
4127. By the character of the country between Cobar and Wilcannia, do you not think there would be danger of a line with a grade of 1 in 75, following the irregular surface of the ground, being damaged when floods occur? There would be damage done in the watercourses, certainly.
4128. Would that involve much additional cost for repairs to the embankments? I think it would; but the country there is flooded very seldom.
4129. If it were country subjected to frequent heavy rainfall, then it might be a serious item; but rain is so infrequent there that you do not think that would be taken into calculation? No.
4130. What distance apart have you provided for the sleepers to be on the line? I have not considered it.
4131. I suppose you would not recommend rails of less than 60 lb. weight? No.
4132. That is the cheapest rail that we could safely lay down? Yes.
4133. How long is it since you made a survey of this line? Between nine and ten years.
4134. There has been no survey made since? No.
4135. You accompanied this Committee in their recent trip between Wilcannia and Cobar, and I suppose you did not see any necessity for a fresh survey of the country? No.
4136. The railway from Cobar to Nyngan, I suppose, you look upon as very much more substantial than it need be? It is substantial. I did a portion of that survey, too.
4137. *Mr. Dick.*] Are you aware that a new road has been cleared from Cobar to Wilcannia *via* Cultowa? I was not aware of it.

Henry Deane, Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and further examined:—

- H. Deane.  
31 Oct., 1899.
4138. *Chairman.*] Since you were examined before, the Committee have inspected the projected line between Cobar and Wilcannia, and feeling that that part of the country is very much in want of some better means of communication, we thought we would call you again and see if there is any possibility of still further reducing the cost of construction of the line, either in the way of raising the grades, or stopping at the Cobar side of the river? I should be very glad to reduce the estimate if it can be shown to be possible. The only chance that I can see of reducing the cost would be by stopping short of the river. It seems as if the cost of the bridging of the main channel could be saved if that would be a satisfactory terminus for the line. The saving would be about £18,000.
4139. *Mr. Watson.*] That is the bridge over the Darling? Yes; and there would be, of course, the length of permanent-way, and the embankment on the other side.
4140. On this side, about a quarter of a mile from the river, which bends towards Cobar at that point, there is a sand hill extensive enough in area to be used for station yards, and so on; if the line stopped there, it would be at least 1 mile short of the projected terminus? Yes; about 1½ mile.
4141. The engineer from your Department who was with us estimated that if a terminus were made at that sand-hill, there would be a saving of £15,000 in the cost of the viaducts, and of £18,000 in the cost of the bridge;—do you think that that would be approximately correct? There would probably be about 45 chains of viaducts saved, besides the main span; that is, 2,970 feet—or, say, 3,000 feet of viaducts saved at £3; that would be about £9,000, which, added to the £18,000 for the bridge, would make £27,000. Then there would be, in addition to that, say, a mile and 30 chains, at £2,400 per mile; that is, £3,300. That would be £30,300.
4142. I am informed that the road-bridge would cost over £30,000;—would the structure need to be so solid and well-built as that? I always reckon that a railway bridge, although it has to carry heavier weight, is a little less costly than a road bridge. I have not to incur the cost of decking.
4143. If you made a high-level bridge it would cost more, would it not? I daresay it would.
4144. *Chairman.*] At the Cobar end of the line, do you think the grade could be increased from 1 in 100 to 1 in 75? I should not like to venture an opinion on that. The Railway Commissioners were so anxious in the case of the Nyngan to Cobar line to have the grades altered from 1 in 75 to 1 in 100 that I would rather refer to them for that. Of course, they maintain that a line of this character can only be cheaply worked if it is built in such a way as to enable them to have long trains running, carrying big loads.
4145. There is no probability of having heavy through traffic from Wilcannia, such as there might have been from Broken Hill? No.
4146. *Mr. Watson.*] Consequently, though a grade of 1 in 100 might be necessary in a line to Broken Hill, in a line to Wilcannia a grade of 1 in 75 might be sufficient? That is possible. I think it is a matter that the Railway Commissioners might be asked their opinion upon. There is one point in connection

connection with which a little saving might be effected—that is, in knocking out the ballast altogether. I would rather not do it; it is only £75 a mile. If it were left out altogether, the ballasting might have to be done afterwards.

H. Deane.  
31 Oct., 1899

4147. *Mr. Levien.*] It would be rough travelling without the ballasting, would it not? Not at all. It is very smooth travelling on those earth lines. I only provide a very small proportion of ballast, so as to be able to use it in very soft places, and in the station yards.

4148. *Chairman.*] Has the price of rails altered since you prepared your estimate? Yes; the price of rails has gone up very considerably. When this estimate was made I reckoned upon getting rails in Sydney at about £5 5s. per ton. The last quotation of rails that I have from England is £6 15s. f.o.b. Taking freight and all charges into consideration, you would have to add 15s. a ton, bringing the amount up to £7 10s. That would mean that the rails would be £2 5s. a ton more than is shown in the estimate. It makes a difference of £270 per mile. I understand the prices are likely to be maintained for some time, but no one can really be certain.

4149. *Mr. Watson.*] Suppose the construction of the line were entered upon, you would not require rails for some time to come? No; it would have to be surveyed first. It will take a year to complete the surveys.

4150. *Chairman.*] What would be the saving of a grade of 1 in 75 as against a grade of 1 in 100 per mile? I am afraid I could not say right off.

4151. Would it be about a third? I do not think it would be anything like one-third. It is only where the line goes over the ridges that there would be any saving at all. The line has been laid out so as to be as near the surface as possible. If I had been able to get quite down to the surface, of course the earthworks would have been put down at very much less per mile. Do what we will, we cannot get out of some cuttings and banks.

4152. *Mr. Dick.*] In regard to that item—culverts, £200 a mile; total, £31,200,—have you made the same provision for that sort of work on this line as you do in districts where you have more rain to deal with? Each line is taken by itself. The necessary culverts are estimated according to the character of the line. Generally speaking, of course, on this line there would be little rain. The country would usually be dry, and the culverts would have nothing to do. But there are times of heavy rainfall, when you must have means of getting the water across the line.

4153. You do not think that that item could be reduced at all? I do not think so. It is not a high estimate, when you consider the immense amount of carriage that would be necessary for all the timber that you require to make the culverts. The timber would have to be brought from one end of the line or the other.

4154. *Mr. Watson.*] It is a great deal higher than on the line from Dubbo to Coonamble;—on the first section of that line, Dubbo to Gilgandra, which is the worst section to construct, the amounts are—earthworks, £308 per mile; box drains and timber bridges, £182 per mile; total, £482,—as against £600 on this line? You must take them separately.

4155. The ruling grade is the same? The Dubbo to Gilgandra line is an easier one than this.

4156. It is not nearly so easy as the section from Gilgandra to Coonamble? But the earthworks are only half the length in that section as compared with the first part. I notice, in comparing the Dubbo to Gilgandra line, that box-drains and timber-bridges for the first section are put down at £182 per mile. Then there is the bridge over the river. In this case I have only £200 down for culverts, but the Dubbo district is almost in the heart of a timber country. In this case you have to bring the timber from each end of the line. You get red-gum from the river and ironbark from the eastward. I should like to point out that I have recently had instructions that 7s. a day is to be the minimum wage for labour. Our previous practice was to pay 6s. to ordinary men, and in a few cases 6s. 6d. That means that we should have to pay 7s. and 7s. 6d. It means a very serious difference in all contracts if 7s. is adopted as the minimum. It does not matter what the contracts are—whether building bridges or earthworks—it means that every one of these works must be proportionally increased in cost, because the price, not only of labour, but of material, depends ultimately upon the original labour expended upon them.

4157. Have not the contractors been paying at least 7s.? No; I am certain they have not.

4158. *Mr. Dick.*] What proportion of this £497,000 would be direct payment for labour, and not for material? I should say that with the exception of the bridging of the main channel, which would be steel with a good deal of cement used in the piers, it is all labour.

4159. Would you say that half of the £497,000 would be direct payment for labour? It looks to me as if it would, because the cost of sleepers, ballast, and so on, is all proportional to the original labour.

4160. That is quite true, but your instructions only deal with the labour you actually engage; if you put down sleepers at 4s., the fact that you were instructed to pay 1s. extra for labour will not increase the price of those? No; except so far as putting them on to the road is concerned.

4161. *Chairman.*] That 4s. is the tender price, is it not? Yes, inclusive of freight. I do not think I should be very far wrong in saying that about half depends on labour, and is directly proportional in cost to the price paid for labour.

4162. Could you say how many men, whose wages would be affected by this new regulation, would be employed on the construction of this line, and for how long? I have not made any calculations about that. It depends very much upon how the work would be tackled. No doubt it would be started from each end by arranging to get the rails brought up the river. There is a very much larger proportionate amount of labour involved in carrying out a line of this kind than appears at first sight. There are all the men employed in the bush getting sleepers, and men employed in getting ballast, besides the men who are engaged on the line, and who are chiefly those engaged in doing the earthwork, building bridges, and laying the permanent-way. There is a great deal of labour involved outside of all that.

4163. When the Department is carrying out these works by day-labour, is it not the custom to get timber for both sleepers and station buildings supplied by contract? Yes.

4164. Then that portion would not be affected by the new rule? It would, because there is a minimum clause as to the rate of wages.

4165. *Mr. Watson.*] Is it not a fact that the sleepers are got by piecework? I do not know whether that is always so.

4166. Do not the sleeper-getters receive so much per sleeper? If one class of men get more for their labour, it will affect them all round.

4167. Seeing that sleeper-getting is merely a matter of competition, whatever factors are at work in raising

or

H. Deane. or lowering the price of sleepers it will be absolutely independent of any minimum rate which the Minister may fix? I would not say that it would be absolutely independent; I think that raising the rate will have its influence.  
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4168. *Mr. Dick.*] I find that in 1889 an estimate was submitted for this line of £497,000; an amended survey was made in 1892, and the same estimate was submitted; and now in 1899 we have the identical amount—£497,000;—has the price of anything varied sufficiently during that period to make any alteration in the estimate, or has the variation been of such a character as to neutralise itself? That is just how it is. Some prices have gone down, and some have gone up, and it has about balanced itself. I am under the impression that I explained that on a former occasion when giving evidence.

4169. *Mr. Watson.*] When your engineers were last along this route some nine or ten years ago, there was no thought then of building surface lines, was there? This was all intended to be a surface line.

4170. The experience that we have had of light surface lines had not then occurred, had it? No.

4171. And the idea of nearly all the railway engineers then in the Colony was, I understand, to make stout, serviceable lines? Yes.

4172. Do you not think it possible that with another survey the cost of the earthworks might be reduced on this line? I doubt it very much, because the work was very carefully done in order to get a surface-line. Although it was the practice before to put more earthwork in, and to make everything heavier, yet at the time this survey was made a very great amount of care was expended in trying to get the best surface line possible. Then, after you have done that, it is a question of grading on the sections in the office.

4173. Would it not be possible that, when the engineer is looking forward to a large traffic, he would go in for a heavier line than he would if the idea were to serve only a much lighter traffic; as far as we can see, if the line is constructed, the traffic for a good few years will be comparatively light; it has occurred to some Members of the Committee that it might be possible to make something more in the nature of a tramway, with a much reduced rate of speed, on the natural surface, and perhaps by that means making a large saving in the aggregate on earthworks, culverts, and so on? I do not see how any saving could be effected in rails and sleepers. To carry big loads, the very lightest rails you could have would be 60-lb. rails. As regards earthworks, the only way I see to lessen them would be to put in steeper gradients. No doubt that would lessen the earthwork very considerably. The grade could be steepened and at some later date, without going to any undue expense, it could be improved; but I should recommend the Committee, in the first instance, to get the opinion of the Railway Commissioners as to the advisability of steepening the grades, so as to find out exactly what it would mean as regards the cost of working. I should be very glad to inform the Committee what the reduction in cost may be by the adoption of, say, a 1 in 75 grade, instead of a grade of 1 in 100. There would be no difficulty in working that out.

4174. What class of sleepers do you propose to use? The round-top sleeper, made of ironbark, red-gum, or any timber than can be got, but there is nothing else but those timbers to be had in the district.

4175. Would the cost work out at about the same amount whatever kind of timber was used? I think it would. You can get ironbark split in the bush very much more cheaply than you can get red-gum sleepers sawn; but taking freight into consideration I think they would come to about the same price. You could only get red-gum at the Wilcannia end, and you can only get ironbark at the Cobar end.

4176. The rate seems rather high for sleepers from Dubbo to Cobar; I understood you to say in the Dubbo inquiry that you could get sleepers at about 2s. 6d.? We have paid from 2s. 2d. to 2s. 6d.; then the freight is 1d. for every 13 miles.

4177. Is that what the Commissioners charge? Yes. I have tried my best to get other timbers for sleepers. I have offered every inducement to sleeper-getters and contractors to supply other classes of timber; but it always resolves itself into this, that in ironbark country you get ironbark, and in red-gum country you get red-gum. Boxwood sleepers have been obtained, but they are not to be depended upon. Box grows very hollow, and you cannot get the thickness of timber requisite to hold the spikes. It would not be safe to reckon on less than 4 inches of timber to hold a railway spike. With less than that you would have an unsafe road. The spikes would draw. Then the rails would slip out of position, and the train would be thrown off the road. Of course I understand that the Committee would like to have a reduction in the estimate if it were shown to be possible. I need not say that if, by very careful economy, the earthworks cost less than the estimate, or the culverts or any other item cost less than the estimate, the Loan Vote would get the benefit of it; but it is a thing that you cannot promise beforehand.

4178. It might be possible to get something more in the nature of a tramway for country such as this, with station buildings of the most primitive description, except at the terminus, and everything on the lightest and cheapest possible scale, pending any increase in the traffic which would justify the erection of better buildings? Yes; but I should like to point out that the stations and sidings on the line have been cut down to an absolute minimum. I am afraid that any alteration that might be made in regard to them would be in the way of increasing the cost.

4179. The general idea was to have everything connected with the line of the lightest description, and it was only anticipated that low speed would have to be submitted to? Well, you could not make a tramway cheaper than a line of this character. An ordinary tramway would cost a good deal more than this line. A tramway on an ordinary road costs £3,000 or £4,000 a mile.

4180. You have in your estimate £2,575 per mile for 156 miles of this road, as compared with under £2,000 per mile on some of the others which are held to be similar light lines;—it does not seem to me that this class of country is so much more broken as to justify the difference? But you have to take the distance into consideration, and the cost of freight. Even the water supply is rather a big item. It means sinking tanks on several parts of the road, and big tanks too, because if they are to stand several years of drought you must have very big tanks.

4181. There seems to be a pretty good catchment? I do not think there will be any difficulty about finding places where the water can be collected when the rain comes; but it may be years before the tanks are filled after they are made.

4182. *Mr. Levien.*] I suppose this item of £10,920 for water supply is necessary;—would you have to have the number of tanks that you propose upon the line? I think it would be very unwise to have a less number.

4183. You have given every consideration to the reduction of the estimate? I have cut it down as low as possible. 4184.

4184. Do you think in view of the fact that the men are to have 7s. a day, and that the cost of the rails is increased, that there is any chance of reducing this estimate at all? I do not see how it is to be reduced, except by stopping short of the river. If the Railway Commissioners consider that the gradients might be steepened, we might lessen the earthworks. H. Deane.  
31 Oct., 1899.

4185. What is your own opinion as to having grades of 1 in 75, instead of grades of 1 in 100? I have always avoided giving an opinion on that subject, because I know that the Railway Commissioners are the best authorities on it. When the Railway Commissioners were appointed, I think they rather objected to any opinion from others on traffic questions. It depends very much upon the loads to be carried, and before I could give an opinion of any value on the subject, I should have to get some data to work upon. I should have to go to the Railway Commissioners for their estimate of the amount of traffic, and the kind of loads that they would carry.

4186. You think that this item of £10,000 for water supply is absolutely necessary? Yes.

4187. There is no chance of reducing that? No. There would have to be five or six water supplies along the line, one about every 30 miles. Sometimes you cannot get them exactly at even distances, and you have to put them in closer. You must not put them too far apart; but you may put them a little closer than is necessary. Then the excavated tanks would have to be large, probably very much larger than the average, so as to hold a large supply to stand a drought.

4188. Are there good holding-places for water there? Yes; I believe plenty of good places can be selected.

4189. *Chairman.*] Is your estimate of £497,000 based upon a minimum wage at 6s. a day? Yes.

4190. Where railway construction goes on by day-labour, do you discriminate between the good workmen and the inferior workmen as to what you pay? We try to get men who are up to a certain standard.

4191. Would you pay a good man 6s. a day, and an inferior man 6s. a day? No. If we made 6s. the standard, we should have to secure reasonably good men.

4192. That would apply with regard to the 7s. a day? Yes.

4193. You are not likely to have to pay more than 7s. a day? No, except in special cases, such as getting ballast. There are certain operations in which the workman is paid a little more than the ordinary earthwork labourer.

4194. The main increase will be owing to the extra 1s. a day to be paid? Yes.

Ernest Macartney De Burgh, M. Inst. C.E., Assistant Engineer, Bridges Branch, Department of  
Public Works, sworn, and examined:—

4195. *Chairman.*] Do you know the bridge constructed at Wilcannia over the river? Yes; I built it.

4196. Did you personally supervise the erection of it? Yes.

4197. Is it a good substantial bridge? Yes; a good class of bridge.

4198. It is only constructed for the purpose of carrying road traffic at present? That is all.

4199. In considering this railway it has occurred to the Committee that possibly a light engine and a train might go over this bridge;—do you think it is sufficiently stable for that? Well, if I am to take a light engine to mean an engine such as they run at present on those back country roads, the lightest that they have now in use, the bridge will not carry them. There are many different definitions of what a really light engine is. I find that the lightest engine that they have now in work, class C 79, is too heavy for the way in which the strains are provided for in the Wilcannia bridge.

4200. What is the weight of those engines? The engine weighs in steam 37 tons, and the tender 21 tons 18 cwt., and its length is 47 ft. 6 in. between the buffers.

4201. *Mr. Watson.*] What is the greatest weight of the wool waggons that go across? The heaviest weight that we provide for is that of the traction engines. We make provision for two things—one is a densely-packed crowd of people, as many as can be packed on the floor of the bridge, and we get a certain load over the whole deck. The result of that gives the greatest strain on the main girders. We allow for a traction engine 16 tons, and to have the whole of that 16 tons on four wheels, 10 ft. 4 in. apart. That causes the greatest strain in the floor-beams of the bridge. But the lightest of these locomotives that they are using, such as they have on the Moree line, gives a more severe loading than that.

4202. But it is spread over a much greater wheel-base? No, it is less; they concentrate as much as they can on the two drivers, and they are only 8 feet apart.

4203. Would a 16-ton engine be the greatest weight that you could take over that bridge? Yes, on such a short base.

4204. It was suggested that if this line were constructed to Wilcannia the mining company might be willing to construct a tramway to connect with Wilcannia, and it was thought that in that case it might be possible to make arrangements for that company to work their tramway across the bridge; of course, they need not necessarily use the Railway Commissioners' engines to drag their trucks; I was wondering whether an engine heavy enough for their purposes going at a very low rate of speed could not be taken across the bridge with safety? It appears reasonable to suppose that an engine with the same load upon its driving-wheels that a traction engine drags along—and a traction engine draws heavy loads, and has to contend with the roughness of the road—could get across. The loads of driving-wheels prescribed by the Light Railways Act in Ireland, passed in 1883, are less than those of these traction engines; but then you are met with the difficulty about the loading of trucks.

4205. A 6-ton truck altogether loaded would not weigh as much as 16 tons, would it? No. But then there would be a row of them.

4206. Could they not take them over in smaller numbers at that one point than at any other point? Any load of more than 14½ cwt. to the foot run of the bridge would be too much for the main structure, and anything heavier than a traction engine would be too much for the floor.

4207. A company working their own mines, if they brought a heavy load to the river, they could afford to take it over in sections, could they not? Yes. They could take over one truck at a time.

4208. *Chairman.*] I suppose a road bridge is differently constructed from a railway bridge? Yes. The strains are arranged to meet the different forms of loading. There may be as much material in one structure as in the other, but they are differently arranged.

4209. Then with regard to this bridge what would you say would be the greatest weight of engine and tender that would run over it on rails? Just the limit I have already mentioned for traction engines—16 tons on four wheels.

- E. M. De Burgh, M.I.C.E.  
31 Oct., 1899.
4210. *Mr. Watson.*] With a wheel basis of 10 feet? Yes. As to continuous loading in a long train of vehicles, the load should not exceed  $14\frac{1}{4}$  cwt. to every foot length of the bridge. Every train of vehicles that was above  $14\frac{1}{4}$  cwt. for every foot of its length would not be safe on the bridge. There is a little engine running on the line at Camden, which has been running across an old bridge of ours for years.
4211. What did that bridge at Wilcannia cost? It cost between £18,000 and £20,000. It is an iron and steel bridge throughout. There would have to be a good deal of remodelling of the floor of the bridge to lay rails on it, and there would have to be a new deck put on it.

WEDNESDAY, 1 NOVEMBER, 1899.

Present:—

THE HON. WILLIAM JOSEPH TRICKETT (CHAIRMAN).

The Hon. ANDREW GARRAN, LL.D.  
WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Hugh McLachlan, Secretary to the Railway Commissioners, sworn, and further examined:—

- H. McLachlan.  
1 Nov., 1899.
4212. *Chairman.*] The Committee have visited and inspected this line since you were here before, in conjunction with the railway and road surveyors, and it has occurred to them that possibly some saving could be effected in the construction of the line by increasing the grade from 1 in 100 to 1 in 75;—I believe you have consulted the Commissioners on that point, and we should like to know their views on the matter? I may say that I have not had an opportunity of discussing the matter very fully with the Commissioners, as they were hard pressed this morning; but I had a chat with them on the subject. There does not seem to be any great object to be gained in the increase of the grade. In the first place, it does not mean a very big item in regard to the cost of construction. There is no great advantage if you consider the difference in interest, and the annual cost of working. At the same time, for the comparatively small difference you can get the great advantage of a grade of 1 in 100. You have to recollect particularly that, in connection with these light lines, you cannot work heavy engines over them; consequently, the engines with which you work them will be of comparatively light power; therefore it is desirable to get as easy a grade as possible. Another thing, we do not expect a great deal of traffic from the Darling; but the Committee seem to think that there may be a development of mineral traffic, or that it may be a valuable line from a stock point of view. When you move stock at a time of drought, you have a concentrated traffic. For twelve months the traffic may never amount to much, then it may come all at one time; therefore it is desirable that you should get the utmost advantage out of the line at the most reasonable cost. For instance, take the grade of 1 in 75. The "C" class of engine which would be used would take a load of 230 tons; that would be the weight behind the engine. But on a grade of 1 in 100 the load would be 300 tons, and you have this further disadvantage, that if you have a different grade coming into Cobar you will have to break the train-load at Cobar. The grade being easier on the Cobar line, you would be able to take a bigger load on the main line than you could on the branch; therefore you could not have economical working in connection with the branch. We have been reducing the grades considerably on the main line. Looking at the matter from an economical point of view, I do not think that, for the small saving in construction that could be effected there, it would be desirable to increase the grade.
4213. In case of a congestion of traffic, could you take a bigger load than 230 tons? Yes, you could take a bigger load on the line from Cobar and from Nyngan; but to make that line profitable, you want to haul big loads long distances.
4214. How many sheep would 230 tons represent? Roughly, I should say a little over 2,000.
4215. Do you carry as many as that in one train? Yes; the load on the main line is a bigger one than that.
4216. Are the rates for that kind of traffic good? The rates would be good enough if you could get loading both ways, but the trouble about the stock traffic is that the loading is only one way, and you have to run the trucks empty to pick up the loading. That is an important consideration. You must bear in mind that you cannot use the same class of engines on light pioneer lines as on the solidly-built main lines.
4217. On the main line you sometimes have difficult grades? Yes; but we can use more powerful engines, and where the grades are particularly difficult we can use a banking engine. The Railway Commissioners have cut out most of the bad grades on the Western line. At the Zig-zag a banking engine can be used, so that we can drag a big through load.
4218. What are your worst grades? There are grades of 1 in 30 and 1 in 33 on some sections.
4219. Mr. Deane has sent in a memorandum showing that by making the ruling grade 1 in 75 instead of 1 in 100 we should effect a saving of £8,750? Yes, about £240 a year.
4220. Is that not worth taking into consideration? I should not think so. At 3 per cent. it would be £250 a year. Under all the circumstances of the case, I should not be in favour of increasing the grade.
4221. Unfortunately, at the present time, although we should save that amount in reducing the grade, the cost of railway material has gone up? Yes, it has gone up very seriously; it has increased wonderfully during the last six months.
4222. It has been suggested that a kind of tramway might be made over that kind of country, and that tramway engines might be used? Then you still further reduce your load, and you have to have light engines. A tram cannot run far without taking coal and water. I do not think that a tram can run above 12 or 15 miles without taking in water, and water is one of the troubles in that district. You want a really good tender.
4223. *Dr. Garran.*] Those grades are all running through little ridges? Unfortunately, a good number of them are against the load.
4224. For some years there will be no heavy traffic on the line, but if there should come minerals to make

a concentrated traffic we could reduce the grade? That would be a matter for the engineers. The Commissioners have not seen the detail plans. There seems to me a fairly considerable length where the grades would be 1 in 75.

4225. The load you could carry on a grade of 1 in 75 would be quite enough if we could get that every day? Yes; if we could average it.

4226. Excepting in the wool season, there is really no concentrated traffic possible? No. From the nature of the country the traffic would very likely be a concentrated one.

4227. What you could take on a grade of 1 in 75 would be superabundant? Yes; if you could get it every day.

4228. You will always bring lighter loads into Cobar from Wilcannia than on the line from Cobar to Nyngan? Yes, you would think so; unless there were big loads of stock, or anything of that kind.

4229. You could carry a great many loads of stock on a grade of 1 in 75? Yes.

4230. You could carry all the sheep and stock that you would want to carry over a grade of 1 in 75? Yes; with the "C" class of engines.

4231. So the difficulty would not be an immediate one? No, I think not. It is the general principle I am speaking of.

4232. *Mr. Levien.*] I suppose you would run mixed trains? Entirely.

4233. Would they run daily? I think they would run perhaps three times a week each way.

4234. You do not think it would pay to have a daily service? No.

H.  
McLachlan.  
1 Nov., 1899.

Henry Deane, Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and further examined:—

4235. *Chairman.*] Could you explain that  $3\frac{1}{2}$  mile item? Yes. The line was originally laid out with 1 in 75 grades. In making up the estimate after examining the plans, I came to the conclusion that the ruling grade could be changed from 1 in 75 to 1 in 100 by adding  $3\frac{1}{2}$  miles to its length. I therefore deducted simply what was added for altering the grade, namely,  $3\frac{1}{2}$  miles at £2,500, making £8,750. It was previously £2,575 per mile, but I have left out the ballast.

H. Deane.  
1 Nov., 1899.

4236. Would that alteration of the grade to 1 in 75 cause  $3\frac{1}{2}$  extra miles owing to the undulation of the country? Yes; it was caused by having to go round and rising gradually. The line is lengthened for the purpose of getting the grade.

4237. Will you read your statement? It is as follows:—

COBAR TO WILCANNIA.

Saving through stoppage on east side of river—		
Bridging main channel.....	£18,000	
3,000-foot viaduct, at £3.....	9,000	
$1\frac{1}{2}$ mile formation, at £2,400.....	3,200	
		30,200
Saving through leaving out ballast, 156 miles at £75.....		11,700
Saving through making ruling grade 1 in 75, $3\frac{1}{2}$ miles at £2,500.....		8,750
		£50,650
	Total.....	£44,145
Increase of cost due to price of rails (£5 5s. to £7 10s.), say, 163 $\frac{1}{2}$ miles at £270.....		£44,145

4238. *Mr. Watson.*] You would not require the rails for this particular line within twelve months from the present time? No; because the line would have to be surveyed.

4239. So there would probably be a delay of at least twelve months? I have very little doubt that there would be.

4240. And during that time the price of rails may fluctuate? Yes, they may; although the opinion is rather that they will uphold their price.

4241. What was the cause of the sudden inflation of prices? The improvement in trade and the extra demand.

4242. No special reason is to be assigned? I am not aware of any, because it is not only in England, but also in America and on the Continent—everywhere. The competition of America has been very keen, and would have tended rather to diminish than to increase prices.

4243. *Dr. Garran.*] Suppose you were to lay out your line with a grade of 1 in 75, and afterwards it became wise, in view of the traffic, to reduce the grade to 1 in 100, could you not do that without going outside the fences and taking a more circuitous route? Yes; it could be done by cutting down.

4244. At no very great expense? It would cost more than £8,000, but it would not be a very serious matter.

4245. If you were to stop your railway at the hither side of the Darling River to avoid that last 7 miles of soft country, you would have to fit up a terminal station with water supply, turn-table, and other requisites? Yes.

4246. And if you afterwards pushed the line on to Wilcannia or across the river you would have to shift those things? Yes.

4247. If you are going to make a station at Wilcannia within a moderate time it is hardly worth while to go to that expense on this side of the river, is it? No, it would not be.

4248. This saving you speak of is only to stop a quarter of a mile from the river? The total length that we should be short would be about 2 miles.

4249. What would the saving be if we stopped at this side of the Talyawalka Creek? Roughly speaking, it would be a little over £90,000.

4250. I suppose, as far as the traffic is concerned, that we should get all the traffic at that place that we should get by going to Wilcannia? Possibly.

4251. If a man wants to send his sheep or his wool, or to send ore, he would send them there? Yes.

4252. If he wanted to travel himself he would go there? Yes; but there would be extra travel and carriage by road.

4253. But that would not affect the railway? No; except that we should lose the carriage for that distance.

4254. Might it not pay to lose that instead of making that bit of line? Yes; it is a most expensive piece.

4255. *Mr. Watson.*] If the suggestion just made by Dr. Garran were carried out, and the line stopped

H. Deane. at the Talyawalka Creek, would it then be expensive to run a surface extension from the Talyawalka Creek to the river—say, a tramway to carry the traffic in other than flood-time? I do not think there would be any advantage in making a tramway. You would have to make it so that the ordinary rolling-stock could be carried on it.

1 Nov., 1899.

4256. Could it be made for a small cost, so that it would allow the floods to go over it without injury? These high floods, I suppose, are rather scarce, so that the line could be placed below flood-level, except where marked channels are shown upon the map. I should say that if anything of that sort were done, it would be far better to extend the line right through, and have the terminal station on the other side of the Talyawalka channel, to allow the line to be placed below the flood-level, to let the flood go over it, than to have a terminal station on this side of the flood-water channel, and have to have an extension for what would practically be another large station, because we should have to have plenty of accommodation for trucks, and so on, near the river.

4257. Could you tell us what difference that would make in the cost of running the last 7 miles to the south-eastern side of the river below flood-level? I should think it would make a difference of something like £30,000. You see the viaduct is 20,500 feet, and is put down at £51,250. In place of that you would have to have an embankment which would not always follow the surface. You could not follow the small undulations, and it would be more bank than an ordinary railway, and you would have some bridges to construct. Without going into the matter very carefully, I should think the saving would be between £30,000 and £35,000.

WEDNESDAY, 15 NOVEMBER, 1899.

Present:—

THE HON. WILLIAM JOSEPH TRICKETT (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Charles Edward Rennie, Chief Draftsman, Department of Lands, sworn, and further examined:—

C. E. Rennie. 4258. *Chairman.*] You have prepared a statement and plan showing the amount of revenue that would be derivable from leasehold areas in certain districts west of Cobar? Yes; from all classes of Crown lands.

15 Nov., 1899.

4259. And the area you have included for the purposes of that calculation starts at Cobar, and then goes in a north-westerly direction up to Wanaaring, thence in a south-westerly direction towards White Cliffs, about 50 miles to the west of White Cliffs, thence coming down in a southerly and easterly direction to the Darling River, about 40 miles south of Wilcannia, thence in a north-easterly direction to Cobar? Yes; that is the area.

4260. Will you give us the information that you have got? Within that area there are about 14,784 acres of conditional purchases, returning about £739 a year. There are converted pre-leases containing 18,936 acres, returning £172. Then there are miscellaneous leases, embracing 1,088,921 acres, returning an income of £4,520; there are leasehold areas, embracing 7,895,683 acres, returning an income of £23,854; occupation licenses, 4,234,676 acres, returning £5,925; total revenue, £35,260. That is exclusive of land tax and revenue from mining occupation. There is an area of 151,000 acres at present unproductive.

4261. You have not included in that calculation any allowance from revenue from mining? That estimate does not include any revenue from mining occupation or from land tax.

4262. *Mr. Watson.*] The proportion of land in the resumed areas is a little more than half of that held on leasehold? Yes; rather more than half.

4263. That, of course, is available for homestead leases at the present time? Yes.

4264. Consequently, if the railway were taken there, the resumed area would be available for smaller classes of settlement? Yes; if sufficiently attractive.



PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

Railway from Cobar to Wilcannia.

APPENDIX.

A.

COST OF LIGHT LINES OF RAILWAY.

Office of the Railway Commissioners of New South Wales,  
Sydney, 26 October, 1899.

Dear Sir,

I am unable to furnish you with the exact details upon which the estimate of £1,750 per mile for light lines was based, but I have no doubt that the estimate was at the time perfectly correct. It was, in connection with this estimate, assumed that the line would run over almost perfectly level country, and that there would be no expensive earth-works to be dealt with. As you are aware, the cheapest line that has been built up to the present time is that from Jerilderie to Berrigan, at a cost of £1,814 per mile.

As regards constructing any of these lines at the present time, the increased price of rails must be considered. In the estimate referred to, the rails were calculated at the rate of £4 per ton; the price at the present time is £7 10s., and therefore the cost would have to be increased by about £350 per mile.

The Chairman, Public Works Committee.

Yours, &c.,  
CHARLES OLIVER.

B.

[To Evidence of T. H. Bell.]

COPY OF PETITION TO PARLIAMENT.

Cobar-Wilcannia Railway League.

The following will be submitted by petition to Parliament:—

1. That the towns and districts enumerated desire, and are very much in need of, a regular and speedy means of communication with Sydney and the other centres of population in the Central and Eastern Divisions.

2. That the means sought are by the extension of a line of railway from the Cobar terminus to Wilcannia, a line already surveyed and marked out, and cost estimated by the Railway Department at the rate of a trifle over £3,000 per mile—162 miles, cost £497,000.

3. That by the construction of this line of railway, the bulk of the trade and traffic which now goes to Melbourne and Adelaide will be drawn to the capital of our own Colony.

4. That this trade would immensely benefit Sydney and intervening districts.

5. That this district would send wool and live stock and take back merchandise and produce.

6. That the extent of this traffic, as ascertained from records of trade done at Wilcannia, would be 6,500 tons of wool, skins, and tallow (outward) at £4 13s. 4d. per ton, £30,333 6s. 8d.; 2,500 tons general goods (inward) at £6 13s. 4d. per ton, £16,666 13s. 4d.; 1,500 tons produce (inward) at 20s. per ton, £1,500. Total, £48,500.

7. The figures supplied under clause 6 are guaranteed by two members of the committee, who have derived them from their own books, which books they are prepared to submit to the inspection of any authorised officer. (An officer of the Railway Department has already inspected these books and taken copious extracts therefrom.)

8. That there would be a large increase in sending fat stock to the Sydney and other markets, which stock, from want of means of transit, now fall off in condition, lower prices having to be accepted for them as stores, with the risk of no sales being possible and the ultimate death of the stock. As an instance of loss resulting from this cause, we are authorised to quote the fact that in 1895 on one station alone eleven thousand (11,000) sheep had to be slaughtered and the carcasses burnt, the skins alone affording revenue; whereas, had there been railway facilities, not less than seven thousand (7,000) of these would have been trucked to the metropolitan or other markets. This is by no means an uncommon experience. It is to be borne in mind that, for the most part, the pastoral industry in this district has to depend at the present time for its revenue on the sale of wool alone, very little being received for the value of the carcass. Were railway facilities afforded, it is certain that the carcass would bring its value, because it often happens that small lots of fats are ripe for market which cannot be sent on account of the high relative cost of droving small lots, as well as the risk of the roads being impassable, and the inevitable loss of condition in the time occupied in travelling such immense distances. In most seasons fat stock can be driven to Wilcannia without serious loss of condition, but cannot reach the metropolitan or other fat stock markets without being very much wasted and for which only store prices can be obtained.

9. That the estimated annual cost of working this line, as made by the Railway Commissioners in 1891, is £27,310—(interest at 3 per cent. on £497,000, £14,910, and working expenses £12,400).

10. That the revenue estimated by your petitioners, based only on the figures of clause 6, and not including any stock or contingent traffic, which would be a large item, amounts to £48,500, which would pay at the rate of 9½ per cent. on the capital expended (£497,000), and after deducting working expenses (£12,400), would leave net profit £36,100, or equal to 7¼ per cent. on capital invested.

11. That Wilcannia is the centre of a vast pastoral district, the area from which the traffic would be drawn being forty (40) million acres, carrying four (4) million sheep, and paying a revenue to the Crown of about £125,000, reckoning at 3s. d. per acre. The district to be served by the proposed railway has an annual surplus exceeding 500,000 sheep, and the number of these that would go by rail to market would be not less than 150,000, which, at 1s. 6d. per head, would afford an additional revenue of £11,250. This is proved by the fact that for the thirteen years ending 31 December, 1898, 104,000 fat sheep were sent away annually to market from about half the 40,000,000 acres to be served by the railway. Particulars of the stock traffic for the remaining portion of the district to be served are not readily obtainable by the committee. Thus the fat sheep to be carried by rail would considerably exceed the figures here given. Before the imposition of the Victorian Stock Tax, an average of about 20,000 head of cattle from the south-western parts of Queensland passed through Wilcannia annually. It is certain that were railway facilities afforded, fats from these mobs would be trucked to Sydney from Wilcannia, which must at the present time travel on and take their chance in a store market. The district also produces a large surplus for export from which is estimated a revenue of £3,000.

12. That the construction of this line will open up and develop an extensive district, rich in mineral deposits, such as gold, opal, silver, copper, and tin. These deposits are proved beyond doubt, the output from White Cliffs alone during the past twelve months reaching over £100,000, and supporting a population of 1,600.

13. That by the development of these mineral resources, towns such as White Cliffs and Cobar would spring up, absorb surplus labour, and vastly increase trade and railway revenue.

14. A considerable population has been employed in gold mining for the past twenty (20) years, but owing to the difficulties of transit, works on a large scale have been paralysed, many reefs of 2 oz. to 3 oz. to the ton are, after this lapse of time, still unworked, for the reason before mentioned. As a corroboration of this, we would instance the Mount Browne goldfield, which at one time gave employment to about 3,000 men.

15. The value of passenger traffic by coach on the Cobar, Bourke, and Broken Hill lines, from and to Wilcannia, is £5,000. The destination of the bulk of the passenger traffic by the Wilcannia to Broken Hill coach is either Melbourne or Sydney, which the proposed railway would necessarily carry. The South Australian traffic would still go by Broken Hill. Therefore the minimum revenue derivable from passenger traffic, immediately the railway is opened, must be at least equal to the value of the present coach traffic.

16. Wool and supplies must be carried by the railway for the district lying between Wilcannia and Cobar, because the heavy land carriage to enable them to reach the Darling would place the Darling route at a disadvantage compared with the railway.

17. The following is a re-capitulation of sources of revenue :—

Under clause 6 .....	£48,500
Estimate of sheep traffic (clause 11) .....	11,250
Cattle traffic.....	3,000
Passenger traffic (clause 15) .....	5,000

£67,750

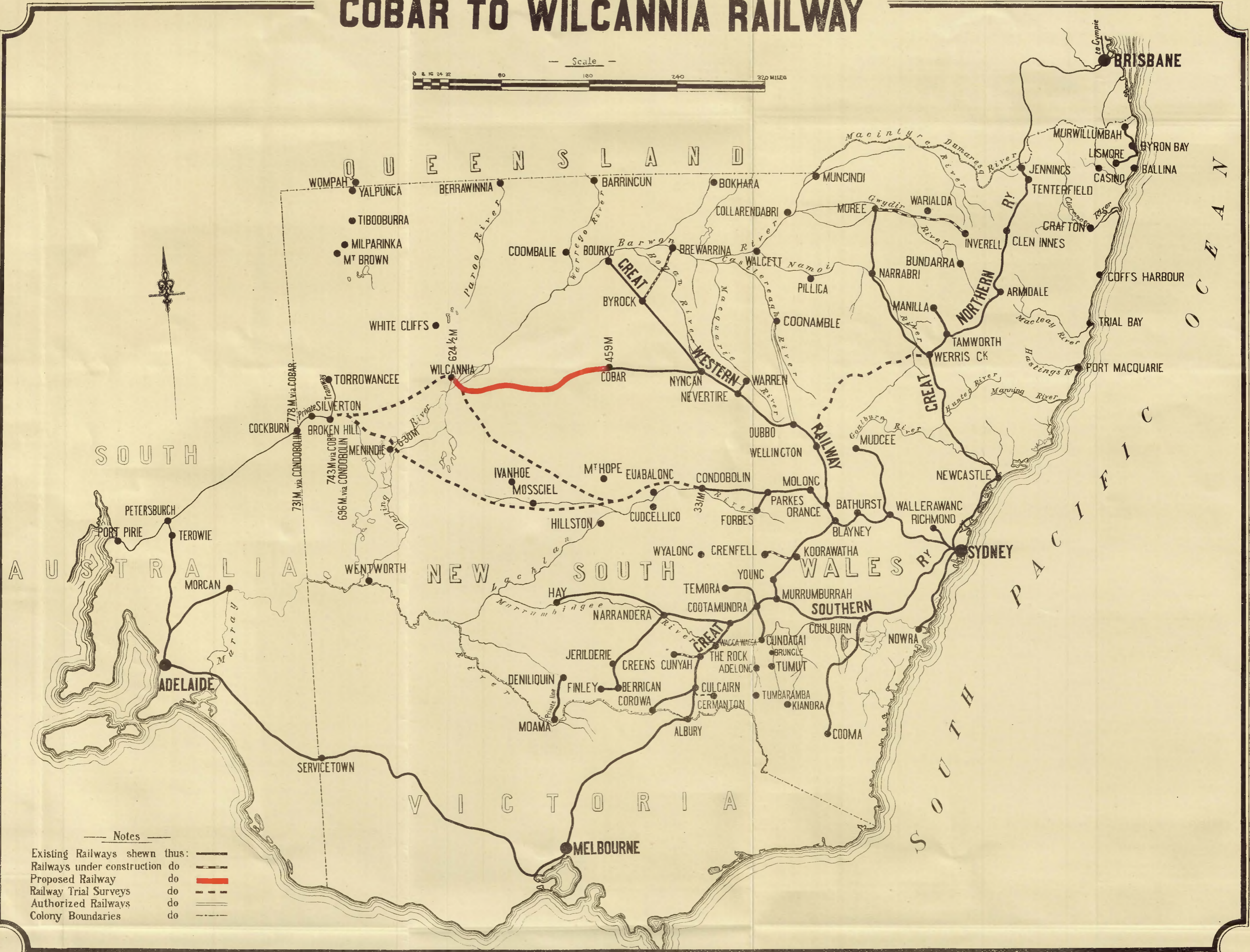
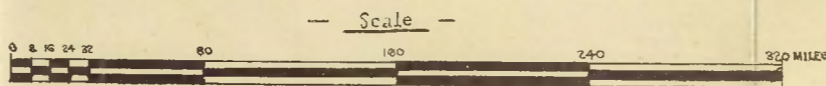
Which gives a net return after deducting working expenses (£12,400) of  $11\frac{1}{2}$  per cent. on capital invested.

And your petitioners now pray your honorable House to take such steps as will lead to the construction of the railway from Cobar to Wilcannia.

And your petitioners as in duty bound will ever pray.

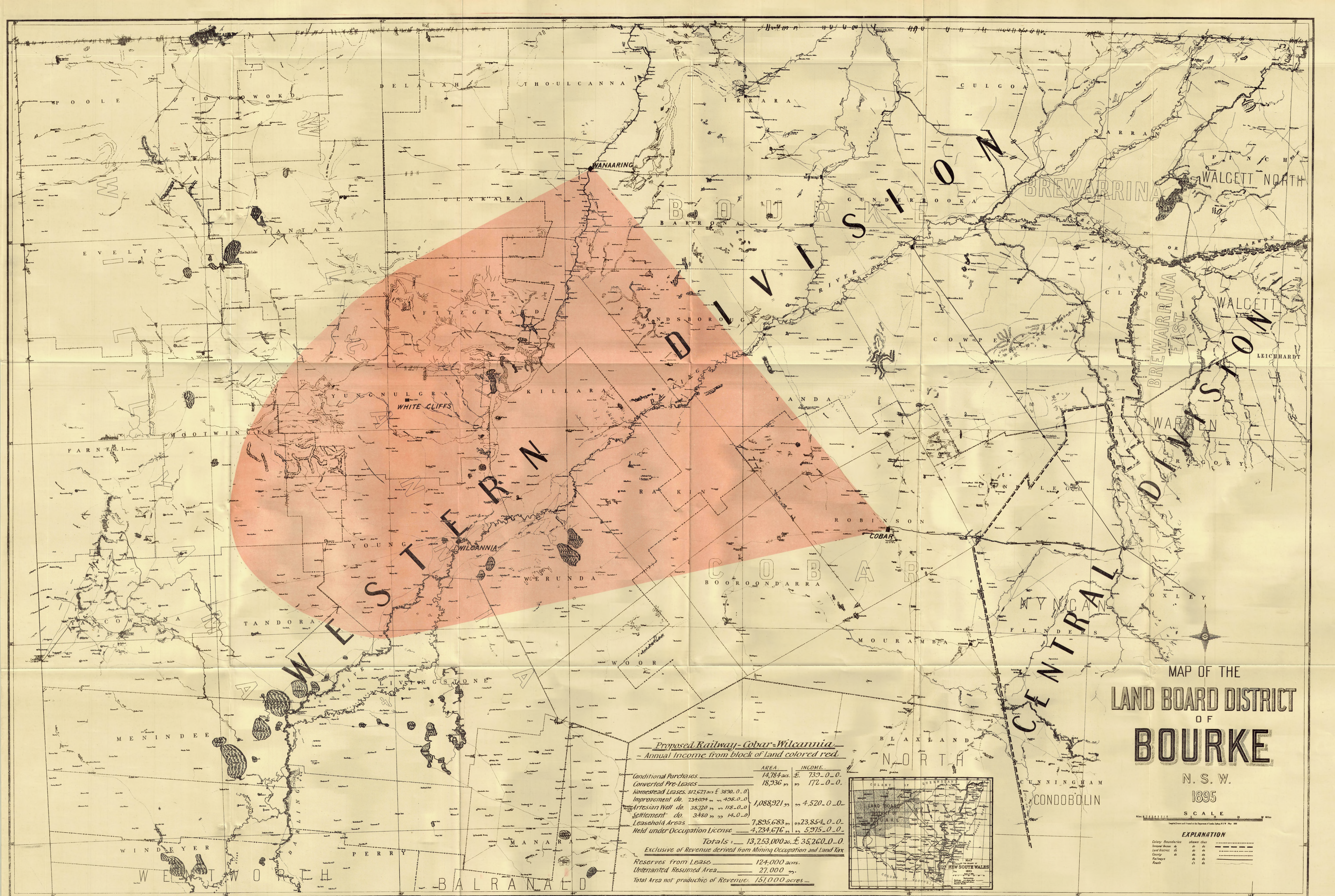
[Two plans.

# COBAR TO WILCANNIA RAILWAY



Notes

- Existing Railways shewn thus: ————
- Railways under construction do - - - -
- Proposed Railway do ————
- Railway Trial Surveys do - - - -
- Authorized Railways do ————
- Colony Boundaries do - - - -



MAP OF THE  
**LAND BOARD DISTRICT**  
 OF  
**BOURKE**

N. S. W.  
 1895

SCALE

EXPLANATION

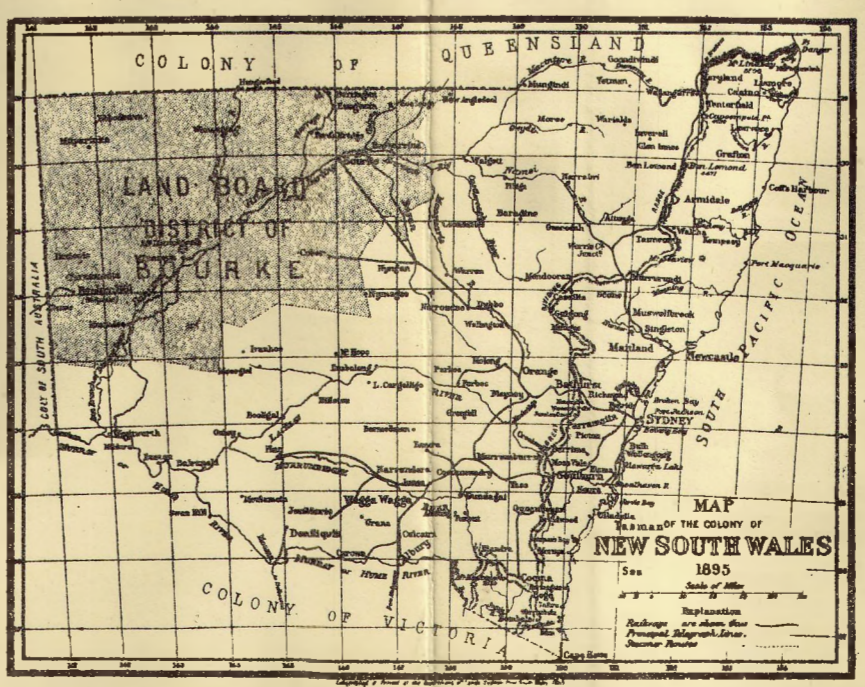
Color	Boundaries	shown	lines
Colonial	Boundaries	do	do
Land	Boundaries	do	do
County	do	do	do
Railways	do	do	do
Roads	do	do	do

Proposed Railway - Cobar - Wilcannia  
 - Annual Income from block of land colored red

	AREA	INCOME
Conditional Purchases	14,784 acs.	£ 739.0.0.
Converted Pre-Leases	18,336 "	172.0.0.
Homestead Leases, 312,621 acs.	£ 3890.0.0.	
Improvement do.	234,024 "	458.0.0.
Artesian Well do.	38,720 "	118.0.0.
Settlement do.	3,480 "	14.0.0.
Leasehold Areas	7,895,683 "	23,854.0.0.
Held under Occupation License	4,234,676 "	5,975.0.0.
<b>Totals</b>	<b>13,253,000 acs.</b>	<b>£ 35,260.0.0.</b>

Exclusive of Revenue derived from Mining Occupation and Land Tax

Reserves from Lease	124,000 acres.
Unappropriated Resumed Area	27,000 "
<b>Total Area not productive of Revenue.</b>	<b>151,000 acres</b>



1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

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PARLIAMENTARY STANDING COMMITTEE ON  
PUBLIC WORKS.

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REPORT

TOGETHER WITH

MINUTES OF EVIDENCE, APPENDICES, AND PLAN,

RELATING TO THE

PROPOSED RAILWAY

FROM

GRENFELL TO WYALONG.

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Presented to Parliament in accordance with the provisions of the Public Works Act,  
51 Vic. No. 37.

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*Printed under No. 7 Report from Printing Committee, 26 October, 1899.*

SYDNEY: WILLIAM APPELGATE GULLICK, GOVERNMENT PRINTER.



## MEMBERS OF THE COMMITTEE.

## LEGISLATIVE COUNCIL.

- \* The Honorable WILLIAM JOSEPH TRICKETT, Chairman.  
 The Honorable PATRICK LINDESAY CRAWFORD SHEPHERD  
 The Honorable ANDREW GARRAN, LL.D.

## LEGISLATIVE ASSEMBLY.

- \* WILLIAM THOMAS DICK, Esquire, Vice-Chairman.  
 \* JOHN PERRY, Esquire.  
 JOHN CHRISTIAN WATSON, Esquire.  
 ROBERT HENRY LEVIEN, Esquire.

[\*On 18th September, 1899, Mr JOHN PERRY having accepted the office of Minister of Public Instruction and Minister for Labour and Industry, retired from the position of Chairman and a member of the Committee The Honorable WILLIAM JOSEPH TRICKETT, Vice-Chairman, was elected Chairman in the place of Mr. PERRY, and Mr. DICK was chosen as Vice-Chairman ]

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PLAN.

Grenfell to Wyalong Railway.

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# PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

## RAILWAY FROM GRENFELL TO WYALONG.

### REPORT.

THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS, appointed during the first Session of the present Parliament, under the Public Works Act of 1888, 51 Vic. No. 37, the Public Works Act Amendment Act of 1889, 52 Vic. No. 26, the Public Works (Committees' Remuneration) Act of 1889, 53 Vic. No. 11, and the Public Works Acts Further Amendment Act of 1897, 61 Vic. No. 6, to whom was referred the duty of considering and reporting upon "the expediency of constructing a line of Railway from Grenfell to Wyalong," have, after due inquiry, resolved that it is expedient the proposed railway should be constructed; and, in accordance with the provisions of sub-section (IV), of clause 13, of the Public Works Act, report their resolution to the Legislative Assembly:—

#### RAILWAY EXTENSION TO WYALONG.

1. Railway extension to Wyalong has been under consideration since 1894, a few months after the discovery of the Wyalong gold-field. In that year a proposal to construct a railway to the field from Temora was inquired into by the Parliamentary Standing Committee on Public Works, and a resolution arrived at that a decision in the matter should be deferred for six months, so that at the end of that time the importance or otherwise of Wyalong as a goldfield and a district of settled population might be determined with more certainty than was then possible. In 1895 the project was again referred to the Committee, and on that occasion definitely negatived, the Committee being of opinion that the prospects of traffic on the line were not sufficiently encouraging, and that the future of Wyalong was not so certain as to justify the construction of the line in anticipation of what might be the condition of the goldfield and district some years hence.

The present proposal originated in a suggestion made by the Parliamentary Standing Committee on Public Works in October, 1896, in their report upon a proposed line of railway from Condobolin to Broken Hill, wherein it was pointed out that a line from Cowra or thereabouts to Grenfell, and thence in a westerly direction through the Bland country to Wyalong and Hillston, would pass through a vast area apparently suitable for wheat-growing. The survey of a line from Grenfell to Wyalong, in conjunction with that from Koorawatha to Grenfell, was approved in January 1897, and completed in December of the same year.

#### DESCRIPTION OF THE RAILWAY.

2. The proposed railway is an extension of that from Koorawatha to Grenfell. It commences at the end of the permanently-staked Koorawatha to Grenfell line, 309 miles 35 chains from Sydney *via* Harden, and, curving round to the left, bears in a westerly direction to a spur of the Weddin Mountain Range, which it crosses at 310 miles 40 chains. Thence it runs parallel to the Forbes-road until it crosses the road

road at 313 miles 70 chains, from which point it proceeds in a southerly direction to travelling stock reserve 530, which it crosses at 315 miles 40 chains, and then bearing due west, passes over Weddin Creek at 318 miles 20 chains, and a main spur of the Weddin Range at 320 miles. There the line takes a south-westerly direction, crossing Caragabal or Blind Creek at 332 miles 65 chains, and the road from Bimbi to Marsden at 335 miles 35 chains; thence running nearly due west to 342 miles. Bearing south-westerly from that distance, travelling stock reserve 2,332 is crossed at 345 miles 60 chains, travelling stock reserve 574 at 347 miles 30 chains, Bland Creek at 348 miles 70 chains, and Back Creek at 353 miles 50 chains, from which point, running a little more westerly, it passes over the permanently-staked line, Temora to Wyalong, at 365 miles 60 chains, and thence going due west, parallel with the Wyalong township alignment, it ends in West Wyalong at 368 miles 35 chains from Sydney *viâ* Harden, and 326 miles 47 chains *viâ* Blayney. The ruling grade on the line is 1 in 100, and the sharpest curve 14 chains radius. The works are fairly light.

From Grenfell, to a point about 12 miles westerly from that town, two routes have been surveyed and are shown on the map, the northern one being that proposed for adoption. It is shorter than the other by half a mile, and is the more suitable for connecting with Forbes. The southern, from an engineering standpoint, presents the least difficulty, and though half a mile longer is the cheaper to the extent of £5,450; but the adoption of the northerly route would save the construction of  $5\frac{1}{4}$  miles of line at a cost of £11,000, if it should at any time be considered desirable to construct a railway from Grenfell to Forbes.

#### AN ALTERNATIVE ROUTE VIA BIMBI.

3. An alternative route *viâ* Bimbi, which was surveyed in response to representations made by the residents of the locality, leaves the direct line at 308 miles 42 chains, and for the most part passes along travelling stock reserves. Bimbi is reached at 326 miles, and at 334 miles Euroka station is about  $2\frac{1}{4}$  miles south of the line. Bland Creek is crossed at 348 miles, and Back Creek at 354 miles; and the route junctions with that of the direct line at 362 miles 68 chains on the Bimbi mileage, and 361 miles 16 chains on the other, the extra length being 1 mile 52 chains. West Wyalong, by this route, is 370 miles from Sydney *viâ* Harden, and 328 miles *viâ* Blayney. The line is very gently undulating to the neighbourhood of Bimbi, except at 318 miles, where there is a moderate cutting and bank. Apart from this, only easy grading is necessary to obtain a surface line. Beyond Bimbi, the flat western plains are reached. The ruling grade is 1 in 75, and the sharpest curve 12 chains radius, but this occurs only once; the other curves are easy.

This route, however, involves back shunting at the Grenfell station, to which there are serious traffic objections; moreover the line is not nearly so direct as the other, and the country about Bimbi is within 20 miles of Grenfell by a good road, and not more than 30 miles from Young.

The Committee endeavoured to ascertain whether a route could be found midway between that proposed and the one *viâ* Bimbi, so that the railway should conveniently serve the settlers around Bimbi as well as those to the north of the Weddin Range; but the intervention of those mountains, and the expense of crossing them south of the point selected, make this impracticable.

#### ESTIMATED COST OF THE PROPOSED LINE.

4. The estimated total cost of the proposed line is £142,292 10s., or an average of £2,411 14s. 9d. per mile. This includes—Earthworks, £11,682; timber bridges, £9,912; level crossings, cattle stops, and fencing, £3,540; permanent-way materials, £37,582; freight, £8,564; plate-laying, ballasting, and sleepers, £31,541; station works, including sidings, £9,399; station buildings, &c., £7,490; water supplies, £5,000; telegraph, £885; gradient and mileage posts, £885; and engineering and contingencies, calculated at  $12\frac{1}{2}$  per cent., £15,810.

RAILWAY

## RAILWAY COMMISSIONERS' REPORT.

5. The Railway Commissioners show by their report upon the railway that until there be a development of traffic upon the line the traffic returns will be £3,249 below the expenses, exclusive of any loss on the Temora line by diversion of traffic. The estimated annual cost they give as—Interest at 3 per cent. on capital expenditure, £4,269; cost of maintaining permanent-way, and traffic and locomotive expenses, £4,843; or, together, £9,112. The traffic estimate is £5,863, comprising merchandise and live stock, £2,589; passenger traffic, £2,054; mails, £720; and parcels, £500. "No doubt," the report observes, "the district has considerable prospects, but it is not a matter of certainty that the time has arrived for Wyalong to have the benefit of railway connection. If, however, it is decided that the railway should be extended to Wyalong, the extension, in the opinion of the Commissioners, should be from the proposed Grenfell line."

## THE COMMITTEE'S INQUIRY.

6. In their inquiry with regard to the proposed railway, the Committee examined witnesses in Sydney, and at Grenfell, Wyalong, Barmedman, Reefton, and Temora; and they inspected the railway route, and to some extent the country in its vicinity. Evidence was also taken with reference to connecting Wyalong with the railway system at Temora, and the route surveyed for that line was inspected. At Wyalong the mines were visited, and inquiries made as to the permanency or otherwise of the mining industry in the town and district.

## INSPECTION OF THE RAILWAY ROUTES.

7. Prior to their visit of inspection and inquiry through the districts to be served by the proposed railway route, the Committee travelled to Grenfell from Young *via* Iandra and Brundah, in order to acquaint themselves with the classes of agricultural land that will be within the influence of the railway from Koorawatha to Grenfell. At Grenfell the Committee divided into two parties, one of which inspected the direct route from Grenfell to Wyalong, while the other proceeded to Wyalong by the route *via* Bimbi. Going direct, the Committee travelled by way of Bogolong, Piney Range, Caragabal, Oakhurst, and Back Creek—a course which enabled them to examine to a considerable extent the nature of the land in the immediate vicinity of the route, and for some distance on either side. As far as Caragabal, but particularly between Grenfell and Piney Range, land suitable for wheat-growing was very plentiful. About Piney Range, and for some miles beyond, a number of very fine wheat fields amply testified to the productiveness of the soil. As is usually the case through a long stretch of country, inferior patches of land were met with; but the great bulk of what was seen is undoubtedly good agricultural land, principally of a light-red loamy nature. At Little Caragabal some extensive plain country was passed, and on Caragabal holding, some miles further on, black-soil plains were the prevailing feature of the country traversed. On the Oakhurst run similar conditions were found, though on this property, as is the case on Caragabal, there are belts of land covered with myall. Portions of these plains, which are known as the Bland country, being intersected by the Bland Creek, though possibly capable of growing crops, may be more rightly regarded as pastoral land, specially valuable for the fattening of stock. Indications were apparent of the flooding of some of the plains through the overflow of the Bland after exceptionally heavy rains; but heavy floods are infrequent, and will not, according to the evidence of the engineers, endanger the line. On Back Creek holding, and on some of the other pastoral properties, cultivation has been carried on to the extent necessary for home use. Between Back Creek and Wyalong the country is timbered, and the soil largely of the light-chocolate loam suitable for wheat. Some of it is covered with mallee.

The section of the Committee who inspected the Bimbi route followed the main road from Grenfell in a southerly direction for about 8 miles, travelling close to the railway line. They found the country, on either side, to be of a rich agricultural character, with patches here and there cleared, and under wheat.

Continuing

Continuing in a southerly direction, and wide of the railway line, for about 3 miles to Tyagong Creek, and on Aramagong station, they saw a large tract under wheat—all red soil. Turning then to the west, down the creek to the junction of Tyagong and Burrangong Creeks, about 11 miles from Grenfell, they proceeded close to the line, until reaching Bimbi. On Aramagong West, they found a tract of about 800 acres under wheat, and also various other large patches of wheat cultivation along and within sight of the route. It was pointed out that the whole of the country, on either side, was suitable for agriculture. Many wells were seen, providing ample water at slight depth. After leaving Bimbi they made a divergence in a southerly direction through Mr. Caldwell's property, passing large areas under wheat, and some in preparation for crops. Thence they proceeded through Euroka station, on to the main road from Bimbi to the Bland Creek, due west; crossing the travelling stock route from Marsden to Morangarell (about 41 miles from Grenfell and 20 miles from Bimbi), and nearly midway between the northern and southern surveyed lines. From this point, after crossing the low country between the Bland and Back Creeks, a direct westerly course was followed to Wyalong, in close proximity to the two surveyed lines. The country between Grenfell and Bimbi was found to be very suitable for agriculture, and of a reddish, sandy loam, limited, on its northern side, by the Weddin Mountains, but stretching out indefinitely on the south and east. Large areas of country under wheat were passed. After leaving Bimbi, more wheat and the same class of good agricultural country were seen for about 5 miles towards the Bland, where the soil changed to a greyish colour and of a slightly clayey consistency, suitable for pasture. From Back Creek, about 14 miles from Wyalong, agricultural country was again encountered, extending to Wyalong, and varying somewhat in character.

#### THE COUNTRY TRAVERSED BY THE PROPOSED LINE.

8. The proposed railway, running in an almost direct line to Wyalong, divides the country between the Parkes to Condobolin and the Narrandera to Hay railways; and, in addition to passing through considerable areas of agricultural land between Grenfell and Wyalong, it would open up good country beyond Wyalong towards Hillston and Cudgellico, where land, however valuable, cannot be properly developed until afforded the advantage of railway communication.

Following the line from Grenfell good agricultural country is passed through for between 20 and 30 miles, a fair proportion of which is under cultivation and producing good crops of wheat; and northwards, towards Forbes, there is first-class wheat-growing land. At a distance of about 25 miles from Grenfell, the Bland plain country is reached, and this may be generally described as rich pastoral land, though the evidence taken by the Committee at Grenfell shows it includes patches fit for agriculture. One witness examined there, for instance, a farmer and grazier, whose holding is situated 29 miles from Grenfell and 4 from Caragabal station, north of the line, has 125 acres under cultivation, and 500 cleared and ready for the plough; another, located 26 miles west of Grenfell, is cultivating 450 acres; while in a third instance, 30 miles to the south-west of Grenfell, there are 220 acres under crop and a prospect of the cultivated area being increased yearly. Each of these is within the area of what comprises the Bland country, though the soil upon the holdings is not the black plain soil regarded as suitable for pastoral purposes only. But the Bland plains, merely as a grazing area, are first-class fattening country, and in judging the probable results from the construction of the proposed railway it should be borne in mind that the pastoral industry is by no means an insignificant factor in connection with the traffic of the line. The extent of black-soil plain country along the route of the railway will contribute its share of the traffic.

From the western limit of these plains agricultural land is again traversed to Wyalong, around which place, and out west to Yalgogrin and Rankin's Springs, and on towards Hillston and Cudgellico, settlement is fairly plentiful and cultivation carried on to more or less extent. The District Surveyor describes the country between Yalgogrin and on towards Rankin's Springs, as for the most part, very excellent soil for agriculture. Three-fourths of it, he says, would grow first-class wheat.

wheat. Around Ungarie, and on towards Cudgellico, there is land of a similar description, some of it cultivated, but most of it lying idle for the reason that its distance from a market precludes farmers from taking it up and putting it under crop. On a leasehold area comprising 80,000 acres, and thrown open three years ago for settlement, there are said to be 60,000 acres of first-class agricultural country not taken up, the distance from a railway being too great to allow of profitable cultivation. This, and much more land of a similar character, would be developed if railway communication were within reasonable distance. Under present circumstances it is beyond the reach of the farmer, and is of little use to the pastoralist, the expense of maintaining it in a condition suitable for grazing being greater than the tenure of pastoral leases justifies.

The Committee are informed by the Chief Draftsman of the Department of Lands that along the route of the line from Grenfell to Wyalong, and within a limit of 20 miles on each side of it, there are 932,000 acres of alienated land, and 144,000 acres of leases other than pastoral leases—that is scrub and settlement leases; 346,000 acres of reserves, and 388,000 acres of Crown lands. Of the leasehold areas there will be available to be dealt with for settlement, between the years 1899 and 1904, 179,000 acres, and there are at present held under occupation license 133,000 acres, which are open to settlement, and 76,000 acres practically untenanted. Between Grenfell and Hillston direct, within the same limit of 20 miles on either side of the route, there are 1,470,100 acres of alienated land, 377,900 acres of leases other than pastoral—that is settlement, homestead, improvement, scrub, and inferior leases—766,600 acres of reserves, and 1,908,300 acres of Crown lands which may be divided into 737,700 acres of leasehold area, the leases of which will expire between 1899 and 1904, and 110,600 acres, in the Western Division, the leases of which will not expire until 1918; 479,400 acres held under occupation license, and 580,600 acres practically untenanted. For the route Grenfell to Hillston *via* Cudgellico, the statistics given are:—alienated land, 1,618,600 acres; leases other than pastoral, 424,100 acres; reserves, 806,400 acres; and Crown lands, 1,871,200 acres, which are made up of 565,500 acres, the leases in connection with which will expire between 1899 and 1904; 289,000 acres of Western Division leases, which will expire in 1918; 550,300 acres held under occupation license; and 466,400 acres practically untenanted.

It has not been possible to ascertain with exactness the proportion of agricultural land included in these extensive areas, but the evidence goes to show that it must be very large, and, generally speaking, the Government Astronomer states, the rainfall in these districts, excepting from consideration the country at the extreme western limit of them, is in excess of what is deemed to be sufficient for wheat-growing.

#### WYALONG AS A GOLD-FIELD.

9. The condition of Wyalong as a gold-field is important to the inquiry, not so much in regard to the traffic which the mines may contribute to the railway—for the evidence indicates that contributions from that source will not be a heavy factor—as in respect of the population which the place is likely to maintain, and the settlement in the surrounding district which the permanent prosperity of the field will bring about. The expert witnesses examined by the Committee see no reason to doubt the field's permanency, but they express the opinion that the mines are not likely to support a larger population than is there now, as, although at the first Wyalong was what might be called a poor man's field, the decomposed granite rock in which the gold-bearing reefs were then found being soft, the rock in which the reefs are now found is hard granite, requiring the employment of large capital. Substantial works at a good depth are what are now necessary.

The field is a peculiar one, and at the time of the Committee's visit the question whether payable stone would be found at depths greater than 300 feet was yet unsettled. Only a few of the mines were working with satisfactory results, and those, together with the remainder of the claims on the field, were anxiously awaiting the outcome of operations which were being carried on in one of the mines at a depth of 600 feet. Since then rich gold has been struck at 637 feet, a fact that indicates the permanency of the field.

The

The country about Wyalong is of granite formation, and according to the scientific evidence the fissures filled with the auriferous reefs probably descend to a great depth, carrying rich stone, if not continuously, at intervals all the way. This is one indication of the permanency of Wyalong as a gold-field, and another is the finding of sulphide of zinc and lead phosphate in the gold-bearing quartz. In the opinion of one expert "there is no presumption we could fall back upon to say why gold should give out in Wyalong." The known auriferous area, it is explained, is very much fissured, and was probably a focus of earth movements. Outside this area fissures were probably not formed. While, however, the gold-producing capacity of Wyalong may to this extent be limited, there is gold-bearing country further west at Yalgogrin, where the reefs are mostly in slate, and it is regarded as quite possible that gold and other minerals may yet be discovered as far west as Hillston and Menindie, and northwards towards Condobolin.

#### THE RAILWAY COMMISSIONERS' ESTIMATE OF TRAFFIC.

10. On the question of the probable traffic which will be secured by the proposed railway, it is the opinion of the Railway authorities that, although except within the area of a few miles west of Grenfell there is not at present much settlement along the route, the fact that a great deal of the land is of a very good agricultural description, with the areas under crop increasing, a large portion of it excellent for pastoral purposes, and the whole very promising, it is certain that with the construction of the line there will be a great increase in settlement, and, in time, a satisfactory traffic. As already stated, the traffic estimate of the Railway Commissioners amounts to £5,863, which estimate includes £3,000—£2,300 for goods and £700 for passengers—for traffic which, by the construction of the railway, will probably be diverted from the Temora-Cootamundra line. The following are the details:—

		<i>Goods.</i>								
				£	s.	d.	£	s.	d.	
Coming in at Wyalong—										
	1,500 tons at 5s.	...	...	...	375	0	0			
	2,000 „ 12s. 6d.	...	...	...	1,250	0	0			
	661 tons of wool at 9s.	...	...	...	297	9	0			
	656 „ ore at 1s. 6d.	...	...	...	49	4	0			
	<hr/>							1,971	13	0
	4,817 tons.									
Coming in at the Bland Crossing—										
	80 tons of goods at 5s. 8d.	...	...	...	22	13	4			
	60 „ at 11s. 4d.	...	...	...	34	0	0			
	740 „ of wool at 9s.	...	...	...	333	0	0			
	570 trucks of stock at 6s. 10d.	...	...	...	194	15	0			
	<hr/>							584	8	4
Coming in at Wheogo—										
	25 tons of goods at 5s.	...	...	...	6	5	0			
	181 „ wool at 3s.	...	...	...	27	3	0			
	<hr/>							33	8	0
	206 tons.									
	<hr/>							2,589	9	4
	5,903 tons and 570 trucks of stock.									

		<i>Passengers.</i>								
				£	s.	d.	£	s.	d.	
	5,000 at 10s.	...	...	...	2,500	0	0			
	500 at 7s. 6d.	...	...	...	187	10	0			
	<hr/>									
	5,500				2,687	10	0			
	Less diversion from Temora—2,000 passengers									
	at 6s. 4d.	...	...	...	633	6	8			
	<hr/>							2,054	3	4
	Mails, £720; parcels, £500	...	...	...				1,220	0	0
	<hr/>									
	Total	...	...	...	...	...	...	£5,863	12	8

The foregoing figures are based on the present estimated traffic prospects. They make very little allowance for agricultural development, and, under the circumstances,

circumstances, the annual loss upon the line which the Railway Commissioners' Report shows, is not regarded as an unreasonable one to face. The carriage of ore from the mines, which is included in the Railway Commissioners' traffic estimate, is a matter which some of the witnesses examined upon it do not regard as an important source of revenue, as they predict that the ore raised will be treated on the field by processes which do not involve even the carriage of fuel. But much in this direction depends upon further mining developments in the district. There are smelting works at Dapto, where considerable quantities of ore from Wyalong have been smelted, and works for the treatment of ore of the same kind by the electrolytic process are being erected at Lithgow. It may be found by the mine owners at Wyalong profitable to continue to send part of the products of their mines to these works; or smelting works may be erected at Wyalong, where, in addition to the ordinary battery treatment, the cyanide and chlorination processes for extracting the gold from the ore are the only methods now in operation.

The Committee, in their inquiry as to the probable traffic results from the construction of the line, found the question hampered by the condition of much of the country, and the losses sustained by farmers and graziers, consequent upon the prolonged drought. At present matters in this respect may be said to be at their worst; should better seasons prevail, there is every probability of the Railway Commissioners' traffic estimate being exceeded.

#### THE TEMORA TO WYALONG ROUTE.

11. Of the route from Temora to Wyalong, which has had careful consideration by the Committee, as being a suggested rival of that from Grenfell, much can be said that is favourable; but it does not commend itself to the Railway Commissioners, and cannot be regarded as a line that will serve the western country as satisfactorily as the one from Grenfell. It is shorter, cheaper in cost, and the country it passes through is mostly good agricultural land; but to construct it would be to leave a gap of 59 miles between Wyalong and Grenfell without a railway, the distance to Sydney from Wyalong by rail would be several miles longer than by way of Grenfell, and it is probable that while the cost of construction would fall on this Colony, the trade of Wyalong and the surrounding district would be diverted elsewhere. During the inquiry, it has been suggested that, in extending the railway from Temora, it should go due west through Ariaah, towards Gunbar. Such a line would divide the country between the Grenfell-Wyalong-Hillston line and the railway from Narrandera to Hay, and complete a batch of four parallel lines by which the requirements of the districts between the Lachlan and the Murrumbidgee Rivers would be adequately met.

#### CONCLUSION ARRIVED AT.

12. The proposal to construct this railway must be looked at broadly, and the line regarded, not as one in the interests of Wyalong, but as a railway intended eventually to serve by subsequent extension the country west of Grenfell as far as the Lachlan. The true national policy in extending railways westward towards the Lachlan River is, in the opinion of the Committee, to construct them in the manner represented by the present proposal and by the suggested extension from Temora towards Gunbar; for such lines must lead to an increase of settlement and production, and prove valuable feeders of the main railway system. If they could be constructed still more cheaply than up to the present it has been found practicable to build pioneer lines in the interior, it would be an additional advantage. The Engineer-in-Chief considers that he has reached the limit of cheapness consistent with stability; but it seems to the Committee that every effort should be made to reduce the cost still further by using a less expensive sleeper than is now obtained, ballasting as little as possible, and providing station accommodation only to the extent absolutely necessary. This would require the adoption of light rolling stock and the running of trains at a low rate of speed, but even these would be a great advantage to the districts served, and as traffic increased the line could be improved.

The resolution passed by the Committee is shown in the following extract from their Minutes of Proceedings of 12th and 13th September, 1899 :—

Dr. Garran moved,—“That, in the opinion of the Committee, it is expedient the proposed Railway from Grenfell to Wyalong, as referred to the Committee by the Legislative Assembly, be carried out.”

Mr. Shepherd seconded the motion.

Mr. Dick moved,—“That the motion be amended by the insertion of the word ‘not’ before the word ‘expedient.’”

The Chairman ruled the amendment to be out of order, in accordance with a ruling on 24th November, 1897, that the object of the amendment could be attained by voting against the motion, and that any further amendment could be put before the Committee, subsequently, as a direct motion.

The motion was passed on the following division :—

Ayes, 4.	;	Noes, 3.
Mr. Perry,		Mr. Dick,
Mr. Shepherd,		Mr. Watson,
Dr. Garran,		Mr. Levien.
Mr. Trickett.		

W. J. TRICKETT,  
Chairman.

Office of the Parliamentary Standing Committee on Public Works,  
Sydney, 19 September, 1899.

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# PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

## MINUTES OF EVIDENCE.

### RAILWAY FROM GRENFELL TO WYALONG.

TUESDAY, 30 MAY, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee proceeded to consider the expediency of constructing a line of Railway from Grenfell to Wyalong.

Robert R. P. Hickson, Under Secretary and Commissioner for Roads, Department of Public Works, sworn, and examined:—

1. *Chairman.*] Have you brought a statement in reference to the proposal to construct a Railway from Grenfell to Wyalong? Yes.
2. Will you be good enough to read the statement? It is as follows:—

GRENFELL TO WYALONG.

R. R. P.  
Hickson.  
30 May, 1899.

This proposal in conjunction with the Koorawatha to Grenfell line originated in October, 1896, in a suggestion made by the Parliamentary Public Works Committee in their Report upon the proposed Railway from Condobolin to Broken Hill, and by Mr. Greene, M.P. With the approval of the Minister, Mr Surveyor Jamieson was sent to explore and report on the country between Wyalong and Cowra with a view to selecting the best route for a railway junctioning with the line between Cowra and Young. Koorawatha was selected as a starting point, and the Bill for the construction of the line from Koorawatha to Grenfell has recently been passed by Parliament.

The survey of this line in conjunction with that from Koorawatha to Grenfell was approved by Mr. Secretary Young in January, 1897, and completed in December of the same year.

Under the direction of the Engineer-in-Chief for Railway Construction, two routes have been surveyed, one *via* the Weddin Range, and the other *via* Bimbi, the former being eventually adopted.

The following is an estimate and description of the line as supplied by Mr. Deane:—Revised length, 59 miles; estimated cost, £142,292 10s., or £2,412 per mile, exclusive of cost of land and compensation.

This proposed railway commences at the end of the permanently staked line, Koorawatha to Grenfell, at 309 miles 35 chains from Sydney *via* Harden; thence curving round to the left it bears in a westerly direction crossing a spur of the Weddin Mountain Range at 310 miles 40 chains; thence it runs parallel to the Forbes-road, which it crosses at 313 miles 70 chains; thence in a southerly direction to travelling stock reserve 530, which it crosses at 315 miles 40 chains, and bearing due west Weddin Creek is crossed at 318 miles 20 chains, and a main spur of the Weddin Mountain at 320 miles. Here the line takes a south-westerly direction crossing Caragabal or Blind Creek at 332 miles 65 chains, and the road from Bimbi to Marsden at 335 miles 35 chains; thence it runs nearly due west up to 342 miles; thence bearing south-westerly travelling stock reserve 2,332 is crossed at 345 miles 60 chains, travelling stock reserve 574 at 347 miles 30 chains, Bland Creek at 348 miles 70 chains, and Back Creek at 353 miles 50 chains; thence running a little more westerly up to Wyalong, where it crosses the permanently staked line, Temora to Wyalong, at 365 miles 60 chains, and running due west parallel to the township alignment, it ends at 368 miles 35 chains.

The ruling grade on this line will be 1 in 100, and the sharpest curve 14 chains radius. The works will be fairly light.

By direction of the Minister, the Railway Commissioners, on the 29th November last, were asked to report in accordance with the provisions of the Public Works Act. This report was received on the 13th December, and is as follows:—

Proposed line of Railway from Grenfell to Wyalong—60 miles.

In accordance with the provisions of the Public Works Act of 1888, section 13, we beg to report as under:—

*Cost of Construction*—

The Engineer-in-Chief for Construction estimates the cost of construction of a single line of light railway, exclusive of land and compensation, at about..... £142,292

*Annual Cost*—

Capital expenditure, at 3 per cent. .... £4,269  
Estimated cost of maintaining permanent-way, and for traffic and locomotive expenses ..... 4,843

Total annual cost ..... £9,112

*Traffic Estimate*—

Merchandise and live stock .. £2,589  
Passenger traffic ..... 2,054  
Mails ..... 720  
Parcels ..... 500

Total annual traffic..... £5,863

R. R. P.  
Hickson.  
30 May, 1899.

From the information which is obtainable after careful inquiry the estimated revenue cannot be stated at a larger sum than is mentioned above. Comparing this sum with the annual working expenses and interest on capital it will be observed that there will be a considerable shortage until the traffic largely develops.

No doubt the district has considerable prospects, but it is not a matter of certainty that the time has arrived for Wyalong to have the benefit of railway connection. If, however, it is decided that the railway should be extended to Wyalong, the extension, in the opinion of the Commissioners, should be from the proposed Grenfell line.

CHARLES OLIVER,  
Chief Commissioner.  
W. M. FEHON,  
Commissioner.  
DAVID KIRKCALDIE,  
Commissioner.

The final action was taken on 22nd December, 1898, when the Minister moved in the Legislative Assembly that the proposal be referred to the Public Works Committee.

From the Lands Department I have received the following information with regard to the tenure of land within 20 miles of each side of the line :—

Alienated land.....	888,250 acres.
Settlement and improvement leases .....	55,940 „
Reserves .....	342,470
Crown lands.....	429,950
	772,420 acres.

It might also be mentioned that strong representations have been made in favour of railway connection with Wyalong from Temora, a distance of 38 miles 46 chains, the estimated cost of which is £104,430, or £2,707 per mile.

3. Do you produce the plans and Books of Reference? I do.

4. Has a proposal to construct a line from Temora to Wyalong had consideration by your Department? Yes.

5. The cost of the line from Grenfell to Wyalong is set down at £2,412 per mile, and the cost of the line from Temora to Wyalong is estimated at £2,707 per mile? Yes.

6. Have you any information to furnish as to the nature of the country through which the proposed line from Grenfell to Wyalong will pass? I cannot speak of the country from my own knowledge. I have not been through it.

7. The annual loss which is shown by your statement is £3,249;—has the Department any information as to whether a line of railway through this district would enable settlement to take place, and thereby reduce that loss? No; but you can get that information from the Lands Department.

8. Is it not usual for your Department to get that sort of information before submitting these lines? No.

9. There is nothing in the papers to show the class of country through which the line is to pass? The officers who surveyed the line can tell you exactly the class of country it passes through.

10. Can you tell us whether there is a railway reservation along the route of the proposed line? Not from my own knowledge. The railway surveyor will be able to tell you that.

11. All the information you have to give the Committee is given in the statement you have read? Yes.

12. *Mr. Watson.*] You said that the estimated cost of the line from Temora to Wyalong is put down at £104,430, or at the rate of £2,707 per mile? Yes.

13. In saying that, I presume you are going on the estimate made by Mr. Deane in 1894, which I see comes out at that rate? Yes.

14. Are you aware that during the following year Mr. Deane put forward a revised estimate, allowing for a further length of a mile and a half, and yet bringing out a reduced total of £92,000? I see that is so.

15. You remember a previous inquiry into a proposed extension from Temora to Wyalong? Yes.

16. There was an inquiry in 1894, in which the estimate was given which is given in your statement to-day;—the line was estimated to cost £104,430, or £2,707 per mile? Yes.

17. But in 1895 Mr. Deane put in an amended estimate, which brought down the total cost to £92,000? Apparently; but I would like you to ask Mr. Deane for an explanation of that. I did not make a statement in connection with a railway from Temora to Wyalong.

18. You have seen his evidence showing a rate of £2,300 per mile, although he allows for an additional length of a mile and a half? That is right.

19. Were you not at one time stationed in the Southern district? No.

20. Therefore you have no knowledge of that country at all? No.

21. I presume you have heard of the Bland Plain, through which Bland Creek runs? Yes.

22. Have you ever heard it associated with close settlement? I have.

23. Or as being mainly pastoral country? I happen to know a good many people from that district, and in that way I have a fair knowledge of what the district is, but I cannot speak of the district from personal knowledge.

FRIDAY, 16 JUNE, 1899.

Present:—

THE HON. WILLIAM JOSEPH TRICKETT (VICE-CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

Henry Deane, Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and examined:—

H. Deane.  
16 June, 1899.

24. *Mr. Watson.*] Have you been over the route of the proposed line from Grenfell to Wyalong? I have been over the line from Grenfell towards Caragabal. I have not been over the rest of the line except at Wyalong itself.

25. Can you describe the character of the country between Grenfell and Caragabal? The country is very good. In most parts it is of an agricultural character—red soil, until you get near the Caragabal run, and there you get into the flat country with black soil.

26. How far is it out of Grenfell before you reach the Weddin Range? Between 10 and 11 miles.

27.

27. Up to the Weddin the country is easy, I understand? The crossing of the first range to the west of Grenfell presents some difficulties, and there are some heavy cuttings and banks; otherwise it is fairly easy. The work at the Weddin Range is not so heavy as it is over the first range.
28. You have two alternative routes shown on the wall maps, one being more northerly than the other? Yes.
29. Both routes trend towards the Piney Range Crossing of the Weddin? No; they cross very nearly at the same spot,—that is to say, within about a mile of one another.\*
30. From an engineering standpoint, which route presents the least difficulty? The southern one, but it is half a mile longer. The estimated saving by going on this dotted line to the south is £5,450, but the line is half a mile longer. And there is this also to be remarked, that if a line is some day made towards Forbes, the upper line—that is the line submitted—would save a good deal of construction. Starting by the southern line, it would be  $5\frac{1}{4}$  miles longer to get to Forbes, and the cost of the extra connection would be about £8,000. Therefore, the net cost of completing the whole system—that is, going from Grenfell to Wyalong and from Grenfell to Forbes by that method—would be £2,550; but suppose, as I recommend, this northern line were taken, there would have been  $5\frac{1}{4}$  miles of the Forbes line already saved. If the southern line were taken for a line to Wyalong, and a separate line were taken to Forbes, the total extra expense in doing that would be £11,000; so that what is to be considered is that the upper line is the shorter by half a mile, also serves better for the line to Forbes, and in that way saves very considerable expense.
31. Is the first range just out of Grenfell a portion of the Weddin Range, generally? No; it is an independent spur. The Weddin Range runs approximately north and south, with a bend in the middle at the Weddin Mountain; the range just to the west of Grenfell also runs nearly north and south with a slight north-east and south-south-west trend. About 10 miles south-west of Grenfell it curves round and meets the southern extension of the Weddin Range. It is not very much of a range down there. The range falls away as it goes down south.
32. What is the character of the land between that range just west of Grenfell and the Weddin Range proper? It is more or less undulating.
33. Is it scrub country, or fit for settlement? It is all fit for settlement, I think, so far as I had the opportunity of observing, and so far as the reports show. It is good for settlement up to the base of the range proper.
34. What grades do you get, then, between Grenfell and the main Weddin Range on either of the routes? We have got a grade of 1 in 100.
35. Will that apply to the crossing of the Weddin Range? Yes. There is no difficulty in crossing the range, because it is comparatively flat at that part, and the line will go through a kind of saddle. This alternative line goes through a saddle, and where the northern line crosses the range flattens out considerably.
36. I think you said that that land from Weddin to Caragabal was mostly red soil? Very largely red soil.
37. For what distance do you reckon the red soil extends west of Weddin before you reach the clayey soil? I do not know that I took any note of the distance.
38. At any rate the red soil extends some little distance west of the Weddin? Yes.
39. Probably it is an alluvial which has been washed off the mountains? It is very good soil for agriculture for a long way out.
40. You know the character of the soil on the Bland Plains—that is after you leave the red soil? Yes.
41. It is a black clayey soil? So I believe; I have not been across the Bland.
42. Do you know that it is very frequently flooded? Yes.
43. Of course you are aware that latterly there have been no wet winters? No.
44. Since 1894 there have been no wet winters? No.
45. Consequently, from an engineering standpoint, it would have been in a better state during the last few years than it has been for a very long time previously? Yes.
46. Have your officers who have been engaged on the detailed survey got any particulars as to the flooded area and the depth and the velocity of the water in flood-time? They have reported on the flood-levels. There is a considerable extent of flooded country; but the current is for the most part slow, and the depth of the water for the most part very small. In going through the question of the waterways on this line, I added £1,500 to the estimated expenditure over and above what the surveyors recommended. That would be chiefly applied in crossing the Bland and Back Creeks.
47. In crossing the two main creeks? Yes, and the flooded waters.
48. Did your surveyors get any information on the point of the stability of the land in wet weather to carry anything? I do not remember whether they have; but we have in all parts of the Colony had to cross country which has been pronounced to be very boggy, and I have never found any difficulty with it. When you drain the line by side ditches, and throw up an embankment, you make a firm foundation for the permanent way.
49. I should imagine that in this case, as there is practically no outlet for the water—it lies so long on the surface—the flow is comparatively nothing—that your draining in a very wet time would not be of very much value? You would keep the top of the formation well above the water.
50. You see the country is almost flat where the Bland crosses the line between Young and Temora, and from there on to Lake Cowal it is almost flat, and any flood which comes down, simply comes along at the rate of half a mile an hour, or perhaps less? Yes; the fall must be very small.
51. I should think that the fact that the fall is so small would militate against the success of any attempt at draining? Yes, if the water lies about the country extensively. Of course, the making of a railway, and the making of side ditches, would not drain away the water; I do not propose to make ditches to drain it to another part of the country, but only to keep it off the particular track we are using. I should have no fear whatever of any soil I have met with in New South Wales making a firm foundation for a permanent-way. The case is quite different with an actual swamp, which is composed mostly of vegetable matter. In this case it is earth, although at times it is very soft.
52. A squatter who resides on the Bland told me a little while ago that he has seen a hut disappear from the scene in a very wet winter; I assume that the fact that there has been no wet winter since your surveyors have taken this route in hand would be some disadvantage, so far as arriving at proper data on the subject is concerned? They have instructions always to get the best information from the residents:

H. Deane,  
16 June, 1899.

\* NOTE (on revision) :—This refers to the deviation shown on the compilation of parish maps, not to the Bimbi route.

- H. Deane. 53. The distance between Grenfell and Wyalong is about 57 miles? It is 57 miles to the Government township, and 59 miles to the point where we propose to go.
- 16 June, 1899. 54. In that length of 57 miles, how many miles do you estimate would be taken up in crossing this black, clayey soil on Bland Plain? I daresay there might be 4 or 5 miles of the worst of it.
55. How high is the embankment which you have provided across the plain? The water does not generally rise high. All you want to do in a case like that is to bring the top of the formation (say) about a foot above the possible level of the water, so that in parts where the water was only 6 inches deep it would be only necessary to make the embankment about 18 inches high. Between these higher places one would naturally run on a level, so that it might be any depth above that, according to the position and the levels of the ground. I should say that the formation over the worst places, that is the long flats, but not over the parts where there is a defined watercourse, is from 4 to 3½ feet high; and that would be quite sufficient, according to the flood-levels which have been observed.
56. You do not anticipate any probability of any of the embankments being washed away, as the velocity of the flood is not very great? No; I should put very extensive openings, and I am now getting some very heavy rails with a view to making, cheaply, low viaducts in situations like that. In that way I shall be able to make these low waterways very cheaply, giving perhaps nearly double the length which has been previously given for the same cost.
57. How will the cost of these low viaducts of the new description compare generally with the cost of earthworks;—a third more costly or double as costly? I daresay they would come to four or five times the amount of the earth-works.
58. What have you allowed in the way of bridge-work for the crossing of the main Bland Creek? I have not worked it out quite in that way, but I think it will come to about 1,000 feet of viaduct and bridge. For the main opening there I have about 240 feet, and then a viaduct on each side would probably be between 700 feet and 800 feet altogether.
59. You have not been over the country between Wyalong and Caragabal, but you have been over the route of the proposed line from Temora to Wyalong? Yes.
60. What was your impression of that route so far as engineering practicabilities were concerned? It is quite a practicable route. You get grades of 1 in 100. The worst part of that route is a belar swamp, between Barmedman and Wyalong.
61. What is the extent of the swamp? I do not remember exactly, but it is a good distance.
62. Did you attempt to find out whether that could be avoided by a detour either to the east or to the west? It could be lessened by keeping over, I think, to the east.
63. Do you think it would be possible by a detour to get round that—or to some extent, anyhow? Yes, I think our line avoids a great deal of the swamp that there is on the road.
64. The distance from Temora to Wyalong is 40 miles? Yes. I would point out that the line as laid out to Wyalong only went to the Government township, so that you would have to add nearly 2½ miles to that length. There were two surveys made—one where the line crossed round on the south side of the Government township, and the other where the line kept on the right-hand side of the Government township; and either of these lines reaches to a point 2½ miles short of the point which is reached by the Grenfell-Wyalong line.
65. The cost of constructing the 2½ miles additional length by either route would be about the same? It would be just the same. On the second survey the line was lengthened a little to get better grades. There was a deviation, I know, at Barmedman; and there was another slight deviation at a hill a little beyond there.
66. Going to the same terminal point, the line from Grenfell would be about 59 miles as against 42 miles in the case of the line from Temora? Yes.
67. So that it would mean 17 miles less to construct if you went from Temora? Yes.
68. Do you know whether the distance from Sydney *via* the Southern line to Temora is much greater than the distance *via* the Western line to Grenfell and Wyalong? From Wyalong to Sydney the distance *via* Grenfell, Koorawatha, and Harden is 368 miles 35 chains, the distance *via* Koorawatha and Blayney is 326 miles 47 chains, and the distance *via* Temora is 333 miles 35 chains. So that going by the Grenfell line and the western line it is about 7 miles shorter than going by Temora.
69. So that by 17 miles more construction you save between 6 and 7 miles in a total length of 340 miles? Yes.
70. That is the advantage from the construction of the 17 miles of extra line across the Bland? Yes, besides of course the amount of country which is served.
71. How does the country between Temora and Barmedman compare generally with the country between Grenfell and Caragabal? There is a great deal of good country between Temora and Barmedman. The good country there is probably of very much the same character as that west from Grenfell; but there is a patch of scrub country which you pass through in going from Temora to Wyalong.
72. It is at Reefton, where there is a gold-mining centre? Yes.
73. Between Barmedman and Wyalong what is the character of the land near the main road, or off the main road? I do not think it is as good there.
74. Have you been off the road between Barmedman and Wyalong? Only a very short distance.
75. Did you hear anything which led you to believe that the character of the land was any different from the character of the land at some distance away from the direct route? I suppose, going east of the route, the country rises pretty soon on to the range. As regards the character of the country, I should not pretend to make a comparative statement of any great value, because the times at which I visited the districts were rather far apart. If I were deputed to make a comparison I would make a round trip, and compare them at the same time under the same conditions.
76. I think, in theory, Hillston is the object aimed at in the projection of this line out west? Yes, that is laid down, I believe, as the ultimate terminus.
77. Have you been over the route between Wyalong and Hillston? Not yet; I have been over the country between Wyalong and Cudgellico, but I have not been to Hillston; we have a survey just completed between Wyalong and Hillston.
78. Of a more direct character than the original projection *via* Lake Cudgellico? Yes; the first survey which was made to Hillston went direct from Barmedman.
79. That was before Wyalong was discovered to be gold-bearing? Yes; that is shown on the map. Then an idea was to go up to Lake Cudgellico, and thence to Hillston; but the more recent survey has been from Wyalong direct instead of Barmedman.

80. Have your officers furnished any information which you can give about the country generally between Wyalong and Hillston? I have only just received it, but I shall be very pleased to lay it before the Committee.

H. Deane.  
16 June, 1899.

81. In his statement the Under Secretary for Public Works says that the line from Temora to Wyalong is estimated to cost £104,000, or at the rate of £2,707 a mile. In this case he seems to have taken the earliest and necessarily least detailed survey as the basis for the statement? Yes; that estimate was reduced to £92,000.

82. In 1895, I understand, you put before the Committee a revised estimate of £92,000 for a line longer by some 2 miles, or at the rate of £2,300 per mile? Yes.

83. The cost of a line from Temora would be at the rate of £2,300 a mile, while the cost of a line from Grenfell would be at the rate of £2,412 a mile, showing an apparent saving of £112 a mile? Yes.

84. And a total saving in capital cost of about £50,000—the difference between £92,000 and £142,000? To that sum of £50,000 we should have to add the cost of the 2½ miles extension to West Wyalong.

85. Roughly speaking, it would be an expenditure of £5,000? It would be rather more than £5,000, because there would be an extra station as well. It would be a little over £6,000.

86. The Temora-Wyalong line would cost £44,000 less than the other? I dare say that would about represent the cost.

87. With the disadvantage of Wyalong being 6 miles further from Sydney by rail? Yes.

88. Do you know whether the Western line is more suitable for running extra traffic on than the southern line;—the grades are heavier on that route, are they not? I could give an opinion, but it would come with very much better authority from the Commissioners.

89. *Vice-Chairman.*] Have you prepared a detailed statement of the expenditure? I have.

90. Will you be good enough to read the statement? It is as follows:—

## GRENFELL TO WYALONG—DIRECT ROUTE.

27 January, 1899.

Estimated cost of a single line of railway 59 miles in length with 60-lb. rails. Ruling grade 1 in 100.  
Sharpest curve, 14 chains radius.

Description.	Estimated cost.	Average per mile.
Earthworks .....	£ 11,682 0 0	198
Timber bridges .....	9,912 0 0	168
Level crossings, cattle stops, and fencing .....	3,540 0 0	60
Permanent-way materials .....	37,582 9 4	637
Freight .....	8,564 17 6	145
Plate-laying @ 1s., £5,192 .....	31,541 8 0	535
Ballasting, (1) @ 3s. 6d., £4,543 .....		
Sleepers @ 3s., £21,806 8s. ....		
Station works including sidings.....	9,399 14 2	159
Station buildings, waiting sheds, £715; platforms, £400; station-masters' houses, £700; loading banks, £650; goods sheds, £365; grain sheds £500; 5-ton cranes, £400; 20-ton weighbridges, £500; trucking yards, £1,080; engine-shed, £550; carriage-shed, £380; coal stage, £200; turntable, £550 .....	7,490 0 0	127
Water supplies, No. 3 .....	5,000 0 0	85
Telegraph .....	885 0 0	15
Gradient and mileage posts.....	885 0 0	15
Engineering and contingencies, 12½ per cent. nearly .....	£126,482 9 0	268
	15,810 1 0	
	£142,292 10 0	
Average cost per mile .....	£2,411 14 9	

91. That is comparatively much cheaper than the extension from Koorawatha to Grenfell? Yes; on the whole, the country is very much flatter; with the exception of those two ranges which I have mentioned the country is very easy.

92. The saving is very marked in regard to earthworks, timber bridges, and level crossings? Yes.

93. That is accounted for by the more favourable character of the country, is it not? Of course the level crossings are very much fewer in this case than in the other, the country not being so thickly settled.

94. In that case the cost of the station works was estimated at £187 per mile, but in this case I see the cost is estimated at £159 per mile;—will they be of a cheaper character? No; they will be of very much the same character, but there will be fewer of them.

95. In the case of both station works and station buildings, the cost is much cheaper in this case? Yes.

96. Water supply is estimated to cost £85 per mile in this case as against £101 per mile in the other case? In the case of the Grenfell line I reckoned that the supply of water would be rather expensive at the Grenfell end. There is one expense distributed over 29 miles, and there is a smaller amount allowed in this case. Dividing it by the mileage it comes to less per mile on this line than on the Grenfell line.

97. Will the supply for both lines be provided by means of tanks? By excavated tanks or dams.

98. There is no creek supply? No.

99. The line from Temora to Wyalong ran chiefly along a main road? Yes.

100. Do you get that advantage with this line? No; you cannot follow any roads with this line.

101. Will it be largely private land that it will pass through? Yes; it passes through alienated land for 33 miles 75 chains, and Crown lands 25 miles 5 chains, total 59 miles.

102. It is all unimproved land, not cultivated land, that it goes through? There is very little that is cultivated.

103. The land resumptions would not be very expensive? No.

104. On the whole, which line of the two is the easier to construct? As regards ease of construction I do not think there would be any difference.

- H. Deane: 105. It is the extra distance which will make up the extra expense? Yes. The Grenfell-Wyalong line is a little more per mile; that means that the works are a little heavier.
- 16 June, 1899. 106. It will be of the same character as one of our light lines? Quite the same.
107. Have you given any consideration to the question of policy as to which is the best way of reaching this western country—whether by this means or whether by an extension from Condobolin? No; except that it has appeared to me that it cuts up the country better and serves the country better.
- 108-9. The Grenfell-Wyalong line divides the country better? Yes. It looks as if the Temora line ought to be extended from Ariah and Warri, and west from there.
110. It is between the two mother lines that the greater conflict would appear to occur, after you begin to go out towards Broken Hill; the Railway Commissioners were apparently of opinion that any further extension by way of Wyalong would be a kind of competitor to an extension from Condobolin to Broken Hill;—have you considered that view of the case? So it would; the extension beyond Condobolin has been condemned.
111. Do you think this line is likely to be constructed at your estimated cost? I think it will about cover it. I should not like to have any less, I think the estimate is, perhaps, rather tight in some cases.
112. The estimated cost of the line from Cootamundra to Temora was considerably exceeded—by between £3,800 and £3,900 a mile? I do not think the estimate was so exceeded, but the authorised cost was exceeded.\*
113. Why was that? It is a ballasted line; it is a line which was made on the old system. It is a line which was very carefully surveyed too; but if I were laying out that line again I have no doubt that I could reduce the cost to some extent. I should make it, perhaps, a little longer, to avoid cuttings. There are a good many cuttings and banks on the Cootamundra-Temora line—they are not very large, but with the present method one would try to avoid these as much as possible by lengthening the line.
114. Is the character of the country generally similar to the character of the country from Temora to Wyalong, and from Grenfell to Wyalong? Not unlike in the first part of it.
115. Has the Koorawatha-Grenfell line been started yet? No; the plans are not quite ready.
116. Tenders have not been invited? No.
117. *Mr. Watson.*] Do you purpose inviting tenders? Yes; it is proposed to do that line by contract.
118. *Dr. Garran.*] Has any survey been made from Young to Wyalong? I am not aware of any except from Grenfell.
119. If this line to Wyalong is made at all, it is intended deliberately to be a section in the direction of Hillston? Yes.
120. And even Hillston itself is a possible stepping-stone on the road to Menindie? Yes; that would be the way Menindie would be reached, if the line were continued to Hillston.
121. The present idea is that, if we go to Menindie at all it will be *via* Hillston? I think so.
122. And *via* Wyalong? Yes.
123. At any rate you look upon this line as proposed, not as a complete line in itself, but as part of a sketch for the future, is not that so? I should not like to speak for the Government or the Minister in that respect, but that is evidently the idea which appears on the face of it. It would naturally follow, I think.
124. So far as you are concerned, as an engineer, you merely consider the section which is put before you from time to time? Yes; but I know that a line has been surveyed to Hillston.
125. This Committee cannot shut its eyes to the fact that there are other projects looming in the distance? No.
126. Then looking at Hillston and Menindie as a further object lesson, we are to have three possible routes—by way of Condobolin, by way of Grenfell, and by way of Temora? Yes.
127. On purely engineering grounds it appears that a line from Temora to Wyalong is the shorter and the cheaper? Yes.
128. Do you think the Grenfell line divides the country better? That is how it appears to me.
129. So far as settlement is concerned is there any ground of preference between the Grenfell and the Temora line? I should not say there was.
130. Have you noticed on your travels whether there was any wheat growing at all on either of these routes? Yes; there is a little wheat growing to the west of Grenfell, but not very much because at present the carriage is rather heavy.
131. Is there any wheat growing around Temora now, since the line has been made? It is some time since I visited that part. I believe there is some.
132. Are we getting too far west for wheat growing? Not at all; there is a good deal of wheat grown down Mirrool Creek.
133. You have an engineering difficulty of a moderate character in crossing Bland Creek, I understand? Yes.
134. You require 2 or 3 miles of viaduct? There will be a good length; but I do not think it will amount to that, because the velocity of the stream is so small. There will be no objection to throwing an embankment over the greater part of the distance.
135. It would not run away with an embankment? No.
136. If you allow sufficient get away for the water an embankment would stand the pressure? Yes.
137. The preference which you give to the line from Grenfell, I gathered from your evidence, is entirely due to the possibility of an extension to Forbes? That is so, as regards the choice of routes out of Grenfell, because a difference of half a mile would not be anything.
138. We are hardly likely to have a line from Grenfell to Forbes unless we have one from Grenfell to Young? I do not think it would depend upon that.
139. Is there any strong inducement to make a line to Forbes from Grenfell now that we have a line from Parkes? No; I have not heard of it being brought forward for a long time.
140. Would it shorten the distance from Forbes to Sydney? I think not.
141. Supposing a line were made from Temora to Wyalong, and there were a considerable amount of agriculture at Wyalong, the farmers at Wyalong would have equal access to the Melbourne market and the Sydney market by the Temora route? Yes. 142.

\* NOTE (on revision):—I find on looking the matter up that the total cost, including the arbitration award, was £154,898, while the estimate, together with additional works, and bonus to contractors subsequently awarded, was £142,200.

142. Better than they would by the Grenfell route? Yes; it is rather a question whether that is wanted. H. Deane.
143. Sometimes the market for produce might be better in Melbourne than in Sydney? You have the whole of that Riverina country to the south, and if any of our produce should go to Melbourne in the future it will be from Riverina rather than from the country which lies to the north of it. 16 June, 1899.
144. The best market, generally, for these western cultivators is to supply the pastoral country to the west of them? I suppose so.
145. It is only their surplus which they have to send to the shipping ports? I suppose they would supply, in the first instance, the towns of the district.
146. When they have got more than they can sell in the district it must go to the ports for shipment? Yes; and that is what will happen, no doubt, in a year or two, if not this year.
147. So that it is only the agricultural surplus we have to consider in looking at the best method of getting to a port of shipment? Yes.
148. Still, sometimes it may happen that freights are cheaper from one port than from another? Yes.
149. And it would be an advantage for these Wyalong people to have access to either market, would it not? In a case like that I am not quite sure that I altogether agree with the premises as to there being an advantage at Melbourne as against Sydney.
150. But the outward freights depend a good deal on the congestion of shipping in the port, do they not? Yes.
151. Sometimes there is more shipping in one port than in another—it varies very much? Yes.
152. Nearly all other things being equal, it is an advantage to an inland township to have two strings to its bow in shipping its produce? Very likely, I should say.
153. But that is to be counted as one of the elements in the competition between these two routes? I think it is only a small one.
154. If there were no prospect at all of extending the line from Grenfell to Forbes, you would give the preference to the south-about route? In the matter of expense I would certainly recommend the southern route.
155. So far as crossing the Bland is concerned, would there be any difference in cost between the two lines—that is the direct line from Grenfell and that *via* Bimbi? No; they meet again at 13 or 14 miles from Grenfell. I think a little explanation is necessary here. This dotted line which is shown on the wall-map is a deviation *via* Bimbi. The deviation, which I referred to before as being half a mile longer, and as costing £5,450 less, is a small deviation from west of Grenfell, shown on the parish maps; but the Bimbi deviation which is shown on the wall-map, and is very much further south, stands rather on a different footing. Perhaps I had better explain that.
156. Would that go to Grenfell at all? Yes; the line from Koorawatha will have to make a bend to the south, and following down Emu Creek.
157. That would be a very circuitous line? It would. It is not so much longer as one might imagine. It is only a little over 3 miles longer, because you see on the northern route the line twists about a good deal to get over the first range; whereas by going *via* Bimbi, the country is very easy all the way; there are no ranges to cross.
158. If you are going to take that Bimbi route, it would be shorter for you not to go into Grenfell township; but to leave the main line a mile or two before you get into Grenfell? Yes. The total cost of that line is £141,512—that is to say, it is about £700 less than the cost of the direct route. But I think the opinion has been expressed that with the exception of the country you pass through immediately after starting at Grenfell, which is already served by the Koorawatha-Grenfell line, the country is not so suitable for agriculture as it is on the route over the Weddin Range.
159. The Bimbi route will go through country as good, on the whole, I suppose, taking it for the whole length? It is very easy country.
160. Would the crossing of the Bland by the Bimbi route, be easier than by the route you mentioned? It is just about the same; you cross a few miles higher up.
161. The higher you get up the Bland, I suppose the less the flood? I do not think we go far enough up for it to make any real difference.
162. In the route which is submitted to us, you go round on the north side of Weddin Mountain? Yes.
163. It would skirt the spurs just on the base of them? Yes; there is an extension of Weddin Mountain north, and we go through a kind of saddle by one of these routes, over the flattening out of the spur by the other.
164. Does it involve many little culverts? No; there is nothing to speak of.
165. What is the nature of the rock in that Weddin Mountain—granite or sandstone? I am afraid that I cannot inform you.
166. Is it a rich grass country? The mountain itself is, I think, pretty steep; but it is very good country round the foot of the range.
167. Is it good grazing country? Yes; it is good wheat-growing country as well.
168. The line from Koorawatha to Grenfell was considered to be justified on its own account, exclusive of any possible extension? Yes.
169. The extension to Wyalong is to some extent an after-thought? Yes.
170. If we can connect Wyalong with Koorawatha, we give the people two routes to Sydney, do we not—either the Southern line or the Western line? Yes. I know it is an advantage sometimes to have an alternative route.
171. *Mr. Dick.*] From an engineering point of view, is there any advantage in the Temora-Wyalong route over the Grenfell-Wyalong route? No, except as a matter of total cost.
172. Is there any flooded country to be passed over on the Temora-Wyalong route, similar to that found on the other route? No; there is only that swampy place I mentioned between Barmedman and Wyalong, and that is easily got over.
173. You do not look upon that as a serious element in the construction of the Grenfell-Wyalong line? No.
174. There is a swampy area even along the Temora-Wyalong route? There is some gilgai country with belar.
175. Is it a fact that that gilgai spot has been avoided by a later survey? We are on the right-hand side of the road there.
176. By that means you avoid it to some extent? Yes, very much reduce it. 177.

- H. Deane. 177. Will there be any difficulty in obtaining timber for sleepers on the Grenfell-Wyalong line? Not so very much, I think. Some of them may have to come from a considerable distance. The ironbark in the district grows in small patches only.
- 16 June, 1899. 178. On the Temora-Wyalong route ironbark is fairly plentiful? It used to be; but I am afraid that it is very much cut out now.
179. Do you know that they are obtaining ironbark sleepers for the railway at Reefton? I know that.
180. It will be fair to assume the timber will be more cheaply obtained on the Temora-Wyalong route than on the Grenfell-Wyalong route? I expect it would.
181. Would you use square sleepers? No; I should use the round-topped sleepers.
182. Have you noticed that in the recent improvements which the Commissioners have been carrying out on the various lines, drains have been made with concrete piers, and old rail supports instead of the old box-drain, making practically an everlasting drain? Yes.
183. Do you think it would be advisable to do that sort of thing on this line? No, because I cannot get my material carried for nothing. I have gone into that question; it would cost about half as much again, or twice as much to use that construction on new lines.
184. If you could avoid that difficulty would it not involve material reduction in the cost of maintenance by the Commissioners? I do not think it would make very much difference. It would make a difference in the maintenance of these particular openings and bridges, but that forms such a very small portion of the total cost of maintenance that I do not think it worth considering.
185. What is the ordinary life of a box-drain? I suppose a box-drain of good timber would last twenty or thirty years. Buried in the ground it will be well preserved. I do not use box-drains very much; if I have a deep bank I prefer to put in a concrete culvert, and if it is a shallow bank I put in an open water-way of timber.
186. I suppose the usual precautions have been taken in the survey of this line to avoid the necessity for future deviations as much as possible? It is only a trial survey, you know, at present. During the final location of such a line there are sure to be some slight deviations found to be necessary.
187. *Mr. Shepherd.*] I think rather more than half the land between Grenfell and Wyalong is alienated? Yes.
188. Have any steps been taken to ascertain whether the owners are willing to give the land free if a railway is taken by this route? I do not think they have been asked.
189. The cost of the land would be likely to add very largely to the estimated cost of the line? I think not; I do not think the value of the land taken would be very much, and then, of course, under the Public Works Act the betterment principle can be applied. It has been applied already; we have not lately paid very much for land, even where it has not been made compulsory to get the land free. I think there is very much greater liberality in that respect on the part of owners than there used to be.
190. *Dr. Garran.*] You said that a part of this line may be utilised as a future Forbes line;—but would you take exactly the same route if you were merely surveying a line from Grenfell to Forbes? Yes.
191. Must you get through that gap to get to Forbes? Yes.
192. So that it would really be 4 or 5 miles on the way to Forbes? Yes.
193. *Vice-Chairman.*] By the Bimbi route, do you go along any roads? On the Bimbi route we follow the travelling-stock reserve for a considerable distance. We go between 22 and 23 miles through either travelling-stock or other reserves.
194. That is from Bimbi outwards? Yes.
195. And you go for a good distance through a Government reserve before you get to Bimbi? Yes.
196. Would that be a 3-chain road? It is a 5-chain road.
197. The Act authorising the construction of the Koorawatha-Grenfell railway provided that the land through which it passed should be given by the owners;—has that been done? It has been done—that is to say, a great deal of the land has been given, and a guarantee has, I believe, been furnished of the cost of the rest. The only real difficulty which has occurred on that line was, I think, with regard to a piece of land at Koorawatha and some suburban allotments at Grenfell.
198. *Mr. Watson.*] I understand you to say that you do not think the engineering difficulties are any greater on the Grenfell-Wyalong route than on the Temora-Wyalong route, and yet, on the Temora route, the cost per mile is less by about £112? Yes; I pointed that out, but in speaking as to there being engineering difficulty, perhaps it would be as well to understand exactly what that means. I do not think it follows that the line is more difficult to construct because it is a little more costly per mile. I should only call those engineering difficulties if there are tunnels or bridging of important rivers where special precautions would be necessary.
199. You would have no bridging to do on the line between Temora and Wyalong? There are the Barmedman Creek and that swampy place with gilgai country beyond Barmedman, otherwise there will be very little of importance in the way of watercourses to cross.
200. On the Temora-Wyalong line for box drains and timber bridges you provide £154 per mile, while on the other line for timber bridges alone you provide £168 a mile? That means the same.
201. Box-drains, too? I do not think there will be any box-drains, but if there are they are included.
202. You spoke of having added £1,500 to the estimate of the Grenfell-Wyalong proposal to provide against contingencies in that way? It is to provide extra waterways at those important creeks.
203. Is that sum included in this estimate? Yes; I put down £1,500 above what the surveyors recommended, because I was not satisfied that the waterways were quite sufficient.



WEDNESDAY, 21 JUNE, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.

The Hon. ANDREW GARRAN, LL.D.

The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.

ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

Hon. George Henry Greene, M.L.C., sworn, and examined:—

204. *Chairman.*] You are a Member of the Legislative Council, and a grazier at Iandra, in the Grenfell district? Yes.

205. Do you know anything of the proposal before the Committee? Yes; I have a fair knowledge of all the country between Wyalong and Grenfell.

206. Will you oblige the Committee by stating your views in reference to it? I am very clearly of opinion that there is no point from which the western wheat-growing districts can be so easily tapped as by line from Grenfell to Wyalong. Of course, I take it for granted that Hillston is the objective point, and taking a national view of the question, I consider that no line can possibly be found which will serve so large a district at so small an expense. Some question has been raised in certain quarters as to the effect of a line from Temora to Wyalong, and it has been said that that line can be constructed at a less cost than the proposed line from Grenfell to Wyalong; but, against that, it must be considered that not nearly so large a district would be served. Every mile of the railway from Grenfell to Wyalong will be productive of good to the country. On each side of that line to the full limit at which any line could be of service there is good land. Up to the present time very little money has been expended in that direction, and the road for waggons or teams is most difficult from Grenfell to Wyalong, whereas from Temora to Wyalong a large sum of money—I think something like £15,000—has been expended in making a good road. In the absence of a railway from Temora to Wyalong no portion of that district would be more than 20 miles from a railway line, and if that line were constructed a huge extent of country from Temora on the south, up to Forbes on the north, would practically be without railway communication. Further, I have no hesitation in stating that the country I mention, or a great portion of it, between Temora and Forbes, is infinitely superior both for agriculture and pastoral purposes to the district which would be served by a line from Temora to Wyalong.

207. Do you look upon the proposed line as a local line? By no means. It seems to me to be the shortest route by which Wyalong and Hillston can be approached from Sydney. Compared with the route *via* Temora, I think there is a saving of 7 miles. The proposed line would also give Wyalong an opportunity to draw a supply of coal from Lithgow and other coal-fields, and thus obviate the necessity for sending huge quantities of ore to Footscray and Ballarat, in Victoria, for treatment.

208. Will you describe the country between Grenfell and Wyalong as nearly as possible—that is, the proportion of agricultural to pastoral land? For the first 2 or 3 miles from Grenfell the line would pass over some stringybark country over which I believe a light gradient has been found. From that distance on to within, I think, about 10 or 12 miles of the Bland, the country is forest country of a very superior character for wheat-growing. I know of my own personal knowledge that the crops on the north side of the Weddin Mountain, at the foot of which the proposed line would pass, have been the best grown in the Grenfell electorate, notwithstanding the drought. I also am of opinion, although I have not been along the surveyed line close to the Bland, that good red-soil country can be found in close proximity to it; but that portion which is not fit for agriculture comprises the pick of that part of New South Wales for fattening and breeding stock. I would describe it as first-class fattening and healthy country, and also agricultural country. On the other side of the Bland the same thing applies for several miles, and after that, going on to Wyalong, there is a varied description of country. There is some scrubby, poor-looking country, but useful when cleared. There are strips of mallee; but I may mention that the mallee is of a description that is quite equal to the best mallee country they have in Victoria, which, excepting in the late drought, has produced very good wheat crops.

209. Are you acquainted with the country from Wyalong out westward? I have only a general knowledge of that country; but some of it I know to be superior country. There is also some very poor mallee country. As to the proportion of each I cannot speak.

210. Do you think Wyalong will become a depôt for the country round about there? I have no doubt about it. I have every reason to believe—and I am now expressing the opinion of experts to whom I have spoken—that Wyalong will develop into a permanent field. If that is the case, now that the nomadic population has pretty well disappeared, the remaining population will probably increase more rapidly as the mines become developed. In course of time I have no doubt it will become a large depôt.

211. You are of opinion, then, that the construction of this line will increase production in the district? I have no doubt whatever of that. For my own part I can say this—and I know it is also the opinion of my neighbours who are engaged in wheat-growing—that we should consider the line as giving a great stimulus to our production, inasmuch as it will open to us a very important market, and the production of the Grenfell district is simply limited by our power of disposing of our produce.

212. How is the land held? A certain proportion has been alienated by the Crown, and is freehold, and there is also a large area of Crown lands; but that is a point upon which you would get accurate information from the Lands Department.

213. How is the land which is held privately being worked now? Up to the limit at which we can make use of the railway, there is a large amount of agriculture. When we get beyond the limit at which the railway will help us, cultivation practically stops. I am speaking now of the land beyond Grenfell, up to the limit at which land is supposed to be served by a railway.

214. *Mr. Watson.*] How far beyond Grenfell would you say the influence of the present terminus extends, so far as agriculture is concerned? I think the railway would give very little assistance to any produce grown over 20 miles from it. At the present time they are clearing land beyond Grenfell in preparation

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for agriculture. Of course, when the railway takes away the produce to the east of Grenfell, it means a better local market for that in the west, so that indirectly the neighbourhood to the west of Grenfell is being assisted by the railway through the produce to the east being removed; but the amount of cultivation there is now comparatively small.

215. *Chairman.*] We may take it for granted that 20 miles is about the limit at which it will pay to cart agricultural produce to the railway? I think so.

216. And you think that the further you go west with the proposed line the more land will be put under agriculture? I have no doubt whatever of that. It is the only way in which we can make purchased land pay. We cannot make it pay by simply keeping stock on it.

217. You have had some experience in the leasing of land upon the halves system;—how far does that tend to bring land into use? It tends in every way to bring a much larger area under cultivation. If I could not lease my land on the halves system I would give up cultivating it on the large scale upon which I now cultivate.

218. You have been farming large areas on the halves system, and you have been quite satisfied with the results? So far, I have every reason to be satisfied with the results. The best men I have now—the men farming the largest areas—are those who came to me six years ago, and who have worked steadily on ever since. They are working there now, in spite of the terrible trials to which they have been subjected through the bad seasons.

219. In your opinion there is no danger of the land going out of cultivation;—suppose, for example, a line were constructed to develop certain country, and it were found afterwards that the farmers were not satisfied with the result and allowed the land to go out of cultivation, there would then be a loss,—you do not think that is likely to happen in this case? I am of opinion that the system of which we are speaking has come to stay—I mean the system of co-operation. We have arrived at the very best method of employing all surplus labour, and putting capable men, who have not the advantage of capital, on the soil. I may say that the system has been subjected to the most severe tests to which any method of cultivation could be subjected, and the results are there to be seen at any moment.

220. *Mr. Trickett.*] When the proposal to construct a line from Koorawatha to Grenfell was before the Committee, you then, I believe, advocated the ultimate extension of the line on to Wyalong and Hillston;—I suppose you regard the extension now proposed as part of that line? I have regarded the whole thing in a national light. The proposal is the easiest, I think, by which the district, of which Hillston is the centre, could be tapped.

221. In what sense do you use the word “national”;—for what purposes would the line be a national line? For the purpose of getting the best result from that part of New South Wales—bringing that part of the country into direct communication with the capital—for the purpose of supplying the capital and also for the purpose of export.

222. You were not speaking of the line as a national line in the sense of being a through line to Broken Hill or some other point in that direction? No; that might be desirable afterwards. I am not thinking of any extension beyond Hillston at present.

223. You notice from the plan that the broad red line is to the north and that the dotted line to the south is marked “*via Bimbi*,” connecting Grenfell and Wyalong;—which of the two routes, in your opinion, would be the better? I have never compared the lines with a view to giving evidence on that point, but, having regard to further construction, possibly connecting with Forbes, there would be a gain in adopting the line to the northward; it would also divide the districts better between the country to the north and the south.

224. Could you tell us which, in your opinion, would be the better line as regards country most likely to be settled upon? I think that in that respect both routes are probably about equal; the country on both sides of the mountain is very good country.

225. You have not made a detailed comparison? I have not made a study on that point because, in the district between Grenfell and Koorawatha, we should all of us be perfectly satisfied with either route.

226. Do you look upon the whole of that length of country as one which could be utilised by farming? Yes; I do.

227. The land there is mostly alienated? A good deal of it is alienated; but I understand—I do not speak from personal knowledge—that there is also a large area of unalienated land.

228. Near the proposed line of railway? Yes; I have no doubt whatever that the unalienated land would be largely increased in price. It would become a much more valuable asset to the country when the line is constructed, as it could be disposed of at special rates.

229. Taking the northern line from Grenfell to Wyalong, would you describe its course;—excepting the ridge you have to negotiate shortly after leaving Grenfell, would you regard the rest of the country as good agricultural land? I would, with the exception of what is actually on the mountain.

230. When you approach Wyalong there is mallee country? There is a good deal of mallee country about there. I have not been along the railway line, but I have been many times along the road to Wyalong. There is mallee of, I should say, a superior character.

231. Is the clearing of the mallee country expensive? I have had no experience in it, but I have gone over that very large estate of Mr. Lascelles, in Victoria, where many thousands of acres have been cleared, and by the methods upon which, I understand, they now work, the clearing is comparatively cheap.

232. You own a large area of country which you have leased out on the halves system;—what class of country is that,—is any of it mallee? No; it is all box forest.

233. That can be made available for agriculture much more easily than can the mallee country? I fancy so; but only under certain conditions. It is more easily cleared when the timber has been ringbarked and has been quite dead for a number of years. In box forest, to enable you to clear cheaply, the timber should have been ringbarked for nine or ten years, and all suckers and undergrowth should have been kept down. Then the country could be cleared at from 8s. to 12s. and 14s. an acre, whereas, in its green state, it cannot be cleared under £2 10s. to £3 an acre. The mallee, in its green state, can be cleared at a very much less cost than that; but, as I say, I have not had actual experience. I am carrying out a plan which I formed twenty years ago, of making a large agricultural estate, and having that in view, I took the initial step of ringing the timber, with the exception of that which I thought necessary for shade and shelter for stock. I am now reaping the benefit of the ringing by having my timber dead, so that I can clear at cheaper rates, averaging, I should say, about 10s. an acre.

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234. But with the increased cost of clearing virgin country, would wheat-growing still be a profitable enterprise? Very few men can afford to clear the green forest with the intention of immediately growing crops; but as nearly all the country out there has been ringbarked for a number of years, that difficulty will not manifest itself to any extent.

235. As regards the country which you have leased for wheat-farming, will the soil last without resting? I think that in that country, and in the country further west of which you are speaking, all the soil will last. There is some country up towards the Bland Plains which could be profitably and successfully cultivated for five or six years without any rest; but for my own part, I would not cultivate it longer. The system is coming by degrees into practice of throwing certain areas out of cultivation, and putting in such crops as cowpea, rape, buckwheat, and even lucerne. My experience is, that after land has been cultivated for a certain number of years, with the consequence that the yield of wheat is reduced, you can bring it back to its original fertility by a proper method without any intervening loss. You can grow crops by which stock can be fattened, and the residue of the crop can then be ploughed into the ground, supplying those constituents to the soil which have been taken out by the wheat crop; so that there is practically no limit to be put upon the time during which the land can be cultivated, worked in conjunction with stock. Under proper management you can keep down the weeds, and at the same time keep the ground fit for cultivation.

236. With a rest of one season? I do not say one season; perhaps three or four, or even more. One reason why share-farming is likely to be more successful than other farming is that the landowners have, in most cases, a fairly large area of land, and can, therefore, afford to let land which has been used for a certain time rest, allowing it in that way to regain its original fertility. The small farmer often comes to grief, and cannot live upon his land, because he cannot afford to buy stock and make use of the balance which is not cultivated, as the capitalist can do.

237. *Mr. Watson.*] Is it not a fact that a great number of small farmers are keeping sheep, fallowing a portion of their land from time to time to provide feed for them? I think so; we are trying to teach them that.

238. *Mr. Trickett.*] It amounts to this: that any man who goes in for wheat-growing to a considerable extent must have double the area of land which he cultivates at any one time? At the very least, double.

239. With regard to the crops in this locality, could you tell us what succession of crops is necessary to make agriculture a paying concern, supposing you had a drought such as we have had recently; you might give us your experience during the last few years; they have been a pretty severe test as regards dry weather? My experience of cropping for the last six years has been that I have had up to 27 or 30 bushels an acre in places even in bad seasons; but if the cultivation had been inferior, the same land would perhaps have scarcely given seed. On the whole, I can state this without any hesitation, that the results have been infinitely superior to those I could have obtained by keeping stock.

240. *Mr. Watson.*] What was your average last season? I do not think it was 5 bushels to the acre. I had some thousands of acres upon which we never put the stripper or reaper. We simply turned the stock into it.

241. It was an exceptionally bad year? Yes; but in spite of that the same men are going on, and the area this year under wheat will be the largest we have ever had.

242. *Mr. Trickett.*] Does the rainfall come at the right time of the year in this district to suit wheat-growing? It is uncertain, and that is the drawback. Previous to the last few years our rainfall averaged about 28 inches in twenty-one years, but the last few seasons have been altogether exceptional. There has not been one-half of that quantity.

243. What is the lowest rainfall in that locality which you regard as being necessary for the growth of cereals? If I could make the rain come at a suitable time, I could grow wheat with 15 inches in the year.

244. Can you put down the general rainfall at 21 or 22 inches? More than that. I think that over a number of years it would come up to 28 inches; but that is a matter concerning which Mr. Russell can speak with absolute accuracy.

245. Do the farmers who have started under the arrangements you have mentioned stick to the business—are they a stable population? I think the share-farmers are fairly stable; but it is not the wish of those men who let their land on shares to chain farmers to the land; because we encourage—I speak for myself—the men to get their own holdings. In many cases I have helped them to acquire holdings when they were in a position to do it. The object of share-farming is to assist that large class of the population who, with implements and horses of their own, are still not in a position to obtain their own land and till it. My capital and their labour make a combination which has hitherto been quite successful. Probably some of my men will, if we have good crops next year, be in a position to say, “Well, Mr. Greene, I think I can go and set up for myself.” Possibly I may give them some help. That is a position which we hope, by degrees, they will all reach; but for every man who would leave under such circumstances, there are a dozen ready to take his place, so that although the same men may not be permanently on the land, the institution is a permanent one. I have at the present time far more applications for land than I can satisfy.

246. Between Grenfell and Wyalong, how is the country watered? It is very poorly watered naturally, but the people in that district have gained the experience which makes them look out for a water supply by making dams and tanks, and storing the natural water as well as they can. In ordinary seasons we are very well provided, although it is naturally a dry country.

247. The Bland Creek runs along that way? It is now, I think, dry. Lake Cowal is dry—a fact almost unprecedented in the opinion of those who have lived there for forty years.

248. Is there any artesian water in that part of the country? I think not.

249. It has not been bored? I do not think so. If it has not been tried it is on account of the opinion given by experts in the Mines Department, that it is of no use to bore for water.

250. In the course of our inquiries we have heard a good deal about irrigation for various purposes;—do you regard it as profitable to irrigate land for such crops as wheat crops? Most certainly not.

251. It would not pay? No; but I may mention that Mr. Donkin is an expert in irrigation. He has works of his own, and can give you evidence on that point.

252. Do you regard the Wyalong population as a fixed population now? Yes.

253. On account of the mining industry, I suppose? Yes.

254. Have you observed whether, within the past two years, the population has grown or otherwise? I have been very little at Wyalong within the last two years; but I gain all the information I can about it from people who are connected with the place; and it appears to me that the population, if it is not increasing,

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- increasing, is not diminishing. It is a question of finding gold—of getting permanent reefs. No doubt, if the reefs diminished in quantity and value, the population would become less; whereas, on the other hand, if there were fresh developments, the population would largely increase.
255. If Wyalong were not in the question at all, or even if the population of that place were likely to be considerably diminished, you would still recommend the construction of a line in that direction, with a view to its ultimate extension to Hillston, as a means of opening up a large tract of agricultural country? Yes; if Wyalong were blotted out to-morrow, I would still advocate a line to Hillston. There is another point which should be considered: a great quantity of wool which should come to Sydney is now taken to Victoria; and I have no doubt a line to Hillston would be the means of intercepting some of that traffic. Sydney would be a great gainer by a line to Hillston.
256. In the construction of the railway from Koorawatha to Grenfell, the land through which the line passed was given to the Crown—the owners were liberal? They had to be liberal; the Crown pays nothing for the land.
257. They were asked to give the land, and they responded liberally? Yes.
258. You do not regard that as unfair? I do not consider it unfair, in one way; but it is a very poor system of betterment, for the simple reason that the man who gives his land (say) halfway between two stations 10 miles apart, has a certain amount of injury done to his land and still gives it; whereas the man with land adjoining the station, and on one side of the railway, has to give nothing, and still reaps the greater advantage.
259. That is an objection in detail to the mode of carrying out the betterment system; but looking at it as a whole, you are in favour of it? I am a thorough believer in the betterment principle.
260. *Mr. Watson.*] I understand you to say that there was good land west from Grenfell to within 10 or 12 miles of the Bland Creek? Yes; I believe in many cases the good land extends on to the creek, but upon that point you will be able to obtain better evidence from men who are actually living on the land.
261. If the good land extends to within 10 or 12 miles of the Bland—that would be about 25 miles from Grenfell—as far as you are aware the good country extends as far as that? I think so; but I do not speak with certainty. I have never gone into the question with a view to giving evidence on that point.
262. Suppose the good land extends 25 or 26 miles from Grenfell, it would still be within the influence of the terminus there, as far as dragging traffic to Sydney is concerned? It would help it. It would be better than nothing, I admit.
263. You admit that land within 20 miles of the Grenfell terminus would be within its influence for agricultural purposes? Yes.
264. So that the greater portion, if not the whole of the land which you know to be good, would be served, as far as the export of produce eastward is concerned, by the Grenfell terminus? Yes—that is, agricultural produce; I do not include stock.
265. As regards the land from within 10 or 12 miles of the Bland to a similar distance on the other side towards Wyalong, have you had any experience of that in wet weather? Yes.
266. And in dry weather? Yes.
267. Do you think it is any more than good pastoral land? As I have already said, I have never looked at the land with the intention of giving evidence concerning it, but I know it well.
268. Does not a large part of it consist of black clayey soil? There is a good deal of that.
269. How do agriculturists generally view that land;—do they not generally regard it as unfit for agriculture? I should think a great part of it would be unfit for agriculture, but it is admirable for pastoral purposes.
270. As you approach Wyalong, 10 or 12 miles the other side of the Bland, you get into some fair land? Yes.
271. That portion of 15 miles or so would be within the influence of the line if it went from Temora to Wyalong and terminated there? Yes.
272. So that the best land on the proposed line would in either case be within 20 miles of a railway if the other route were adopted? Yes.
273. From your experience of pastoral pursuits, would you say that it is so imperative to be close to a railway for the shipment of wool as for the shipment of agriculture produce? It is not so imperative, but it is a great help—a great benefit.
274. There is the saving of carriage? Yes.
275. But the fact of a pastoralist being within 40 or 50 miles of a railway would not affect the growth of wool. The pastoralist would not cease wool-growing from the fact that he was 40 miles from a railway? No.
276. Nor would the construction of a railway increase the production of wool on land suitable only for wool growing? No; the land would be put to its best use for the growth of wool, quite independently of the railway.
277. So that, as to the pastoral land upon the proposed route, there is no reason to suppose that the taking of a railway through it would increase the production if it is merely pastoral land? It would be greatly to the benefit of those making use of the land. Of course, it would not increase the production, because there is as much stock there now as the land can carry.
278. You know the country round about Wyalong pretty fairly;—would you say that approaching Wyalong from any direction the land is pretty much of the same character? I think the land is better approaching Wyalong from the Grenfell side; but I speak subject to correction upon that point.
279. There is near Wyalong some good mallee country—red soil? Yes.
280. It extends pretty well round Wyalong, does it not? Yes; but there is bad mallee in some places.
281. You made some reference to the Victorian mallee? Yes; I said that the mallee country on the Grenfell side of Wyalong is equal to the best mallee country in Victoria as to soil.
282. I think you said you thought that country round Marsden was better than that between Temora and Wyalong? I think it is.
283. For what purposes? I think the country between Grenfell and Wyalong, taking it all through, is very much superior to the country between Temora and Wyalong.
284. Do you know that they are growing wheat at present as far out from Temora as Barmedman, and that the wheat is taken into Temora for milling and shipment? Yes; I do not know much of the wheat-growing there. I never saw much grown there, or very much in the way of improvement.
285. You have not been there lately? No.

286. Have you ever been off the surveyed road between Temora and Wyalong? I have been across from Barmedman towards Morangarell, and I know that there is a great deal of very poor country about Trungley.

287. Have you been along the surveyed road between Barmedman and Wyalong? Yes.

288. Have you been over the country to the right or left of the surveyed road? I have been to Reefton. I have not been far on either side; I have not been much to the west.

289. You said you thought it desirable to give the people at Wyalong the best opportunity to reach Sydney by the shortest route, the difference in distance being 6 or 7 miles? Yes.

290. Do you know anything as to the grades on the Western line? I know that they are very similar to those on the Southern line.

291. Is it not a fact that the grades on the Western line are much more against the load than they are on the Southern line? I am informed by expert authorities that there is very little difference between them, and that that difference will be rapidly removed.

292. Do you think that a difference of 6 or 7 miles in a total run of 330 makes much difference in the cost of running passengers or goods? If I wanted that information myself I should ask it of an expert. I would not presume to go against the opinion of an expert in the Department.

293. You know that the construction of a line from Grenfell to Wyalong involves a greater length of actual construction, of 17 miles, as compared with the route from Temora? I suppose it would require greater construction if there is a greater distance between the points.

294. The difference is 42 miles as against 69;—the extra cost of the line from Grenfell to Wyalong is estimated at between £40,000 and £50,000? That may be so.

295. If you were informed that the construction of a line from Grenfell to Wyalong involved going 17 miles further at an extra cost of between £40,000 and £50,000, would you think that in order to cross the Bland that extra cost of construction was justifiable? Most certainly, in view of the larger area that will be assisted by the railway.

296. The first 20 miles of the line, no matter which starting-point you take, is within the influence of a terminus? Yes; but you cannot suppose that being 20 miles off is a good as being 10 or 5 miles off.

297. At each end of the proposed line you would have 20 miles of land within the influence of a terminus, taking Grenfell for the terminus at one end and Wyalong as the other? Yes; but the outside limit is not as good as the inside limit.

298. Practically the only additional country served by the Grenfell to Wyalong route would be the Bland country? It would serve country exactly in proportion to the additional length. It would probably serve more in proportion than would be served on the other line, because the country is better.

299. You stated that if the line were constructed from Koorawatha there would be an opening for agricultural produce from Grenfell to go west? Yes.

300. I suppose you know that Temora is also an agricultural centre? Yes; a small centre.

301. You are not aware that it is one of the largest shipping points for wheat upon the railway, according to statistics, for recent seasons? I am not.

302. You admit that sufficient wheat and other produce is produced round about Temora to supply people to the west, if a line were constructed from that point? The people there would have to exhibit a little more energy than they have hitherto shown.

303. As to the quantity of ore which goes to Victoria from Wyalong at the present time, is that because of the lack of fuel, or because of the lack of proper appliances to deal with it locally? I do not know the minutiae of their business. I only suggested that it was probable that the ore would be treated locally. I go upon the general principle that it would be advantageous to the community there to have easy and cheap access to the coal.

304. That depends upon whether it is necessary to use coal for the reduction of ore;—are you aware that, as far as Wyalong is concerned, the ore they are treating now does not require coal for its reduction? I do not know that. It may or may not be the case.

305. Is it not the fact that large works have been recently started at Wyalong which treat a larger quantity of the ore which requires special treatment? I believe chlorination and other works have been constructed there.

306. No greater amount of coal is required for chlorination than for battery treatment? That I do not know.

307. I think you said that if a railway were taken to Hillston there was the possibility of wool which now goes to Melbourne being drawn to Sydney? Yes; Sydney would be its natural outlet.

308. I suppose what is known as the zone system of rates, whether the point of immediate departure from the railway system were at Temora or Grenfell, would not make much difference to the people of Hillston in the carriage of wool? It might be in the wrong zone.

309. With only a difference of 6 miles between the two routes? It might be on the wrong side of the division between the zones.

310. Do you know anything of the freights paid on the wool which is sent from Hillston to Melbourne? I have not made a study of the question, but I know that Victoria offers great inducements, extending up to 60 per cent., on wool taken from a certain distance to the north of the Murray.

311. Is Hillston a greater distance from Melbourne than from Sydney? I have not looked into that question at all. I merely suggested the general principle. I am not posted up in the details.

312. As to the port of shipment for wool as between Melbourne and Sydney, probably, with the advent of Federation, rates will be so arranged that the wool will have to find its nearest port—that is the probability? Quite so. People would then make use of the railway I suggest all the same.

313. Do you know where wool is at present sent to from Hillston;—is it sent towards the Hay line? I could not say. I have not been there for many years.

314. *Dr. Garran.*] What is the population of Grenfell now? I really forget. I think it is about 4,000. I have not come prepared with any statistics.

315. Is it an advancing township, or is it stationary just now? I think I may say that it is stationary, although there have been fresh works established there for treating tailings—two cyanide works—and it is thought by Mr. Slee, who will probably give you evidence on the point, that there is a great undeveloped wealth of gold yet in the Grenfell district.

316. Are the tailings to which you refer old tailings? Yes.

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317. Is there much fresh mining going on now at Grenfell? I do not think there is much fresh mining.
318. Was the mining there principally alluvial or quartz mining? I think both.
319. I gathered from what you said that you looked upon the line between Koorawatha and Grenfell as running through a district which will be a great fodder-providing district for the west? Yes.
320. It will provide wheat, hay, and other fodder besides? Yes; wheat and hay would be the two chief items.
321. Does the district grow lucerne? Yes; but not as it is grown on the rich alluvial flats on the rivers; but it grows fairly well.
322. Would the hay be principally wheaten or oaten hay? Chiefly wheaten.
323. Of good quality? Yes.
324. You think there is a market in the west for that fodder? I have no doubt whatever of that.
325. Do you think the line extended from Grenfell to Wyalong would also pass through good fodder-producing country? Yes; a great part of it; I think four-fifths of it would be of that character.
326. With the rainfall diminishing as you go west? Yes.
327. The more westward you go the more risky farming is? Yes.
328. But you would be nearer to your market? Yes.
329. So that Wyalong hay-growers would have a pull over the Grenfell hay-growers in carriage? On those occasions on which it is necessary to send to the west. In good seasons there would probably be a supply in the west, in which case they would have to send to other markets.
330. When you say that there would be a supply in the west, do you refer to the pastoralists growing their hay, or to its growth by selectors? Whoever might hold land in close proximity to the line; it would be mostly selectors.
331. Supposing the line were extended still further from Wyalong to Hillston, would it go through fodder-producing country? I think a great deal of it would be first-class agricultural land.
332. In good seasons it would produce good hay? Very good hay.
333. In a previous inquiry by another Committee, one witness said that the land around Hillston, on the eastern side, was some of the finest in the Colony;—is that so? I cannot say from experience; but I have no reason to doubt it.
334. It will grow good hay? Splendid hay and splendid wheat.
335. So far as the pastoral country between the Lachlan and the Darling is concerned, it would, in a good season, be better supplied from Hillston than from Grenfell? Yes.
336. So that, although in a good season like this, when you are at the terminus of a railway you would have a good market for hay, you might lose it if the line were continued to Hillston, supposing the season were a good one? We should have to take our chance of the market. That is the experience in all sorts of business. On certain occasions it will pay us to send east, and on other occasions it will pay us to send west. We must be subject to the laws which govern distribution.
337. Supposing the squatters at Mossiel or Ivanhoe wanted hay, they would be able to get it cheaper at Hillston than at Grenfell? If they had hay at Hillston.
338. They have rich land there, and in a fair season they might have it? Yes; they might have a large supply to send west.
339. Do the people of Grenfell exhibit any indisposition to advocate this line? I think they are in favour of sending it out west.
340. From a feeling of interest? I think they consider that the district and the town with it would gain an advantage by the line being sent west.
341. They will have the advantage that the railway will give them carriage to the west? I think so.
342. They think they have a personal and pecuniary interest in the line going westward? I think so.
343. I gather from what you said to Mr. Watson, that between Grenfell and Wyalong for the first half of the country the land is better on the whole for agriculture than in the latter half? Yes.
344. As you get to the Bland country you get into purely pastoral country, and when you get to Wyalong there is mallee scrub? There is a large quantity of good land between the Bland and Wyalong.
345. Before the scrub begins? Yes. There are different kinds of scrub besides mallee. There is scrub and forest mixed, and a considerable portion of that land is fit for agriculture.
346. You think the whole of that country will be settled, with the exception of the flooded land? I see no reason to doubt it.
347. If the line marked in broad red on the plan is so far good, the southern line by way of Bimbi would, I suppose, pass through the same sort of country? It is more level country, and more open in places, but I do not know that there is much difference in point of actual facility and suitability of agriculture, but it is good land also.
348. If the southern route were taken *via* Bimbi, a few miles might be gained by not going into Grenfell at all? Yes.
349. But I suppose the Grenfell people would not like to be left out? No.
350. They would not like the continuation to start a few miles to the south of Grenfell? No. There is no doubt that if Grenfell were left out, however, a shorter route might be found from Koorawatha to Wyalong.
351. The argument in favour of the northern route is that it would be part of the distance towards Forbes? Yes.
352. Do you think it likely that there will be a line to Forbes for a long time to come? No.
353. It would be a cross-country line where there is no cross-country traffic? Yes; I should not think there would be much traffic.
354. From what you know of the country between Koorawatha and Grenfell, you still think that that line will prove remunerative to the Government? I think so. I think there has been more work done in the way of agriculture and other improvements upon that land than in any equal area of similar country in New South Wales.
355. Is it country that will pay for improvement? I think so.
356. You spoke of the length of time which it has taken you to clear your box-forest country;—if it takes as long as that for a new settler to clear his land, a good long time would elapse before he would receive any return for his investment? Nearly all the land upon the route we are speaking of is ring-barked; that has been done by the lessees. I do not know how far or to what extent it has been done, but I know of great areas. The selectors, of course, prefer ring-barked country if they can get it.

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357. Do they have to pay for that improvement? The original cost of ringbarking.
358. It will pay them to do that? Certainly. I, myself, if I were taking up land, would willingly give 5s. an acre more for land ringbarked where the ringbarking had cost only 1s. The improvement to the ground is so great and the facilities for clearing are so great.
359. It is worth your while, you think, to give 5s. per acre more for land which cost 1s. five years ago to ringbark, instead of your having to wait five years? Yes, provided the timber is all killed.
360. Time is money? Yes; and the land is greatly improved.
361. Is box timber good timber for many purposes? Fair timber. You can get fencing stuff out of it, but it is not equal to stringybark or ironbark.
362. Will it make sleepers? That is doubtful. I think that possibly it might.
363. Does ringbarking destroy the value of a tree for timber? It would depend upon the time the tree remained standing after ringbarking. A tree which has been ringbarked will have the sapwood all rotting off in from fifteen to twenty years.
364. When a ringbarked tree is left standing, does it season as well in that perpendicular position as it would if it were cut up and placed in a horizontal position in a timber yard? It will season, but I have never found such timber to be of much use when it has been left standing after being ringbarked. Some years ago I was constructing a new fence and the men asked me if they might split the old ringbarked timber. I told them they might, but I found that I had made a great mistake, because a couple of years after the posts were put in the ground all the outside timber, the sap timber, rotted off and the posts were reduced to pretty nearly half their size.
365. What is the value of box timber per acre? That would depend upon its proximity to a railway. I have to pay men to burn it off; I get nothing for it.
366. It is a drug? Yes.
367. You have not wasted as much you think in the value of the ringbarked timber as you have gained in value to the soil? The timber is practically useless except for firewood. When we let a contract for ringbarking we mark all the trees that are to be kept before the work is commenced; we save all the timber which we consider to be of use for shade or building purposes.
368. The timber was formerly valueless, but now that there is to be a railway will the timber be more valuable if it be left standing? Not in our lifetime.
369. The best course is to clear it away? Yes.
370. You are not destroying anything of value? No; and the improvement resulting to the land from the decomposition of the small branches is very great. It adds greatly to the fertility of the soil.
371. This soil you speak of, is it as light as the soil of the Murray, which is being so much cultivated now? It is very much of the same character as the soil of the Murray away back from the river. There is no alluvial soil.
372. It is all disintegrated volcanic rock? It is granite country. It does not appear to be volcanic.
373. Could you work a three-furrowed plough over it? Yes; I get a great deal of my work done by three-furrowed ploughs. I work in some places ten-furrowed ploughs; but that is only on land previously cultivated, and in a suitable condition to be worked.
374. It is represented to us that the Murray land is so valuable because it is so easily ploughed;—is your land as easy to plough? It is easily ploughed.
375. As easily as the Murray land? Yes.
376. Have you as good a rainfall as there is on the Murray? Better, I think.
377. Do you get 20 inches? We had an average of 28 inches over 21 years.
378. You said that purchased land could not now be made to pay merely by stocking? I think not.
379. The time has come when tillage is the best method of putting it to use? Yes.
380. Will you apply that observation to the whole of the land as far as Wyalong? I do not know; I have never worked the land on the Bland, but I fancy that on none of that land is fair interest made on the cost of the freehold.
381. When the land was bought years ago at £1 per acre to protect the run, it was thought then that for pastoral purposes it was worth £1 per acre? I do not think so. A good deal of the land purchased in those days consisted of picked spots to prevent selection over the rest of the run; the land was purchased to protect the run.
382. It has added to the general capital cost of the property? Yes.
383. It was not purchased with any expectation of making 5 per cent. out of the land itself? Taking one year with another, I do not think sheep or cattle on the freehold land would make 5 per cent.
384. Since that time the price of wool has fallen? Yes.
385. At present it would not pay to give £1 per acre for land for pastoral purposes? Except in special cases. The upset price is now more than £1 per acre. It is 25s. per acre for freehold land. There has also been a great amount of improvement, so that the cost is a great deal more than £1 per acre; it is probably £2 per acre in many cases. It would be very hard to net 5 per cent. upon that amount by keeping sheep and cattle.
386. Is 25s. per acre the Government valuation? Yes, and often more than that.
387. Suppose the proposed railway were extended to Hillston, do you think your observation would hold good, that the whole of the land in that district would be worth more for tillage than for pastoral purposes? I would not say the whole of it; but, perhaps, 4-5ths of it would.
388. That is a very important matter, because the line to Hay was made through pastoral land, and from then till now it remains pastoral;—the idea of the line settling population has not been realised? That is true; but in this case I will venture to say that any statement which has ever been made as to what would be done in the future if a railway were made through the district, has been more than carried out by the people there. They have shown an energy and a desire for improvement which has been unequalled in any other part in New South Wales.
389. Still the owners of the large estates on the Murrumbidgee are as anxious for profit as are most other human beings? But many of them are very conservative, and they do not like the idea of breaking up their land.
390. But if they could see that there was more money to be made by leasing the land to farmers than by running sheep upon it, would they not take that course? They might; but a great deal of the land there is quite unfit for agriculture.
391. Why? On account of the dry seasons, and the clayey nature of the soil.

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392. Is the soil clayey? Yes, on the plains; and it is nearly all plain country down there.
393. If your view then is correct about the profitableness of tillage, there would be a reasonable prospect of the line to Hillston settling a number of people on the soil? I think so.
394. We have been told that the construction of a line to Temora has greatly increased the agricultural settlement in the neighbourhood of Temora, so that we have some experience of what a line will do under certain circumstances? Yes.
395. It is important for us to ascertain, if we can, whether an extension to Hillston would have a similar effect? Judging from what has taken place in the past in the district of which we have been speaking, in view of the construction of the railway, I should say that it would. If the Committee visit the district of which I have been speaking, they will see in one day far more than I have been able to describe. No Member of this Committee has ever been in that district without saying that what he has seen has far exceeded his expectations. I am speaking now of the Grenfell district.
396. Referring to the fertility of the soil, you express the opinion that after five years of tillage it would be necessary to give the land a rest? It would be desirable.
397. What do you do with the farmers when you turn the sheep on to their land? We clear fresh land. In some cases we clear the land to order. If a tenant wants land from me under certain conditions, I allow him to pick his own land, and then clear it for him.
398. As long as you have land open for occupation? Yes.
399. If you had let all your land what would you do? I should have to curtail my operations.
400. Because five years is necessary for recuperation? I might, perhaps, under those circumstances, allow the land to rest for, perhaps, three years.
401. Is the land of which you are speaking too hard to be ploughed in dry seasons? New land is too hard to be ploughed in dry seasons. For instance, this last season my men had to discontinue ploughing new land for about a fortnight—that is, until the rain came. At the end of last month they recommenced, and they have been going on ploughing new land ever since.
402. When once land has been ploughed, is it possible to turn it directly after the harvest, even if the season is dry? Yes; no matter how dry the season is.
403. Is it not better to plough the land immediately it is cropped;—does it not oxygenate the land by turning it up to the air? Yes; it is a great improvement.
404. Do they do that? Yes; in some cases.
405. It is equal to manuring, is it not? Not quite equal.
406. It is partial manuring? The difference between that and absolute manuring is that in manuring you put some commodity into the soil. With the other process you render the soil into such a condition that you can get more out of it. In the one case it is possible to exhaust the land; you get more crop sometimes, but when you put in suitable manure you absolutely replace the fertility of the soil.
407. Merely ploughing the soil does not enrich it,—it only enables it to give off its power? Quite so.
408. Do you not enrich the soil by oxygenating it? I suppose so; just as certain nitrogenous plants will improve the soil.
409. Do you put up residential buildings for your tenants? No. As a rule, the men have land of their own; but finding that they are not capable of working it as it should be worked, they take land from me, and they reside on that land during the time they are putting in the crop and taking it off. For the residue of the time they go back to their own homes, where they have a certain amount of property to look after. When a stranger comes into a district, and I find him a desirable person as a settler, I let him put up a residence to suit himself, and he stops on the land all the time; but that is a matter of special arrangement.
410. In the case of the bulk of the settlers, then, if you allowed the land they have been cultivating to rest and cleared a fresh piece of land for them, they would still have their old homes to live in? Yes; but as a rule their homes are easily shifted and they like to live where their work is.
411. I gather from you that to farm properly in your part of the country a man requires to begin with some degree of capital and some degree of skill? With some degree of capital. I have put men on to the land who have not had 6d., but it is rather hazardous. Some of them pull through well and others do not seem to care. They are quite willing to work as long as the responsibility and risk rest with me.
412. I am talking of putting men on land which they have selected themselves, they want capital and skill? Yes.
413. To talk of putting an ignorant poor man on the land in the hope that he is going straight away to thrive is nonsense? Yes; it is the worst penalty you can inflict upon him.
414. The first thing he wants to do is to borrow money? Yes.
415. You think that by making use of another man's money he gains? Yes; it gives him access to natural opportunities. It is better for himself in every way.
416. What interest, if it is a fair question, do you charge the men for what you lend them? In a great many cases I charge no interest at all. I charge no interest on running accounts which extend for perhaps a year. When I have to make short loans with bad security, I charge as high as 10 per cent. In some cases I have offered the men, if they could give me security, to reduce the interest to 5 per cent.
417. It is better for them to pay that interest than not have the money? Yes.
418. Do they manage to stagger under it? In most cases they have done better than their neighbours on adjoining land, working their own land.
419. In that case they must make more than 10 per cent. out of the land? Yes; 10 per cent. is only on a small portion of their indebtedness. In some cases I receive no interest at all; it is a question of risk.
420. Does the crop pass through your hands as security? Yes.
421. You sell it? Yes, I act as the men's agent, when desired.
422. That is part of the bargain? Not necessarily. Some of the men want to sell themselves. In those cases I give them permission. The crop is divided on the field, and they can do what they like; but in practice they ask me to take control of it, because I can more easily arrange for the carriage, and can, perhaps, sell better than they can sell themselves. The money is put to my credit in the Bank and I have to furnish them with an account of everything, showing them the account sales; they then get a cheque for what is coming to them.
423. When you take charge of the sale, do you choose your own time for selling? Yes; but not without consulting the men. Until last year, I sold nearly all the wheat in two parcels to the local millers.
424. In harvest time the weather is generally very dry? Yes. 425.



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425. So that you can leave the wheat on the ground without any fear for a time? Sometimes we have heavy rain in January; but we have had pretty good experience in the best methods of stacking wheat to prevent it from being injured.

426. There are no large barns in your neighbourhood? No; and if there were, it would not pay to shift the wheat, because the double handling would be too expensive.

427. It has to be carted into the nearest township at once? The wheat is made into stacks, and is afterwards carted to the nearest railway station.

428. Will the millers take charge of the wheat and let you sell it when you like? They do so nominally; but in practice, once the wheat gets into the miller's charge, he keeps it. If you take it away, he charges you for storage, for insurance, and for delivering the wheat back again; so that, as a rule, the wheat remains in the hands of the miller once it goes there, no matter what the agreement is.

429. When you sell to him, will he let you sell when you like? He will name a price which he will give you on the spot, and if you do not take it he will say, "I will keep the wheat for a certain time." Some of them will keep it for a certain time without charging you storage, and at the end of that time they will give you the market price, or you must take it away; and, as I have pointed out, it is almost impossible to take it away, because the charges are so heavy.

430. Suppose the wheat is in the mill for a couple of months, do the millers charge storage? No.

431. So that you can get the wheat housed directly after the harvest? Yes.

432. Is there much competition among the millers? At Young there are two mills, but there is very little competition.

433. I gather that on the whole you think the line to Wyalong from Grenfell is better, in the interests of the country, than the suggested extension from Temora? Yes.

434. But would not the line from Temora give the Wyalong people the advantage of a double market—that is, Melbourne and Sydney;—would that not be better than the market they would get with the other line? Possibly; if they wanted to do business with Melbourne it might be a little better.

435. It would be shorter to Melbourne than to Sydney from Temora? I am not sure of the distance; perhaps it would.

436. Do you think the matter of sufficient importance to be considered in determining the question? I do not think it is of much importance; but a saving of 7 miles in distance for all time to come is a matter of great importance.

437. You are assuming now that the Wyalong people will send to the Sydney market? Yes.

438. But as long as they get a fairly good market in the west they will be satisfied—they will only send to Sydney when they cannot sell locally? The chances are that the bulk will go to Sydney after the local market is exhausted.

439. The question of supplying fodder to pastoralists has been before the Committee on several occasions;—do you think that if the line is extended from Wyalong to Hillston a large number of farmers will grow fodder for the squatters, instead of the squatters growing fodder for themselves? I think that, probably, most of the squatters would grow enough fodder for themselves in good seasons, but in seasons of drought Hillston would not be able to supply them.

440. The farmers you speak of would not have a market in the west, except in dry seasons? It would be an additional market; there would be the local market and the market for export. The other would be something to the good. In some years it would be of no advantage at all; in other years it would be.

441. You say that your people would grow their hay to send to the east generally, and that now and then they would get a god-send in the shape of a dry season in the west? Yes.

442. They will have a good market to the east? I suppose they would have a practically inexhaustible market for wheat.

443. But for hay? They must be guided by the market. When the crop was ripening they would have to decide whether they would deal with it by converting it into hay or keeping it for wheat.

444. In what month of the year must they decide whether they will cut the hay? In the beginning of December.

445. It would depend upon the look of the crop and upon the rainfall? Yes; and upon markets elsewhere.

446. On the whole, does it pay best to cut the hay or to grow for wheat? Hitherto, it has paid best to cut for hay; there has been more money per acre in it.

447. Is it less exhausting to the soil? There is very little difference between the two courses. All that the wheat requires has been taken out of the soil before you cut it for hay; in fact, the way to get good wheat is to cut it before ripening and allow it to ripen in the sheaf.

448. You let the ear form fairly well before you cut the hay? Fairly well, but it must not be too pronounced.

449. You get the nutriment of the grain to some extent in the hay? Yes; but you must not allow the nutriment in the stem to run up into the ear. You want the saccharine matter to remain in the stem.

450. You keep the nutriment in the stalk, where you want it? Yes.

451. Still, if the ear does form at all, there is nutriment in the grain? Yes; but if it is allowed to become too far advanced a great deal of it will drop out and be lost.

452. Upon the land between Koorawatha and Grenfell, what are you looking forward to growing most—wheat or hay? If there were a railway, I should think that about half the crop at least would go for hay. I have gained considerable information respecting farming on the Western line, at Wellington and Narramine, and they found there that with railway accommodation it paid them better to cut their crop for hay than to strip it for wheat; but that was simply on account of their being right on the line. The hay is nearly always cut into chaff, and the carriage of chaff is much heavier than the carriage of wheat.

453. It is more bulky? Yes; because the whole of the produce goes away. In the case of the wheat, you send away only what is taken out of the head. On the railway line, it pays them far better to cut for hay. Thousands of tons are sent west from Wellington and Narramine.

454. As chaff or hay? As chaff. Not 1 per cent. of the wheat which is cut for hay is kept for hay; it is cut into chaff, and bagged before it is sent away.

455. What do you regard as the minimum price for wheat which will pay? I believe we could make wheat pay at between 1s. 6d. and 2s. a bushel.

456. Delivering it at the nearest railway platform? Yes.

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457. The farmers to deliver? Yes; it would certainly pay at 2s.
458. In a previous inquiry in connection with the Temora line, 2s. 6d. was mentioned as the lowest price? That is quite probable; but every year we are advancing in our knowledge, and in better methods of dealing with the land. There is also better machinery.
459. Are you farming on a sufficiently large scale to make it worth while to use reapers and binders? Yes; some of the farmers put in as high as 800 acres.
460. Does each man keep his own machinery, or do you keep the machinery? Each man keeps his own machinery; but as a rule I have to pay for it, and they pay me as soon as they are able.
461. Does it pay each man to invest separately in a machine? Yes; because, as a rule, each man has quite as much as he can take off with one reaper and binder if he worked at it from the first day of the season to the last. I do not think you could do more than 250 acres in one season.
462. The use of modern machinery is now cheapening the cost of production? Greatly.
463. Ten years ago you could not have worked your land so cheaply as you do now? No; it would have cost three times as much ten years ago.
464. You can grow wheat now at 1s. a bushel less, and can still make a good profit? Yes. I can sell wheat now at one-half the price at which I sold it ten years ago.
465. And you have not reached the absolute limit of labour-saving machinery yet? No.
466. In your opinion there is a fair opening for future agricultural settlement in this country? I think so.
467. Permanent settlement? Yes.
468. *Mr. Shepherd.*] You have had more experience than has any other man in the Colony in the letting-out of farms to small settlers? Yes, possibly.
469. What is the size of the farm you usually let to them? I do not give any man under 100 acres; but they can have as much land as they can satisfy me that they can harvest.
470. How long do you allow them to cultivate without spelling the land? Up to five years.
471. You do not make any arrangements for applying green manure to the land, or anything of that kind? No. We may come to that later on; but with so much virgin land it is easier to clear new land, and to give the men that and recoup the tilled land by putting it under crop which can be fed off by stock.
472. Do you usually treat the land yourself after the settlers are done with it? No.
473. You do not allow it to lie idle? Sometimes I allow it to lie idle for a year. I stock it heavily to get rid of the wild oats and growth of that sort. I generally plough the land and sow rape, cowpea, buckwheat, or lucerne. At this moment my people at home are ploughing for lucerne. We employ the farmers who have their crops in in that way; it prevents their being idle.
474. Have you black soil generally where you are growing lucerne? No.
475. Does the lucerne do well in red soil? Yes; I have found it in odd plants growing in roads which are so hard that you can hardly drive the pick in a couple of inches.
476. You do not think it would pay better to grow lucerne than to grow wheat? Not on a large scale in that district.
477. You prefer the line from Grenfell to Wyalong to the line from Temora to Wyalong? Yes.
478. More than one-half of the land is alienated between Grenfell and Wyalong? I do not know whether that is the case; probably it is so.
479. We have returns showing that 880,000 acres have been alienated, that 342,000 acres have been reserved, and that there are only 429,000 acres of Crown lands; roughly speaking there has been more land alienated than there are other classes of land; that, of course, would be no objection to a railway—in fact it would be rather an advantage if the owners of the land did not require compensation? I would not give them any. We have provided all the land for the line from Koorawatha to Grenfell, and I do not think there will be any difficulty in getting the land in this case. I have had a great deal to do with getting the land free of expense for the line between Koorawatha and Grenfell, which is a much more thickly populated place, and the land has all been given.\*
480. I heard you say, some time ago, that there was some first-class fattening country upon the proposed route, but that it was not fit for cultivation? Yes. A good deal of the country on the Bland is equal to anything in New South Wales for carrying stock and for fattening purposes, but the soil is of too clayey a nature for cultivation. It could be cultivated, but we find that the best land for cultivation is the forest land.
481. It is very usual for persons going out to look for good agricultural land to judge as much from the pasture as from anything as to the quality of the land? I should judge more from the timber.
482. With reference to the clearing of the land, do you say that it can be cleared at from £2 10s. to £3 per acre? I dare say you could get it done for that if the timber were not bad. You could not get it done at that price in stringybark, appletree, red-gum, or ironbark.
483. The mallee country, you think, can be cleared for less than that? I am not sure whether it can be done for less, because I have never had it done; but I have seen a great deal of that class of country which has been cleared in Victoria, and I fancy that the expense of clearing in the first instance was not very great, but I believe there were a great many after expenses. There were a good many roots in the ground, and they had to use stump ploughs. That had to be added to the initial cost of clearing. There was probably a good deal of after-cost.
484. The mallee country in Victoria is generally of a light loamy character; I suppose the soil here is of the same class? It is generally a red, friable soil.

\* NOTE (on revision):—I should like to add that the Lands Department offered to give in exchange to those who surrendered their land for railway purposes, other land of equal value taken from unnecessary roads and reserves. This arrangement made the task of securing the land much easier.

THURSDAY, 22 JUNE, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.

The Hon. ANDREW GARRAN, LL.D.

The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.

ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

John Boyd Donkin, civil engineer and grazier, sworn, and examined:—

485. *Mr. Dick.*] You have resided for some years near Marsden? Yes.

486. You have a good knowledge of the country which will be served by the proposed line? Yes; I may mention that many years ago I was Government Surveyor in this district. I made feature surveys of the Weddin Range; of the Bland Creek from Cootamundra right down to the Lachlan River; and of the main divide between the Lachlan and the Murrumbidgee. Since then I have been living at Lake Cowal. I was also interested in property at Wyalong and Mandamah. The country, proceeding from Grenfell towards the Bland along the line marked on the plan in deep red, for about 30 miles out, or to within about 8 miles of the Bland, is all open, level country, excepting the spurs running down from the Weddin Mountain. It is box and pine country, and is adapted to agriculture. A large area, say, up to 15 or 20 miles out from Grenfell, has been cleared for the plough. The rainfall at Grenfell has averaged about 28 inches, I believe. At the Weddin the rainfall drops to 24 inches, and at a point about 30 miles out it is about 22 inches. When you reach the Bland Plain country you find an enormous area of good pastoral land, which stretches right up towards the Lachlan; there is no bad country in it. That would describe the country for an area of about 20 miles north of the line, and the same may be said of an area 20 miles on the south side. The Bland Creek takes its rise at Coota, and the country through which it passes is level; there is only a foot fall to the mile. It overflowed its banks at a point where the proposed line crosses, in 1890, and it spread out from 2 to 3 miles, at a depth of from 6 inches to a foot; but that would be only backwater. Proceeding on from where the broad red line crosses the Bland Creek, you reach red and black plains which stretch away for a distance of about 7 miles to the Barmedman or Back Creek. These plains are almost entirely pastoral land. With the exception of picked spots on the Liverpool Plains, I should say that they comprise the richest pastoral land in New South Wales. In the early days the settlers on the Bland Creek were dairying. They made a large quantity of cheese, and it was carted to Sydney by bullock teams. If the proposed railway went through that country, it is my opinion that a very large extent of it would again be used for dairying purposes. The Bland Creek is not a very difficult creek to bridge over; the waters are still, and the same observation applies to the Barmedman Creek. After leaving the Back Creek, going on towards Wyalong, the country is again timbered, and there are stretches of mallee and other scrub in between the box. The timber country would all be fit for agriculture.

J. B. Donkin.

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487. *Mr. Shepherd.*] Do I understand you to say that the mallee is mixed with the box? Yes. I regard the proposed line as a national line, going out from Sydney, through Hillston, and on towards Menindie. One of the routes which have been projected goes up through Cudgellico, and down the Lachlan to Hillston. A southern route passes through Yalgogrin, and on to Hillston in that direction through Rankin's Springs. That line would pass through a great deal of very rough country, although there are some patches of good country to be found. I, myself, think that an intermediate route might be found, which would avoid the bad country. It would miss out Cudgellico, Euabalong, and other settlements on the river; still it would be a good line.

488. *Dr. Garran.*] If you were going on to Wilcannia instead of to Hillston, you would take the route you now suggest? Yes.

489. Would it matter very much if you missed Hillston? I do not think it would be of very great consequence, because the Gunbar district to the south-east of Hillston is already served to a great extent by the Hay line. Of course, the nearer to Hillston the line goes the greater probability there is of it serving the country towards Gunbar, which is very good. The line from Molong to Parkes and Forbes serves a certain area of the country of which I have been speaking; but the Lachlan River is bridged only at Forbes, Condobolin, and Cowra, and settlers on the south side of the river can only reach the Forbes line by crossing at one of those points. They would be able to reach the proposed line without crossing the river.

490. *Mr. Dick.*] We may take it from your general statement that going west from Grenfell you first reach an area of land suitable for agriculture;—then you come to an area of inferior land, and further on beyond the Bland you come to another area of good agricultural land? I should not call the Bland an inferior area, except from an agriculturist's point of view; it is a very rich area for pastoral purposes.

491. How far out from Grenfell does the first area of good agricultural land extend? Thirty miles. I am, of course, omitting the spurs of the Weddin Mountain.

492. Have you altered your opinion in regard to the extent of that agricultural land since you gave evidence in reference to the Euabalong proposal in 1897;—you then said:

950. What is it like on the western side of Grenfell? It is good country on the western side of Grenfell for 10 miles; then it pans out into open plains, much the same as the country past Narrandera. You get on to box timber country towards Wyalong.

951. Between Grenfell and Wyalong what area is available for agriculture? To the west of Grenfell 10 miles; then it is open plain.

952. Is it good wheat country? No.

953. For how many miles? About 15 miles.

? I see that I there said that the area of wheat-growing land extended out for 10 miles, but I think that must have been a misprint.

493. You now think that wheat-growing country may be said to extend out for 30 miles? I do not know that the whole of that area can be described as good wheat-growing country, because wheat-growing depends so largely upon the rainfall, and, as I have already pointed out, you have a diminishing rainfall as you approach the Bland.

494.

- J. B. Donkin. 494. How far east from Wyalong does the good agricultural land extend going towards the Bland? It comprises the whole of the area up to Back Creek, say about 15 miles.
- 22 June, 1899. 495. Your statement amounts to this: that there are practically 45 miles upon the whole route of good agricultural land? Yes; but I must qualify that statement by this remark—that although the land is good, it is only one season out of three, going towards Wyalong, that they would get a fair crop on account of the deficient rainfall.
496. Does that statement apply also to the land near Grenfell? No; the rainfall there is greater. They had an average of 28 inches in twenty-one years. As you get on to the Bland country the rainfall diminishes, and when you reach Wyalong it is about 20 inches.
497. Is there an average of 28 inches from Grenfell to the Bland? No; only about 10 miles out from Grenfell.
498. That 10 miles, then, would practically be the limit of what you might call good agricultural land? Yes, having regard to the rainfall.
499. As to the area round about the Bland Creek, is it not the fact that it alternates between two conditions—one of flood and the other of excessive drought? The country on the east side is very little flooded. The red ground on that side comes right down to the creek at places. On the west side there has been a flood only once in the past five years. The 1891 flood, I think, was the last. The flood only lasts two or three days; the water then all passes away.
500. You said you regarded the line as part of a national line extending to Hillston, and even further;—do you think the proposed line could stand on its own bottom, assuming it to be constructed only as far as Wyalong? Yes; my reason for saying that is this: That some years ago the late Chief Commissioner for Railways told me that the Forbes line, which I use, was one of the only lines that was paying, and that line, to my own knowledge, passes through 20 miles of ironbark country which has never produced a single bag of wheat. The line under consideration passes through good country, the greater part of which can be put under the plough. A great deal of the remaining area could be used for dairying purposes. If any line will pay, I should think it likely that this line will do so.
501. How far are you from the railway at Forbes? Forty miles.
502. Do you think that an excessive distance for the carriage of your produce? Yes.
503. What do you regard as a fair distance from a railway station for profitable carriage? I think you might put down the distance at 20 miles. We can send a vehicle that distance and back on the same day. It takes two days if the distance is in excess of 20 miles.
504. Would not a great portion of the agricultural land of which you have spoken round about Grenfell be within a 20-mile radius of that town? Yes.
505. And would not the good land at the other end of the proposed railway be similarly served if a line were made from Temora to Wyalong? Yes.
506. It amounts to this—that both areas of good land between Grenfell and Wyalong would be served if a line were constructed from Temora to Wyalong? Yes; but I would point out that the country on the route from Grenfell is good, not only along the proposed railway but for a distance of 20 miles to the north and south of it.
507. Would not a 20-mile radius from Grenfell include a great portion of the good agricultural land? The best part of it. But the people on the south of the Lachlan would make use of the railway in preference to crossing the river to the Forbes or to the Condobolin line. A large area of country to the south of the Lachlan would be served by the proposed railway.
508. Is not a great area of the agricultural land south of the Lachlan—that is, between the Lachlan and the proposed line—nearer to Forbes than to the proposed line? A large extent of it would be in that position.
509. Towards Lake Cowal the land is more fitted for pastoral pursuits than for agriculture? Yes.
510. In that case a few more miles of carriage would not be a great handicap? Not a very great handicap. I should like to mention to the Committee, however, that, as regards dairying on the Bland Creek, some of the settlers there are now breeding lambs; there are not many parts of the country which are adapted to the breeding of crossbred lambs. I have been breeding them for the English market for the last few years. We have had a terrible drought to contend with, but I have been able to send 5,000 crossbred lambs to England, and in the present year, although we are still fighting the drought, I hope to be able to send 10,000.
511. Have you used artificial grasses? I have now adopted the plan of spelling certain paddocks. I keep the grass in those paddocks, and although we have had a drought, at Christmas time I had old grass 1 foot and 1 foot 6 inches in height. That was in a paddock which had been spelled for six months. I have come to the conclusion that the only way in which we can pull through is to save a certain amount of the run in just the same way that you would save growing crop. I have used various kinds of feed, but I find it cheaper to spell the paddocks in the way I have described, and let the sheep feed themselves. I save the grass just as if it were actually a crop.
512. You said that some years ago there were a number of persons dairying on the Bland Creek;—why did they discontinue? They discontinued because they found that cattle did not pay. In those days there were 30,000 people at Forbes and the same number at the Lambing Flat diggings, and there was a good market in that direction.
513. You anticipate that, if the proposed line is constructed, a number of settlers on the Bland will return to dairying? If the Government were to take a railway through my property I should have a thousand cows in six months' time, because I believe that under those circumstances dairying would pay better than agriculture.
514. Where would you get your market? I should send the butter down to Sydney.
515. Having a carriage of 300 miles, would you have any chance of competing successfully with the southern and northern dairymen? It is not a question of the local market. There is the London market. I send my crossbred ewes to London at the present time. If I were to sell them in Sydney they would hardly pay for the railway carriage; but by sending them Home I get 8s. and 9s. for them.
516. What would be the difference in the profit in the local and in the Home market? Lambs have been sold here for 4s. and 5s., and in London they realise from 9s. to 12s. New Zealand lambs have fetched in the London market from 10s. to 12s., and I do not think they are any better than the lambs we can breed.
517. Will you describe to the Committee the land between Temora and Wyalong? From Temora, for

18 or 20 miles towards Barmedman, the country is box country with pine and sifting bush. There is a dense undergrowth in many places. When the land has been cleared it is good agricultural land. There is also a good deal of hopbush. From Barmedman on towards Wyalong the scrub is more dense, with belts of mallee. J. B. Donkin.  
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518. Is the last 18 miles from Barmedman to Wyalong inferior to the last 18 miles on the proposed line from Grenfell to Wyalong? I do not think it is so good. There would not be a great deal of difference, but on the whole I do not think it is as good; there are more belts of mallee. I saw the other day that some leases were gazetted near Barmedman, and I was at the Lands Office this morning, and asked for particulars. There are two blocks with a frontage to the road, and they are gazetted as improvement leases. With the permission of the Committee I will read the Government description of these two blocks of 2,000 acres. It is as follows:—"Generally level, or gently undulating country, with a couple of low stony ridges of granite and slate formation, with soil of part red sandy loam, part red clay, and part gilgai country; timbered with box, pine, yarran, belar, and ironbark trees, and covered with dense scrub and undergrowth of sifting bush, dogwood, camomile, wattle, pine, and hopbush. No natural water supply, but good facilities exist for its conservation by excavating tanks. Rainfall, about 21 inches per annum. Rabbits, wallabies, and dingoes are numerous." In the month of May three leases of about 20,000 acres were gazetted in the country across from Barmedman, on the west side of the surveyed route. I know that country very well; it is nothing short of a howling wilderness. I surveyed the range passing up between Barmedman and Mandama. Budegower, where these leases are gazetted, is 20 miles from Barmedman. I saw the surveyor of the district the other day, and he said he was camped near these very leases. The homestead, he said, was deserted, and he was living in the house, and the whole place was infested with dogs and rabbits. Here is a description of the three improvement leases. The first is as follows:—"About 2,500 acres of rough sandstone ridges, poor soil, the remainder slightly undulating country, red loamy soil; timbered with box, pine, and oak, and covered with a dense scrub of pine, wattle, &c., with ironbark and currawong on the ridges; no natural water supply, but good facilities exist for its conservation by means of tanks and dams. Rainfall, about 20 inches per annum. Infested with rabbits and dingoes and anthrax." I should like to point out that in obtaining evidence in reference to this proposal the Committee will find that there is a great deal of feeling in the matter—that is, whether the line should go from Temora or from Grenfell. It does not make much difference to me personally which way the line goes; but I know the country on both routes, and in my opinion the country between Temora and Wyalong cannot be compared with the country on the other route.

519. Do you mean from an agriculturist's or from a pastoralist's standpoint? From both standpoints. I myself have tried agriculture.

520. Considering the rival lines from the point of view of mineral development, upon which line would there be the greatest mineral development? I do not think it would make very much difference. The whole of the country from Wyalong to Yalgogrin is mineral; and as to Wyalong itself, I think it is only in its infancy.

521. Is there not mining at Reefton and Barmedman? I do not think there is much mining there now.

522. You do not anticipate much mineral development upon that route then? I do not. Speaking of the railway from a pastoralist's point of view, I must say that although 20 miles may be considered a fair distance from a railway, there is a great advantage in having a line only a few miles distant from your property. It is of great advantage, having regard to the breeding of fat stock for market. On nearly every occasion when I have had fat stock ready there has been a glut in the market before they could be got down. If you are within a few miles of a railway you can get your stock down in a few hours, and in time of drought it is of great importance to be able to get your feed up rapidly for starving stock. On the Burrawang station, which uses the Condobolin line, they have been paying £40 a day for feed for stock. People, generally, are not aware of the thousands of tons of fodder which are brought to the drought-stricken districts from the Hunter and other parts of the Colony.

523. But there is an absence of grass and water in the districts of which you are speaking, only at a time of excessive drought? Yes.

524. I suppose that for many years things have not been as bad as they have been lately? The drought of 1888, I think, was just as severe, but it lasted only two years.

525. You have had some experience in irrigation? Yes.

526. Do you anticipate that the construction of the proposed line will develop irrigation? I do not think so, because there is no water with which to irrigate. In 1888, I had three large centrifugal pumps at work, pumping 8,000,000 gallons a day for stock. I found that the area I could irrigate was only limited. I have used a large quantity of water upon my own garden during the past ten years; I have had to pump 5,000 tons of water once a fortnight to keep the garden going. Of course, the present drought is exceptional. The Bland Creek has not been known to be dry before to the knowledge of white men; but it is now as dry as a bone. My lucerne is all dead, and my fruit-trees also.

527. What is the depth of Lake Cowal? Fifteen feet, in the centre. I may mention, for the information of the Committee, that there is not a drop of natural water in the whole of the country between the Lachlan and Murrumbidgee.

528. *Mr. Trickett.*] Did you irrigate for crops or for grass? For grass; but the country has been in such a terribly parched state, that although I have pumped a large quantity of water upon it, you could not see where it went to.

529. *Mr. Levien.*] Are there any wild fowls on the lake ordinarily? Yes. If I had a railway through my property I could send home frozen ducks as well as frozen lambs. I may mention that I have, within two months, put down 200 bores for water; we go to a depth of about 100 feet. We go through solid clay. I have never struck a stone yet. The lake drains about 4,000 square miles of country.

530. *Mr. Shepherd.*] Have you no artificial grasses at all on your run? I have grown lucerne.

531. I suppose you feed and spell alternately? Yes.

532. What kinds of natural grasses have you grown chiefly? I have the Mitchell grass, but only in small quantities; but I have the best fodder plant in Australia, the trefoil. I have known stock to fatten upon trefoil seed two years after it has been upon the ground. There is a large quantity of trefoil; the only disadvantage is that it has a burr which damages the wool to a great extent. One reason why, I think, the country would be such a good country for dairying purposes is, that we should have such a stand-by in the trefoil. We have also sow-thistle, crew's-foot, nardoo, and barley-grass. The stock will eat the whole

J. B. Donkin. whole of the grasses there; but the place has been so eaten out that it is now as bare as the street. Since last October we have had only 7 inches of rain. The highest we have had at a time has been 50 points, but the ground has been so dry that it has had no effect upon it.

22 June, 1899.

533. When you preserve the grass in the paddocks of which you have spoken, do you allow it to seed? Yes. Through the grass not being allowed to seed a great deal of it has been eaten out. On the Darling Downs they have had, in some years, to give up breeding lambs, because all the good sheep-grass has been eaten out. In regard to my irrigation works, I may mention that I have spent £2,000 upon them, and I have 10 miles of drainage. I was at one time very enthusiastic about irrigation. I was a member of the Water Conservation Commission, and I saw what was done in Victoria. I thought we could make a great success of it here, but I am sorry to say that it was not a success with me.

534. Have you any saltbush? Yes; but the greater part of it has been eaten out. I think it is much over-rated as a fodder plant. The sheep only eat it medicinally. I see they are growing it now in California upon some of the saline plains because they cannot grow anything else there; but I would never grow saltbush where I could grow good grass such as we grow.

535. Is not the saltbush a good fattening plant? I do not think it is as good as the grasses. Where it grows all the herbage is sal-salaceous. I have sent down some of our water for analysis, and the Government Analyst told me that it was within three points of salt water. He said he did not think it could be so salt.

536. Does not the fact of the saltbush disappearing to such an extent go to show that it has been a valuable fodder plant? I do not think so. I have been over the country a good deal during the last twenty-eight years, and I do not think I have ever seen stock eating it, although, of course, they do so. It is eaten, however, when all the other feed is gone. Moreover, it will not stand feeding; it is very soon eaten out.

537. It is a fodder plant which requires protection? It is of no use to do that if you cannot put stock on to it. The sow thistle grows very well at Lake Cowal. I have seen the sow thistle 3 or 4 feet in height. I find that the best way is to treat the grasses generally as one would treat the crops. If we do that I believe we can keep stock through the biggest drought Australia has ever seen.

538. As to the line from Grenfell to Wyalong, what is the probability of traffic between those two points? Wyalong, until gold was discovered there, was a very desolate country, given up to dingoes. There is now a population of from 4,000 to 5,000 people there. Mining has not gone ahead there very rapidly, but if there were a railway I think many capitalists would be induced to go there. The mines are nearly all held by small holders, and there is not the capital there should be. I am of opinion that gold is to be found, not only at Wyalong, but some 20 miles beyond it. Another point to be considered in connection with the extension of the railway to Hillston is that the people in that direction send their wool down to the river, and it goes into Victoria by water-carriage. I think we might easily catch a great deal of that traffic.

539. What is the present outlet for Wyalong? The principal traffic is by road to Temora. Large quantities of stone have been sent to Ballarat for treatment.

540. What would be the principal loading from Wyalong? It would be entirely stone for treatment elsewhere, and wool from the different stations out beyond.

541. They are not producing grain there? None to speak of at present.

542. What are the chief products of the farms there? From Temora outwards most of the selectors work sheep and agriculture; but it is only within the last few years that they have gone in for agriculture at all, and that has been done principally around Temora. The rainfall there, however, is only 21 inches, as against 28 inches round about Grenfell.

543. At what period do they generally get rain? It is very uncertain. If they do not get a rainfall in February or March they are unable to plough. Fifteen inches would be quite sufficient for the growth of wheat if it fell at the proper time. This year we have had up to the present time only 4½ inches. If the whole of that rain had come at once we should have had plenty of fodder and crop too. If wheat gets enough rain to start it, with genial showers throughout the winter months, it does not require much rain afterwards; therefore, a place with 28 inches of rain has a much better chance than has comparatively dry country with a rainfall of only 20 inches. The fact is that we are too far south for the monsoons from Queensland and too far west for the coastal rains. Excepting the Weddin Mountain, we are out of the influence of any hills or ranges.

544. Has there been any attempt to put down bores at Wyalong? I am afraid that for artesian water they will have to go to a great depth, possibly to 4,000 feet.

545. What is the nearest bore to Wyalong? I do not know of any within 100 miles of the place, and I never heard of a bore being put down there. In my own case I have used only the ordinary wood auger and the gas-piping. We go down to about 100 feet and then strike an underground drift.

546. What is the extent of the Bland Plain? It extends from Marsden right away through to the Lachlan.

547. Is not any of that plain country fit for agriculture? I think it is too clayey. No doubt it will grow a good crop; but it is very stiff soil, and there are a number of gilgai holes with little patches of water lying, perhaps, for a week or so 2 feet in depth.

548. *Mr. Leven.*] Regarding the proposal apart from all the local feeling, which line would you advocate? I think the best line is the one before the Committee.

549. How many miles are you from Wyalong? Twenty-four miles.

550. Upon which route do you consider there is the most population, between Grenfell and Wyalong or between Temora and Wyalong? There will be more population on the Temora route on account of the centres at Barmedman and Reefton.

551. Are there any towns between Grenfell and Wyalong? Only one—Marsden, and that is about 10 miles north of the proposed line.

552. I suppose there will be more small holdings between Temora and Wyalong than on the other line? I can hardly say. Out from Temora, to some distance towards Barmedman, there are some; but there is also a great number of small holdings 10 or 15 miles out from Grenfell.

553. On which line do you think there would be the greater number of small holdings? I think the greater number would be between Temora and Wyalong.

554. You think Wyalong would be a good centre? I do.

555. Do you not think it would be better served by a line from Temora? The Grenfell line is, of course, J. B. Donkin. the longer line; but, on the other hand, it would serve a greater area of country. Moreover, the people of Hillston and out west would be better served by a line from Grenfell than from Temora, the distance from Sydney being 6 or 7 miles shorter by that route. 22 June, 1899.

556. There is good wheat country, you say, from Wyalong, right out towards Hillston? The wheat country is in patches, and the rainfall diminishes tremendously. At Hillston it comes down to 12 or 14 inches.

557. Supposing a railway were constructed from Wyalong to Hillston, considering the great population between Wyalong and Temora, would there not be a good market there for the produce grown out west? If the railway goes out to Hillston, you will find the people producing in that direction, and they will make use of the local market.

558. Supposing that there are good seasons? Yes.

559. Have you any agricultural land? Only in small patches—the bulk of my land is pastoral land.

560. I suppose that in a very dry season the black-soil country would not be of much use for dairying? It would be of use if you saved sufficient grass—if you did not overstock.

561. But if you were some distance from the railway it would not be of much use to you for dairying? Not if it were too far away; when I spoke of dairying, I had in my mind small holdings, and mine is only a small holding.

562. How many landholders would the line from Grenfell benefit from the point of view of dairying? I do not suppose there would be more than from ten to fifteen, at present. But we can let dairying lands on the halves principle in just the same way that land can be let for the growth of wheat.

563. But it would be of no use letting out the black-soil country there upon the halves system? Yes; I myself would not hesitate to let that description of country on the halves system; it is what I propose to do.

564. Do you think many persons would take it up? I think that if a railway were constructed they would do so; because I think that in that case it would be found that dairying paid better than agriculture.

565. But there would be no wheat-growing in the black-soil country? No, it is entirely pastoral country.

566. Therefore, if a drought came like the present drought, it would be of little or no use? It would not be of as much use as in a good season, but in the present drought even the red-soil country is of no use. Mr. Greene, of Landra, told you, only yesterday, that in the past season he had no crop to speak of.

567. Did he not say that he turned his wheat into hay? I understood him to say that there was a large area into which he did not put the stripper at all; he simply allowed the crop to rot upon the ground. In a drought the pastoral country would only suffer in the same proportion as the wheat-growing country.

568. You say that out towards Hillston the rainfall diminishes very rapidly;—what would be the state of affairs there? That is not black-soil country; it is red country all the way through.

569. Looking at the question without prejudice, you are inclined to think that the railway, then, should go from Grenfell to Wyalong? I think so, for the reasons I have stated.

570. Is there a large area of Crown lands between Grenfell and Wyalong? The leasehold areas of some of the runs will be falling in, and there will then be a large area of Crown lands available for settlement, but I cannot say how many thousands of acres.

571. Do you think there would be any large proportion of good agricultural land in those areas? Of course, the best part of the country was taken up some years ago, but the whole of it is the same; there is not much difference between one acre and another.

572. You think, then, that upon some of the leasehold areas there would be found good agricultural land? Yes.

573. Is there much Crown land from Wyalong to Hillston? There it is practically all Crown land.

574. And you think it is absolutely good land? The land is good enough, but the rainfall is light.

575. *Dr. Garran.*] Will the Bland country, of which you have spoken, grow ordinary lucerne? We have never tried to grow it there, because the land is very difficult to cultivate. It is very stiff, and the lucerne seed is very small; the soil breaks up into great clods. No doubt the lucerne would do very well if you could get it in.

576. You would not derive much advantage, then, from growing lucerne, as compared with the natural trefoil? No; I have tried all these things. The lucerne, while I kept it going, and put water upon it, used to give me five or six crops a year.

577. You think that nature has given you the best dairying fodder? Yes; I have come to the conclusion that the best fodder is the natural grasses.

578. Will the cattle do equally well all the year round on that food, without any change of diet? Yes; I do not think the mutton and beef grown upon the natural grasses can be excelled by any beef or mutton grown in the whole country. The people of Sydney have no idea what our beef and mutton are like. I do not think a great deal of the meat eaten in Sydney is fit to be eaten. The graziers throughout the country spent £130,000 quite recently in forming depôts for country killing, but it was a new enterprise, and it went to the wall. When I was here last year I met a gentleman from London, representing a New Zealand firm, and he has made an offer for all the properties of which I have spoken. We hope to see them started again, and run by an English company. I hope shortly to be able to freeze from 8,000 to 9,000 lambs a year at Forbes.

579. Where the country is fit to carry sheep, is the natural trefoil as good feed for them as for cattle? Yes, and for horses too. I imported 150 Lincoln sheep from New Zealand; but they got too fat and would not breed.

580. I understood you to say, on a former occasion, that one of your irrigation experiments failed, because in taking the water to the land you were irrigating, 75 per cent. of it was lost through it being taken in an open cutting;—could you not have carried the water through iron pipes? Yes; but the cost would have been very great.

581. Do you think that if you had been nearer to the supply you would have had the same failure? If you are going to cover any considerable area of country you must convey the water some distance.

582. You also mentioned in a previous inquiry that you had grown oats successfully by irrigation;—what was the size of the patch of oats? About 40 acres.

- J. B. Donkin. 583. How much water did you put on? I suppose it would take about 24,000,000 gallons for the entire crop. There would be three days' pumping on 40 acres.
- 22 June, 1899. 584. Was the crop a paying one? I used it for fodder; it was grown at a time of drought.
585. Do you think that, as a general rule, it is profitable to irrigate paddocks? I think the expense of lifting the water is too great. When water can be conveyed by gravitation, as on the Murrumbidgee and other places, it will pay, but when you are put to the expense of raising it by machinery, it is different. I do not think that, unless there were a large population and a good market, it would pay.
586. The expense of lifting makes the difference between loss and gain? Yes.
587. Have you tried irrigation for orchards? Yes.
588. Was it a success? Yes; in my garden I could grow any kind of fruit, but this year the whole of my trees died. The water which I thought was never-failing has failed.
589. Have you tried to grow vegetables? Yes; they grow splendidly. If I had sufficient water I could supply Wyalong with vegetables.
590. You say that your irrigation has been a failure;—in what particular respect has it been a failure? In my case all the water has given out. Another reason is that I have had to raise the water, and the cost of machinery, firewood, and labour has been very great. For the purposes for which I have used the water—that is, for pastoral purposes—I found it would not pay.
591. Your experience seems to show that, even where you are favourably circumstanced, it will not pay the squatter to grow fodder for his own stock? I do not think so. The best thing the squatter can do, I think, is to keep his own fodder in the shape of grass. I have 15,000 ewes lambing now, and it will be impossible to feed them with artificial fodder.
592. Practically, you only half stock your land? Yes; I make the sheep feed themselves.
593. You do not grow any artificial food? No.
594. You think that the proper course is to under-stock? Yes.
595. Supposing some fodder to be required upon a station, would it pay the squatter better to get it from a farming district than to grow it himself? That is the farmer's own business. We have been buying some hundreds of thousands of tons from the farmers in the good agricultural districts. Our business in the pastoral country is to grow grass.
596. It sometimes greatly affects a proposal to make a railway—whether the better method is for the squatter to supply himself with fodder, and be independent of the farmer, or to depend upon the farmer in the agricultural districts? I have been trying all sorts of things for the past twenty years, and I am only just beginning to find out now what succeeds best. I do not think it will pay the squatter, as a rule, to grow fodder for his stock.
597. If the squatter depends for his artificial food upon the farmer, there will be a traffic for the railway in hay? A number of them are trying to grow artificial food, but I do not think it pays them to do it. For my own part, the money which I have spent upon irrigation would have been very much better spent in other directions. I think that, as a rule, the squatter will do better to buy artificial food from those who can grow it better than we can.
598. In regard to fat stock going to market, do you find that it deteriorates more between your land and the railway station, or on the railway itself? There is no doubt that the stock are considerably knocked about upon the railway. I have seen ten or twelve cattle in a truck, and I have seen nine out of the number knocked down. Sheep also are sometimes very much knocked about. The cattle are, after a rough journey of that sort, put for a fortnight into starvation paddocks at Homebush. They are then driven to the Abattoirs, killed immediately, and brought into Sydney for food. Owing to the climate, it is hard to keep meat in Sydney; but in our district at this time of the year we can keep portion of a beast for two or three weeks.
599. How much do you suppose your stock would fall off in weight from the railway station to Sydney? My lambs would average from 35 to 40 lb., and I have no doubt they would deteriorate to the extent of 5 lb.; but it is not so much the loss by weight as the loss in quality of which I complain. I went over a butcher's shop in Dublin some time ago, and I asked the manager if he had obtained any mutton from Sydney. He said he got 200 or 300 carcasses from Sydney, but that he would never get any more of those scrubs.
600. You are looking forward to chilling your meat at Forbes? Yes; that is what I have been working for for some years.
601. You think the difficulties which have hitherto stood in the way of country-killing will be overcome? Yes; I see that a new company is to be started at Blacktown.
602. *Mr. Levien.*] Do you think that frozen meat is as good as other meat? Undoubtedly. There is no reason why the meat eaten in Sydney should not be equal in quality to the meat eaten in many of the country districts.
603. Do you know whether the chilling-works at Young have been suspended lately? They have been shut up.
604. Why? It is not the general custom of the country to use chilled meat. We have a great monopoly to break down, and we have been fighting it for the past twenty years. The Sydney Corporation have their yards, and they get good interest on their money. The butchers also have an interest in the yards and the abattoirs, and are not inclined to give them up. If the people insisted on getting country-killed meat a change would very soon take place. I cannot say what the practice is now; but I was at the Abattoirs once in the summer. They were killing sheep in the heat of the day, and throwing them on to the carts almost before they were dead. I believe that that practice has since been amended; but it is monstrous to think that the people of Sydney should have to eat such meat. Decomposition sets in very rapidly, and in such a climate as ours it is impossible for the butchers to keep their meat. No doubt they lose a great deal in that way. In America and in London they have freezing-rooms alongside the shop, which are kept at a temperature of 40 degrees. A sheep might be in one of these rooms for three weeks, and still be perfectly sweet. Moreover, the meat in such circumstances is not exposed to the dust and dirt of the street as it is here.
605. *Dr. Garran.*] You said, I think, that you thought the whole of the country between Yalgogrin and Wyalong was mineralised;—have you noticed any surface indications? I think that in the whole of that country claims are now being worked.
606. There were no surface indications at Wyalong, were there? Yes. Mr. Neeld, a Victorian selector, discovered gold at Wyalong.



607. You have been in the country between the Lachlan and Menindie;—is there any elevated land J. B. Donkin. between those places? There are a few hills.
608. I mean between the head of the Willandra Billabong and the nearest point of the Terrawinnia Lake? <sup>22 June, 1899.</sup> There is no elevated land that I know of.
609. Could you construct a canal which would give a continuous waterway from the Lachlan to the Darling? I should think so.
610. What is the distance between the waters of the Willandra and the waters of the Terrawinnia Lake? I could not say; but I should think about 100 miles.

FRIDAY, 23 JUNE, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.

The Hon. WILLIAM JOSEPH TRICKETT.  
WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

John Boyd Donkin, civil engineer and grazier, sworn, and further examined:—

611. *Mr. Watson.*] I think you said that you looked upon the construction of a railway from Grenfell to J. B. Donkin. Wyalong and thence to Hillston as a national project? Yes.
612. Is there any national reason for following the Western line from Sydney and on to Grenfell as against <sup>23 June, 1899.</sup> following the Southern line from Temora to Wyalong, reaching Hillston in that way? I do not think there is any very great difference between the two routes, except that the line from Temora to Wyalong would make an awkward angle. A line taken through Grenfell to the west would be almost a direct line from Sydney.
613. But looking at the matter from a national point of view, we have already laden the Western line pretty heavily with cockspurs and branches in different directions, actual or projected? I do not think the Western line is already more heavily laden than is the Southern line with its branches to Hay and Gundagai.
614. Are the grades not better on the Southern line than on the Western line? I think that as a rule the grades are better on the Southern line, although from Picton to Hilltop, in about 20 miles, there is an ascent of 1,500 feet, and there is no grade so severe as that on the Western line. After you pass that one point on the Southern line there are easy grades all through.
615. Koorawatha is nearer to Sydney *via* the west than *via* the south? Yes.
616. Do you know that a large proportion of the sheep and cattle shipped at Cowra and Koorawatha goes *via* the south to Sydney, although the Western line would be nearer? I am not aware of that, nor can I see the object of it.
617. Do you think that the saving of 6 miles in reaching Wyalong *via* the western, as compared with the southern connection, is of any great moment from a national point of view? I do not think that difference in distance is of much importance from a national point of view; but there is the advantage of coal on the Western line. In case Wyalong develops into a large place—and there seems every probability of its doing so—it will be an advantage to have the coal nearer.
618. I should imagine that there was timber enough about Wyalong to keep them going a long while? There is plenty to keep them going for one hundred years.
619. And it would suffice, unless there is some development which requires the use of coal? Yes.
620. I understood you to say that the projected line from Grenfell to Wyalong, as shown on the map in a deep red line, follows dry ground right down the Bland? Yes.
621. When you speak of dry ground do you mean all red soil? Yes, I am speaking now from my general knowledge of the country. I have not followed the surveyed routes right through; but from my general knowledge of the country, and from what my neighbours have told me, I believe that the red soil goes right down to the creek on the eastern side; on the western side I know there is splendid land.
622. You see the lighter red line marked "*via* Bimbi,"—do you know whether as you approach the Bland Creek by that route there is much difference in the country, comparing it with the country on the northern route? Not very much; but I think it is thickly timbered, and inclined to be scrubby. It is not so good, I think, for 10 miles back; otherwise the whole country is much the same.
623. I imagine that the northern route must follow something in the nature of a spur for some distance? Yes; otherwise the country about there is all very level.
624. Have you any of what is known locally as the "pug country," down your way? No.
625. It does not extend so far down? No; you find that about Morangarell.
626. I understood you to say that the last time that part of the country was flooded was in 1891? Yes.
627. Was it not flooded again in 1894? That was a small flood; it was hardly perceptible. It would not affect the country much excepting on the western side of the creek.
628. Since then it has been extremely dry? Yes. I would point out with regard to the Bland Creek that it is a very fine stream, almost like a canal, and with a 5-foot overshot dam water could be thrown back for 5 or 6 miles. The whole of the way down the creek you could make a splendid supply of water in that way.
629. Have you been at Carumbi, on the Bland? Yes.
630. They have an overshot dam there? Yes; I have not seen theirs, but I have seen many of them.
631. There are many across the creek? Yes.
632. And they have been successful in the storing of water? Yes.
633. Do you think, leaving out of account your own place right on Lake Cowal, that further up the creek they would be able to go in for dairying with any chance of success? At Curraburrima they had a large number of cows and were dairying in 1872, but since then practically nothing has been done. It was a question then of supplying the diggings.

- J. B. Donkin. 634. But if anyone went into dairying now in that district they would have to compete with the coastal districts, where the climatic conditions are so much more favourable to the industry? No doubt; but they would have more land and they could go in for dairying on a larger scale. The Camden Co-operative Company have 2,000 odd cows, and they let the land out on the halves system. As far as I can see, although they have had to contend with the drought, they have been doing very well indeed. I am referring now to the land at Camden Park.
- 23 June, 1899. 635. Is that better land than yours? Their country is not so good as ours, but they have a greater rainfall and a better market. Notwithstanding that, I think that land out in our direction might be let upon the halves system for dairying purposes just in the same way that Mr. Greene, of Iandra, lets his land for agricultural purposes. I think it could be made to pay just as well under dairying; that is supposing there were a railway.
636. Is it not harder in dry seasons to keep big stock than sheep alive? Yes.
637. During the last four years you have, unfortunately, lost a large number of sheep on the Bland? Yes.
638. Do you think that during the last four or five years it would have been possible to keep big stock alive there? I must point out that all through the country lately, men have been keeping sheep for wool, and not for fattening. Under other conditions, of course, it is necessary to keep grass. It is a question of whether you overstock or not.
639. You know the Jeraldera run;—would you consider that they overstock; the lessee is usually looked upon as one of the most provident pastoralists we have? I think he has been carrying about one sheep to the acre, and no country that I have seen in New South Wales will do that.
640. He has lost an enormous number of sheep lately? It was from overstocking; but the land there will not do for dairying.
641. Still you think that it will be possible, higher up the creek than Marsden, to carry on dairying? There is the same country from Marsden to Morangarell, and in that country certainly dairying could be carried on.
642. But not as well as where you are? No; an enormous amount of silt has been brought down to Lake Cowal from Lambing Flat and Temora; every flood puts an inch on to it. The whole country there is covered in time of flood.
643. As to the country to the west of Barmedman, how far west should you have to go before you reached the bad country you were speaking of yesterday? A couple of miles.
644. Do you think it is as close as that? Yes. Mr. Amos, the large railway contractor, has had a large run there for twenty years, that is within 3 miles of Barmedman, and it is a terrible place. The country to the east of the line from Barmedman is not so bad.
645. On the eastern side there is some good country? Yes; but even there there are some patches of bad country.
646. Is there much difference in the country round about Wyalong, whether you approach it from the east or the south? I do not think there is much difference; but if anything, the approach is better from the east, because joining on to the plain country, the land is better.
647. I think you said that there was more mallee on the Temora route than on the other route? Yes.
648. Is it not a fact that mallee does not commence on the Temora route until you get close to Wyalong? I suppose that would be about 10 miles out of Barmedman. It may not be the case exactly on the line of the road, but it is so not far off from it.
649. Do you think the mallee there can be treated as it is treated in Victoria, where they roll it in preparing the ground for wheat? I fancy, although I have never actually seen the mallee there except in coming across from South Australia, that it is a lighter mallee than ours. I think ours is what they call "bull mallee." It has a very much larger stem than the other mallee, and I am afraid it would be a very difficult job to cut it down.
650. It would be more difficult to roll than the Victorian mallee? Yes; but I may mention that wherever the gum grows—and the mallee is a gum—there is a certain amount of water under the ground.
651. You spoke yesterday of the possibility of creating a large traffic in fat stock from along the Bland to the nearest railway; do you know that the chilling works at Young have been closed down for some time? Yes.
652. Yet Young, under present circumstances, would be fairly accessible for fat stock from as far out as Marsden? I do not think so.
653. In good seasons how far do you think the influence of Young would extend as far as the reception of stock for chilling is concerned? I do not think it would be above 40 miles.
654. That would be about half-way between Bimbi and Marsden? Yes; but it is a bad route for grass and water. I know that stock following the Bland Creek went up there last summer, and had to go the whole way to Young without a drink.
655. The presumption is that the works having been closed down at Young, there has not been sufficient stock within a 40-mile radius latterly to keep them going owing to the dry seasons? I think the works at Young have been used principally for boiling down stock which would have perished. They have been used for that, I think, more than for the chilling of fat stock. I am not aware of many fat stock being treated there. There has been no certain market for chilling and freezing, and people all through the country are growing now for wool, and not for fat stock. That was one reason why the different places have not been supplied with fat stock as they otherwise would have been.
656. During the last four or five years, owing to the development in the methods of shipping frozen meat for the Home market, the works would have been successful if we had had good seasons to afford a fair supply? I do not think the works at Young have the means of freezing meat. The works at Forbes cost £15,000, and they did only chilling. Weddell & Co. are taking the matter up, and they will have to convert the whole of the works into freezing-works so that the meat may be sent down without deterioration. If the meat is only chilled, there is the possibility of deterioration, and it does not answer to chill and to afterwards freeze.
657. You think, then, that the works at Young were not complete? That is my opinion. One great drawback to the trade has been that there has been no convenience of late years for connecting with the large ocean-going steamers. The meat has to be lightered alongside, and that involves too much handling. In New Zealand the meat goes direct to the ship's side. I was informed some time ago that while the men are having their smoke-time the meat is often left sweltering in the sun.

658. You think that one cause of the comparative failure of the works at Young was that they were not provided with freezing apparatus? Not only that, but the growers have not gone into the business as they might have done. They have not laid themselves out for fattening. We buy store stock at 3s., and send them down and sell for 5s. The 2s. of profit which we ought to have goes to the Railway Commissioners. We, therefore, find it pays better all over the country to sell stores. Hitherto we have been really working for the Railway Commissioners. J. B. Donkin.  
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659. Where do you sell your stores;—where are they fattened? They are taken over to Liverpool Plains, and, as you know, an English Company have works at Aberdeen. They buy all that can be obtained there.
660. When Mr. Bruce, the Chief Inspector of Stock, was giving evidence in reference to another proposal, he said it would be advisable, in his opinion, for the Railway Commissioners to have some better method of transmitting stock long distances—that is, from one district to another where they could be fattened. What do you think of a proposition of that sort;—is it worth considering? No one sends stock by railway now in that way. The rates are prohibitive except in a time of drought when there is a rebate. For store stock the rates are absolutely prohibitive.
661. What would it pay you to give to have sheep transported quickly from (say) Grenfell to the Liverpool Plains, as against the present method of taking them over the stock routes? You could take them over the stock routes at 4d. per head if there were any number—say from 5,000 to 10,000.
662. Does not that involve loss of condition? That is not material. No store stock could afford to pay double that price for railings.
663. What would be the approximate cost per head for that distance? I cannot say exactly, but it costs me now 1s. 6d. from Forbes to Sydney, and other expenses bring the cost up to 2s.
664. You see upon the plan three circles drawn round the different termini of Grenfell, Temora, and Wyalong,—do you think they would fairly represent the influence of each terminus on the surrounding country? Yes.
665. The area of country which would remain unserved if the two lines terminated, one at Grenfell, and the other at Wyalong, would be comparatively small—I mean the area between those two centres? There would be a large area to the north unserved.
666. But that would be largely a pastoral area? Yes.
667. It would be hardly fair to fix the limit of railway influence at 20 miles for pastoral purposes? Of course 20 miles is better than nothing, but it is a great advantage to have the line nearer. If you are 20 miles away, allowing for the time it takes to get the stock trucked, they would be nearly a week getting down. If the line were nearer they could be sent off in twenty-four hours.
668. But it has never been assumed that in pastoral country it is necessary to have a railway at a closer distance than 20 miles? With pastoral products it is a question whether they will pay or not, and during the past five years I do not suppose that more than 5 per cent. of the properties in New South Wales have been paying. With regard to this particular line, several of the pastoralists, although the line will go through their runs, are not in favour of it. When the leasehold land is thrown open within a certain distance of a railway, the lessee is not so likely to obtain the land, and many of them are not aware of the advantage of sending fat stock away. I suppose I am the only pastoralist in the district who will give evidence in favour of this line.
669. Taking Federation as being practically secured now, would it not be possible that the pastoralists of your district might sometimes find a better market in Melbourne for fat stock than in Sydney? The markets all over Australia will be pretty well assimilated. We have been shut off from Victoria by the stock-tax to some extent; now that market will be open. If Wyalong goes ahead we shall find a market there for our stock.
670. But if you were making towards Wyalong you would go straight through; you would not use the railway? On the Bland it is all good travelling country, and you could get your stock to the railway in good condition, whereas going to Wyalong there is a good deal of scrub and no grass. I would rather have 25 per cent. less area and a railway through it than have the larger area with no railway.
671. With the possibility of another market opening in Melbourne, in consequence of the abolition of the border tariff, would it not be an advantage to have a connection which would give you from Wyalong an advantage of 83 miles in reaching Melbourne with no greater loss than 6 miles in reaching Sydney? I do not think that would be a very great advantage; we are too far away from Melbourne for stock. The large area of country in Riverina would come in before we did. Years ago, when there were all cattle in that country, I used to send my cattle to Melbourne overland. There was a better market for cattle then.
672. Before the stock-tax was imposed, the greater part of the cattle going into the Melbourne market went through from Queensland? Yes. In good seasons the stock passing my place to Victoria average 30,000 cattle and 3,000 sheep; that would be the number passing south, and a great proportion would go to Victoria.
673. Those figures apply to a period since the imposition of the stock tax? Yes.
674. The stock tax did not have the effect of barring them completely? No; Victoria depends to a great extent on Queensland cattle for fattening; the only effect of the tax is that people in Victoria have to pay more for the stock.
675. Looking at the matter again from a national aspect, do you think that for the serving of a small area of pastoral land which is outside of the circle which you see drawn upon the map, the country would be justified in expending an additional £50,000 of State money—that being the difference between the cost of a line from Grenfell to Wyalong, and a line from Temora to Wyalong? It is very difficult to say.
676. If you were looking at the matter from the point of view of a private speculator, would you say it was worth while? If I owned the land from Grenfell to Wyalong I would run the railway through it.
677. But the State does not own it? It owns a great part of it. On the Temora route, when you get past Barmedman, the country is very inferior. Taking the whole of the route through from Temora to Wyalong, the country will not produce what the country from Grenfell to Wyalong will produce. I was referring yesterday to the cost of fodder. A gentleman from Riverina told me this morning that he sent over 3,000 tons of hay down the Murrumbidgee. This tremendous demand in the western country, in time of drought, must be of great advantage to the agriculturists in those parts of the Colony where crops can be grown. If we grew the crops ourselves they would be shut out of the supply. I have here a short extract from the *Forbes Times*; it says: "It is said to cost £40 a day in providing artificial food for 40,000 sheep that are hand-fed at Burrawang, owing to the protracted drought." This supply is available largely on account of the railway; they bring the sheep alongside the line and throw the feed off—there is no cartage at all.

- J. B. Donkin. 678. You would not look upon that as a factor in making a railway pay, but merely as a matter of necessary convenience to persons engaged in pastoral pursuits? I look at it in two ways; first of all the supply is necessary to keep the stock alive; and then, in the second place, it provides an outlet for persons in that part of New South Wales who are able to grow crops; it provides a market for them.
- 23 June, 1869. 679. But it is only once in a number of seasons that there is any necessity for it? Unfortunately it has been the case for the past four or five years. With regard to our droughts, I am inclined to think that Mr. Russell cannot be far out in his nineteen-years period. Before 1852, when we had the biggest flood recorded in New South Wales, there was a protracted drought; the same thing occurred in 1839; after the flood of 1852, there was a great drought. We then come on to 1865, and 1868, and in 1870 there was a large flood all over Australia, very nearly up to the 1852 level. We then went on to the 1885, 1886, and 1888 droughts; there was then another big flood in 1891. Whether we have come to the bottom of the present drought or not it is hard to say. I may mention that in the lake I have found the butts of gum trees which must be 200 years old, and after boring 15 feet we have often got the bark of almost fresh gum trees.
680. From that you assume that the lake has been at a lower level than you have ever known it to be? Also that there must have been a much more protracted drought. The country is now absolutely bare, and the water runs off much more quickly than it used to do thirty years ago, when the kangaroo grass was 4 or 5 feet high. In the Cootamundra flood, fourteen or fifteen years ago, 10 inches of rain fell in a few hours; it came down and swamped the whole country, destroying a number of sheep. I should not be at all surprised if we had a long series of droughts before we got to the bottom of the present one.
681. *Dr. Garran.*] Is the Bland Creek a waterway which will lend itself to damming along the whole of its course? Yes.
682. If it were dammed would it hold back water enough to stand a two or three years' drought? Yes.
683. If it would do that, would it not better serve the purposes of irrigation than has been the case? It would be pumped out in a few weeks.
684. Sufficient water would not be preserved? No.
685. It would only be of use for the watering of stock? That is all.
686. You said yesterday that the line from Wyalong to Hillston would go through some rough country—is that ironbark ridges or rock, or what is it? There are very few ironbark ridges, but there is a good deal of scrub—hop bush and sifting bush.
687. You did not refer to any engineering difficulties? No; there are none whatever.
688. Would the line if it were taken up towards Cudgellico clear that rough country? To a great extent.
689. If it were taken to the Willandra junction would it do so? It would clear it to a great extent then. The country to the north of the projected line is better than to the south. The nearer you come to Cudgellico the better the country.
690. Although Hillston would be a good objective for some reasons, so far as the intervening country is concerned it is not? No.
691. *Mr. Trickett.*] When you gave evidence before the Committee in September, 1897, as to wheat-growing round Grenfell, you then stated that you did not think that more than one in twenty crops would fail as regards rainfall;—I suppose the recent drought has rather upset that calculation, has it not? I do not think that round about Grenfell they have lost more than two crops. There has been an unprecedented drought for five years on end, and they have lost only two crops.
692. Even in such a severe drought? Yes; and they have generally a rainfall of 28 inches.
693. You also stated at that time that the railway from Koorawatha to Grenfell would pay expenses at once? Yes.
694. Do you still think so? Yes.
695. Do you think that would apply to the extension from Grenfell to Wyalong? I would hardly go as far as that, but I believe that as mining and other industries are developed in that direction it will pay. If any line in New South Wales will pay that is the line.
696. You based your calculation in regard to the line from Koorawatha to Grenfell chiefly on wheat-growing? Yes.
697. In going from Grenfell to Wyalong you have two strings to your bow; you have the agricultural and mining industry? Yes; and also the pastoral industry.
698. You admit that as you go westward the possibility of heavy crops and consequently good returns to the railway diminishes? Yes.
699. A good deal has been said from time to time about the removal of starving stock by means of railways; that would be a source of traffic which you would have upon nearly all these railways out in the west; we had a gentleman here the other day, a large stock and station agent, who expressed the opinion that that is rather an over-rated idea, because in droughty seasons there are not the green pastures available to which large quantities of stock could be taken; is that the case? Until this year there has always been some part of the country which has had a fair season. Of course the country at Kiandra and on the Snowy Mountains is always available. Every inch of it has been stocked within the past six months; stock can always be removed to the Snowy Mountains.
700. In a general drought out west then, as a rule, there would be green pasture available to the eastward? Yes; my experience in twenty-five years is that there is generally some part of the Colony to which stock can be sent for feed.
701. Available for large quantities of stock? Yes. The present drought, of course, is quite exceptional. I do not think people in the future will suffer to the extent they have done in the past, because they are making better provision for water and they will not stock up their runs so heavily. The country will not produce what they have been trying to make it produce.
702. Personally you have no preference in the matter of a railway as between Grenfell and Wyalong and Temora and Wyalong? No.
703. You regard the line from Koorawatha to Grenfell, Wyalong, and Hillston, as a dividing line between the Condobolin line on the north and the Hay line on the south? Yes. I regard it as a trunk line which ought to go down from the Willandra to Menindie.
704. *Chairman.*] You are decidedly of opinion that the line proposed will open up more country than will the line from Temora to Wyalong? Yes.
705. You think it would divide up the country much better? I regard it as part of a main line, running through good country to the west.

706. I think you stated also that there was a probability if the line were constructed into pastoral country that it would open up a trade which would make business for agriculturists in the Eastern Division? Yes. J. B. Donkin.  
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707. In a season of plenty I suppose they would not want any produce out there? No; the main traffic then would be wheat, pastoral produce, and mineral traffic.

708. Would there not be a traffic in fodder for working cattle and horses? At Wyalong.

709. But not further out? No.

710. *Mr. Watson.*] I think you said the rainfall at Grenfell was 28 inches? Yes.

711. What is it at Caragabal? Twenty-two inches; at Bogolong it is 25 inches: it gradually falls off.

712. The greater part of the trade to Wyalong at present goes *via* Temora? Yes.

713. Therefore, if a line were taken from any other point to Wyalong, you would be taking so much trade away from a line which is already in existence? Yes.

714. To that extent you would diminish the possibility of that line paying? Yes. I stated yesterday that up to the present we had had  $4\frac{1}{2}$  inches only during the last six months. Going southwards from the Lachlan, on the Bland towards Morangarell, there is nothing but open plain country, and in the absence of timber presumably the rainfall would be less; but this morning I received information that at Marsden the rainfall had topped the record for the whole district, within the past twenty-four hours there having been 2 inches 10 points of rain.

Alexander Wilson, stock and station agent, sworn, and examined:—

715. *Mr. Watson.*] Do you know the country between Koorawatha and Wyalong? Yes; I have travelled over nearly the whole of the roads in that district.

716. Do you know the country between Koorawatha and Grenfell? Yes.

717. You know that a railway will shortly be under construction to Grenfell? Yes.

718. Will you describe the country as far as you can between Grenfell and Wyalong, along the deep red line marked on the plan? For the first few miles you have to crawl round the hills, so to speak—that is, the broken end of the Weddin Mountains. I do not know the little details of the turn; but when you get clear of the mountain there is fairly good wheat land—some of it is very good—for 12 or 15 miles, or perhaps a little more, pretty well half-way to the Bland Creek. Then you get on to lower country with more black soil, and inclined to be wet.

719. Do you say that the good wheat land will extend 15 miles from Grenfell? There would be 5 or 6 miles working through the hills, and there would then be another 15 miles of first-class wheat country.

720. From that on to the Bland it is grazing country? There is more heavy, wet land; there are patches of red box forest in between patches of heavy, black soil.

721. How far would that plain land extend;—how soon would you reach it in going to the Bland westward? At Caragabal, you first get on to the plains; but there are patches of hard, dry, red forest after that. The country, 6 or 8 miles, I think, from the Bland I should describe as heavy grazing country.

722. On the other side of the Bland again, until you reach Barmedman or Back Creek, what is the character of the country? It is first-class grazing land, and at places there are what I should consider very middling wheat land. I should not call any of it first-class wheat land.

723. From the Back Creek to Wyalong, what is the nature of the country? There is a good deal of heavy, belar forest, very crab-hole; it is rough, and is not suitable for cultivation, although you get a heavy crop of grass when the country is ringbarked. On towards Wyalong you get into a mixture of light mallee with box forest, with an undergrowth of scrub; that description would apply to the approach to Wyalong on either route.

724. Taking a circle round Wyalong, the country on all sides is much the same? There are patches of mallee and box forest.

725. The general characteristics are the same all round? Yes; in some places there is pine.

726. How would you describe the country between Temora and Wyalong? From Temora to Barmedman, except the hard ridges, the greater part of the land is very fair wheat land; that applies to the whole distance on both sides. Occasionally, on the western side, there are indications of poor land pretty near the surveyed line.

727. From Barmedman on to Wyalong, what is the country like? It is distinctly poorer, although there is fair wheat land in places. Speaking generally, from Barmedman to Wyalong the country is much the same as that which I described a few moments ago on the other route. There are occasional patches of mallee, and there is what you would call middling wheat land.

728. Some distance out from Barmedman towards Wyalong there is a patch of gilgai country;—do you think it could be avoided by going to the right? I should not think it would be worth while to go to any expense to make a detour. The amount of filling required would not be a serious item.

729. Have you been off the surveyed route between Temora and Wyalong east or west? Yes, a little on both sides.

730. Do you know the country for some distance to the westward? I think 7 miles would be the furthest point to which I have been on that side.

731. As far as you have been, what is the character of the country? It is just what I have described. I came on to one of the hard ridges, but there is no really poor country in the distance I travelled.

732. Have you been out any distance on the eastern side? I have been from Cootamundra and various other points up to Morangarell. I have also been through from Reefton to Marsden.

733. Then you have a pretty fair idea of that country? Yes.

734. Could you describe it? There is a great variety of country there.

735. Take the country from Reefton to Marsden? There are some patches of wheat country with occasional hard hills in between round about Trungley. There is altogether a considerable area of good wheat land. When you get close to the Bland near Morangarell you get into the beginning of the heavy grazing country—low black-soil country with a little red mixed in between.

736. The plain country begins round about Morangarell? Yes.

737. On the other side of the projected line towards Marsden there is similar plain country? You might draw a line direct north from Caragabal, and you would find that all the land lying to the west of that is heavy grazing country liable to slight flooding—that is, from 6 to 18 inches.

A. Wilson.

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- A. Wilson. 738. It is not suitable for agriculture? I should not say so.
- 23 June, 1899. 739. The plain as it goes north widens, does it not, with the fall of the water? Yes; if you take a line from Caragabal to the Lachlan you may say that all the land to the east of that is good wheat land. To the west there are a few patches of what I may call downs country. It is open country but is undulating, and is different from the low plains.
740. Taking the line you have mentioned due north from Caragabal to the Lachlan, how far west of that line would the plain country extend at Lake Cowal? Not very far. The plain country makes round to the western side of the lake, but it does not go very far in that direction. You then get into the Humbug country, which is forest and scrub. That comes down to the lower end of the lake.
741. You see the blue circles marked upon the plan round Grenfell, Temora, and Wyalong;—assuming that a railway were to terminate at either of those points, do you think the blue circle shown on the map would fairly represent their spheres of influence for agricultural purposes? Not so far as Wyalong is concerned.
742. How would the circle represent the sphere of influence from the terminus at Grenfell? It has to compete with Young on the one hand, and with Forbes on the other; you could not describe the sphere of influence as going further than half-way to Forbes, or half-way to Young; business connections are already established with those places.
743. Take the area to the westward? You might extend it a little further to the westward. If you came 3 or 4 miles further to the westward you would cover the whole agricultural patch in that direction.
744. If a railway were at Grenfell the sphere of influence of that terminus would include nearly all the good wheat land immediately to the west? Yes.
745. At Temora the terminus, for agricultural purposes, would take in Barmedman and Mandamah? Yes, for wheat alone. It would practically have an influence even to Wyalong, and perhaps further. I fancy that wheat from beyond Barmedman comes into Temora now. Very little, I believe, is grown beyond Barmedman. There is cultivation towards Ungarie; but the whole of that has been absorbed by Wyalong; the local supply is inadequate for Wyalong.
746. What would you consider the sphere of influence from the terminus at Wyalong? It would command all the country to Rankin Springs and the Dundoo Hills. I do not think it will extend beyond that, because the country going towards Condobolin is better country for teams and stock to work through. There is a large area of inferior, scrubby country going right through from the Dundoo Hills to Mount Elliott.
747. Are you referring to the sphere of influence at Wyalong, for agricultural purposes? I do not assume that a terminus at Wyalong would include agriculture out as far as the points I have named; but it would assist to develop the country. I do not think it would bring about immediate development as far as the points I have named.
748. What are the prospects of settlement beyond Wyalong in any direction? The land all round Wyalong has been rapidly taken up; land which has been thrown up as pastoral land has been readily taken up in small holdings. One thing which has caused the country to the west and south of Wyalong to go seriously back has been the rabbits. It has been largely depreciated by the rabbits. It has been one of the worst patches of country in New South Wales so far as rabbits are concerned.
749. The district is in the Central Division? Yes.
750. Then within the next year or two there ought to be land for settlement through the running out of the leases? Yes, there will be a considerable area.
751. So that assuming the land to be good enough, the probability is that it would be taken up? No doubt a good deal of it will. There is already a good deal of settlement on the resumed areas which were thrown open years ago in the back country away from Mirrool Creek. Although it is dry country it is not difficult country in which to conserve water, because it is undulating with occasional hard hills.
752. Do you think the land out towards Ungarie from Wyalong is fit for agriculture? A considerable proportion of it is. About 10 or 12 miles from Ungarie there are considerable areas under cultivation. I was there recently, and I was surprised to find the large area under crop notwithstanding the bad season.
753. And notwithstanding the distance from market? They reckon they have a good market close at home; that is their only hope at present.
754. Without a railway they could not supply any other market but Wyalong? It would not pay except in an extreme drought, perhaps.
755. As to the general prospects attending the tapping of Wyalong with a railway, do you think that is an advisable course on the part of the State? I think so.
756. From the standpoint of the development of the country, and also with the object of assisting the residents of Wyalong? Yes; I was recently at Wyalong for about ten days. I had been there several times before. I was there when the rush first broke out. I went up with the Sectional Committee which travelled from Temora to Wyalong in 1894. I then thought that the construction of a railway was decidedly premature, but I have been to Wyalong several times since then, and when I was there recently I was struck, considering the extreme drought and the serious condition in which the place was through the want of water, at the enormous confidence which everyone seemed to have in the stability and permanence of the place. There is a great deal more money being spent now in the development of the mines. In some cases they have gone down to 450 feet, and they are very pleased with the prospects of the reefs. Notwithstanding the difficulties under which they are now living, and they have to bring beef and mutton from Gundagai to Temora, and then take it out to Wyalong—and notwithstanding that there is no water in either of the towns, except a little in the house tanks—notwithstanding that the teams have to go 2 or 3 miles out after delivering their loads before they can get a drink of water, no one seems to think of leaving the place as being a bad place in which to live.
757. The main portion of the meat consumed at Wyalong comes at present from Gundagai and other places in that direction? So I was told. Even some of the stations are getting meat out from the butchers at Wyalong.
758. A gentleman who gave evidence here yesterday said that he thought that the Bland country might be utilised for dairying if there were a railway;—do you think there is much prospect of a general development in that direction? It seems to me a little enthusiastic; but I see no reason why it should not be the case, because in some of the northern districts of Victoria, in the Goulburn Valley, and at Echuca, where there is drier country, dairying is carried on at considerable profit. The rainfall at Lake Cowal would be similar to the rainfall in the northern parts of Victoria. 759.

759. But their rainfall is a little more reliable, as to falling at a good period? Yes; they have better winter rain than we have. They have summer droughts more frequently; but they do not often have a drought right through the winter. A. Wilson.  
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760. Is their country as dead level as ours? For 60 or 70 miles along the Murray, opposite Corowa, the country is just as flat as it is on the New South Wales side.
761. How much nearer, if anything, are they to a market? They are only about one-third of the distance which our settlers would be.
762. That would be a considerable factor? Not for dairying produce. That is one advantage attaching to it. You get 1 lb. of produce worth 9d., whereas wheat would be worth about  $\frac{1}{2}$ d. a lb. Dairy produce would, therefore, stand a good deal of transit which the other produce could not endure.
763. But you require quicker and better methods of handling? No doubt that adds to the cost; but 2d. per lb. on the transit of a pound of butter is less than 25 per cent., whereas 2d. per lb. in the case of wheat would be an impossible rate.
764. Assuming that it would be possible to carry on dairying in the neighbourhood of Lake Cowal, where there is probably a larger quantity of grass, do you think the prospects of success hold good further along the Bland? I would not say that for the next ten years it would be a source of income to be calculated upon for a railway.
765. It has been extremely difficult to keep any sheep alive there during the last two or three years? Yes; the loss has been enormous.
766. Would it not have been even more difficult to keep big stock alive? It would be absurd to start dairying there unless you were within 12 or 15 miles of a railway, because you would stand to lose the whole of your herd in a time of pinch. All the big stock in that country have been removed.
767. Do you know the flat country near the Koorawatha Mountains? Yes.
768. Do you know whether the rainfall there is better than it is on the Bland? Yes; the rainfall there to the east of Koorawatha is getting on towards 30 inches, if it is not quite 30 inches.
769. There would be considerably more rainfall than out on the Bland? Once you get west of the Dividing Range you may calculate that the rainfall diminishes at the rate of an inch per annum for every 50 miles you go west; sometimes more.
770. If you were informed that people had tried dairying within 1 mile of the railway at Koorawatha, and that, although they were used to it and had followed it up in other places, they had there made a failure of it, would you think that dairying was likely to succeed on the Bland? I would not encourage the idea of its being an immediate source of profit for a railway. We have seen districts which have been given up, so to speak, as failures for wheat-growing and dairying, but a later tide of settlement has made a good thing out of the same lines of produce. Sometimes the want of capital is responsible for the first failure; there is a bad season to begin with, and the man is ruined at the start.
771. With regard to the country between Wyalong and Hillston, two routes are projected, one going to the northward towards Lake Cudgellico;—can you give us any idea of the country between these points? Not much.
772. You have been between Condobolin and Hillston, down the Lachlan? Yes.
773. But you have not been along the direct route between Wyalong and Hillston? No; I am familiar with the country on the direct route only from what other persons have told me who have been there.
774. As to what you have seen yourself, what is your impression of the country between Lake Cudgellico and Hillston? It is a very dry patch of country. Some of it is capable of great improvement and will grow wheat, but that is a long way in the future. I would not say that it is capable of immediate development for wheat-growing purposes.
775. Do you think Hillston is a fair objective to aim at in railway construction? Decidedly, from a national point of view. If a line is to tap the rather important pastoral district of Willandra, then, from a New South Wales point of view, that is the way to go.
776. Would you tap it by going to Hillston direct from Wyalong, or by going *via* Lake Cudgellico? I would go straight to Hillston.
777. You think that is the better route? That is my deliberate opinion.
778. Is Hillston the depôt for the Willandra country? It is the central point for a large tract of country to the north and west. Moreover, if you go to Cudgellico, you are undercutting the Condobolin line very considerably. I think the direct route is the more rational way of opening up the country. It may cost you more to go to Hillston by the direct route, and you may have to go through some poor country, but you would not be robbing an existing railway to the same extent.
779. If, as a private speculator, you were given authority to construct a line to Wyalong, and your engineers reported that it would cost £142,000 to take a line from Grenfell to Wyalong, and between £40,000 and £50,000 less to take a line from Temora to Wyalong, which would you sooner construct as a purely business matter? On the whole, I should be inclined to say that the Grenfell route would be the better one. There is no doubt in my mind that if Wyalong has the permanence which it shows every indication of having now, either the consumption of fuel will have to become very large, or the transit of ore will have to become very great. The question is where you can nearest get fuel, and also a means of treating the ore. It seems to me that Lithgow is the place to make for. You can get no coal worth speaking of on the other line until you get to the coast, and it would be 180 miles to Lithgow.
780. Do you think that, with the large supply of wood which they have at Wyalong, coal is likely to be a matter of great importance to them for some years? I think so. You must remember that there is now at Wyalong a population of between 4,000 and 5,000, and it certainly gives no indication of falling off. I was at Wyalong three years ago, and I had occasion then to notice the country, because I was there in connection with what is known as the Ricketson case. I had then to inspect the country which surrounds Wyalong, and I had to do the same thing about two months ago. The difference which I noticed was very striking. A big clearance had been made of the large timber in the country extending out quite 3 miles from Wyalong. I asked the price of wood, and they told me that it cost them from 8s. to 10s. a load.
781. Some time ago, in giving evidence upon another proposal before the Committee, you said you thought it would be advisable to connect the Northern and Southern railway systems? I have long had that opinion.

A. Wilson.  
23 June, 1899.

782. Had you then the idea of following that up with another connection between the Western and Southern lines? In giving evidence on the proposal to take a railway from Condobolin to Menindie I spoke in favour of this present proposal. I then stated that in my opinion the best route for a railway would be from Young to Grenfell and Forbes, and thence from Parkes through Peak Hill to Narramine.
783. Since then the line from Koorawatha to Grenfell has been sanctioned, and it is not likely that if that is constructed another line would be taken from Young;—but do you think that with the two sides of that angle it would be a wise thing to construct a line from Grenfell to Forbes—would you take a wider sweep than Forbes and keep more westerly, reaching the Southern line further down? I have thought whether it would not be worth consideration to take a line from Forbes through Wyalong down to Narrandera, eventually making a connection between Melbourne and Brisbane through the back country. I admit that the construction of a line from Koorawatha to Grenfell has dislocated my ideas on the subject, but the line to which I refer would open up a large extent of territory. It would not answer the requirements in view at the present time. It would not do away with the necessity for one of the two lines to Wyalong. You would still have to reach Wyalong by a direct route.
784. Do you know whether there are any ironbark ridges at Reefton from which sleepers could be obtained? As far as I have seen there is very little valuable timber in any of the country. On some of the harder ridges there is a little ironbark, but not much.
785. Is there any ironbark on the route from Grenfell to Wyalong? There is no timber of much value on that line; it is all white box, which is of no value except for firewood. There are little patches of gum which might be used for fencing-posts, but there is nothing beyond that.
786. Is the convenience of getting coal the only factor on which you rely for the construction of the line from Grenfell to Wyalong? That would be a factor; but taking the line all through, I think it would command more traffic than would the line from Temora to Wyalong. Mile for mile I do not think it would be any more expensive to construct. To my mind, the cheapest line to construct per mile, although the route might be longer, would be the line *via* Bimbi.
787. You have stated that the land which is outside the spheres of influence marked upon the plan is pastoral land;—I refer now to the spheres of influence at Grenfell and Wyalong? Yes.
788. What kind of land would be unprovided for in the construction of a railway from Temora to Wyalong;—would it be only pastoral land? It would be chiefly pastoral country.
789. Then from the point of view of settlement you think that the conditions would be met by the construction of a railway from Temora? Yes. There would be nothing but pastoral settlement unprovided for, looking forward for some time to come.
790. But you think the factor of conveying coal to Wyalong is worth consideration in connection with the starting-point? I think that is looming in the immediate future.
791. Are you aware of the direction in which trade goes to and from Wyalong now? The bulk goes from Temora to Wyalong; there is a certain amount of flour traffic from Young. I am told that teams go from Young to Wyalong, and carry the flour as cheaply as it can be carried from Temora, although it is very much further.
792. But the greater portion of the traffic goes from Temora? Yes; all the package traffic, without exception.
793. Then the construction of a line from Grenfell to Wyalong would rob the existing line to Temora of portion of the traffic it now receives? Yes; it would undoubtedly diminish largely the traffic on the Temora branch.
794. And, consequently, render that little bit of Government property less remunerative than it is now? No doubt.
795. *Chairman.*] We wish to ascertain as nearly as possible which of the two lines—the proposed line or the alternative route—will develop the most country? Of course, the one line is longer than the other. I think that perhaps, on the whole, the line from Temora to Wyalong will develop more country; but it is about an even thing, I think. There is some better country on the Grenfell route; but there are patches of country which are more or less pastoral country, whereas the land on the line from Temora to Wyalong would be all capable of improvement. The rainfall would not be very different, except that in going to the south-west you are more apt to get winter showers, which are more valuable for the crops. Every mile you go to the north-east the less likely you are to get winter rain, and the more likely you are to get summer rain.
796. What are the crops grown to the north of Wyalong towards Ungarie? Only wheat.
797. Have you talked to the farmers there about their prospects? Yes. I saw a number of them at Wyalong a short time ago, and I was surprised at the confidence they all exhibited as to their future prospects, notwithstanding the drought. They had crops out there this year which, turned into hay, gave them about £5 a ton.
798. They have proved that agriculture will pay out there? They are quite jubilant about it. One man out towards Ungarie has 2,000 acres under cultivation.
799. Whatever line is constructed, there will be a considerable amount of country to develop? Yes; some of the mallee country near Wyalong is very good land indeed.
800. As the leases fall in the land will be taken up for agriculture? I think that a great deal of it will. People with business interests in the town and others wanting accommodation for stock have taken up land round about Wyalong, and there has been a very great improvement in the place for a distance of about 10 miles round.
801. You think that country is well worth developing by a railway? I think so. I was not of that opinion five years ago; the mining was then an unknown quantity. If you were to go to Wyalong now you would be surprised at the apparent permanence of the place and the confidence of the people in their prospects.
802. You have made several visits to the district, and each succeeding one has tended to convince you that the district is a growing one, and is not likely to go back? I do not think it is. It will have its vicissitudes, of course, but it must come through. The soil has certain capabilities in it, and there is no fear of the district being a failure.
803. Those on the land now do not talk of leaving it? No, certainly not.
804. They are more inclined to add to their holdings? The areas thrown open have been mostly taken up, and there is no opportunity for extension. Some blocks near Wyalong which were thrown open were very small blocks, and I do not think there was much demand for them.
- 805.



805. Has there been much competition for the larger blocks when they have been thrown open? Not much, I think, because all the runs, in consequence of improvements, got a full extension of their leases. All the men out there now were there after the division of the runs; they took up the resumed areas. A. Wilson.  
23 June, 1899.
806. Are they looking forward to the time when the leases will fall in? I do not know about that; but there are always people coming up from the south and the south-west looking about the land. There are no complete blocks of 2,560 acres at present available. At Lake Cowal quite recently, I believe, there was a considerable competition for settlement leases.
807. *Dr. Garran.*] Although you admit that this is a tempting farming district, still I suppose the settlers expect to lose a harvest now and again? A man must calculate to lose a harvest once in five or six years.
808. The settlers calculate that it will pay them to do that? Yes. If they get a half a crop in a year like the past year they may come out better than when they get a good crop in an ordinary year, so long as they are not brought into too close competition with other sources of supply.
809. I take it that a drought is only a forced fallow; the ground gains something from it? Yes; a drought is not always an unmitigated evil. I think it is necessary for Australia that droughts should be recurrent at shorter or longer intervals, because otherwise people would get a false idea of the land, and would use it unjustly.
810. You said that you thought that the coal traffic was rather an important factor looking to the future of Wyalong? Yes.
811. Have you calculated what, at the existing freight, it would cost to put coal down at Wyalong from Lithgow? No; that is outside my usual line of business.
812. What I want to find out is how dear wood must become before it pays to bring coal from Lithgow to Wyalong? A similar question arose at Cobar. At one time the extension of the railway there was practically in the same stage as this proposal is in now. I had the same opinion of that extension at that stage that I had five years ago of the extension to Wyalong. The Cobar railway was subsequently carried out, and the coal traffic was one of the arguments put forward in favour of the construction of the line. At that time the Great Cobar Company had constructed a line of from 12 to 15 miles in length to bring wood in. They said that the cost of wood was becoming so heavy that unless the price of copper went up, or the yield of the mine improved, or there was some other source of fuel supply developed, the mine would not pay. The stage to which you refer came about two or three years afterwards.
813. How dear did wood become there? I should think it would run to about 12s. per ton; it was not so much the cost of the wood as that the wood was not the best class of wood for their purposes.
814. What is the comparison between a ton of wood and a ton of coal? I should think it would be about 2½ of wood to 1 of coal, but that is only a guess.
815. Do you know what the price of coal at Cobar is at the present time? No.
816. Do you know whether coal or coke is principally taken to Cobar? A good deal of both—a considerable quantity of coke.
817. Would coke, instead of coal, suit the furnaces at Wyalong? There are similar processes there, I understand, to those adopted at Broken Hill; they are somewhat similar to the modern process at Cobar.
818. Do you know whether the cyanide and chlorination processes depend more upon coke than upon coal? They depend more upon water than on fuel; there are cyanide works in operation at Barmedman and Wyalong at the present time.
819. From the tenor of your answers one would imagine that the coal traffic does not loom very large as an element in the traffic of the railway, then? Until you get into touch with such a trade you cannot say what it will become; it is not like a traffic depending upon natural production. I do not think the Committee should lean too much on the prospects of coal traffic.
820. *Mr. Dick.*] In regard to these rival routes, upon which is the greater mineral development likely to take place? Certainly on the route from Temora to Wyalong; on the other line there is no prospect of development from a point 7 miles out of Grenfell until you get close to Wyalong, whereas on the other line at any point there is a possibility of mineral discovery.

WEDNESDAY, 26 JULY, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

Hugh McLachlan, Secretary to the Railway Commissioners, sworn, and examined:—

821. *Chairman.*] The Railway Commissioners, in their statement, estimate a loss on this proposed line of £3,249 per annum? Yes.

822. I presume that the estimate has been made up in the usual way? Yes; after a very careful examination of the country by the Commissioners, and also after obtaining reports from officers who went specially to the district to obtain traffic and other particulars. H. McLachlan.  
26 July, 1899.

823. In their Report the Commissioners say—

No doubt the district has considerable prospects, but it is not a matter of certainty that the time has arrived for Wyalong to have the benefit of railway connection.

? Yes.

824. In estimating for the probable traffic on lines that have been constructed to open up agricultural districts, is it not a fact that the traffic has exceeded the estimate considerably in most of those places? I would not like to say that off-hand. I think the Commissioners' reports have generally been borne out. I do not think there has been anything remarkable in the way of any increase.

H. J.  
McLachlan.  
26 July, 1899.

825. Well, put it in this way;—has increased cultivation by the settlers taken place to a considerable extent by virtue of railway communication? I would not like to say that of my own knowledge, not having any particular case in view at the present moment.

826. You see that the only justification for constructing railways is that they will facilitate and increase settlement? Yes.

827. We have constructed several light lines;—has increased settlement taken place and increased traffic been brought to the railways by reason of their construction? I daresay that one of the best answers would be that there has been a general increase in agricultural development and settlement, particularly within the last five years, and that has been due to the railways generally, because this development has taken place along the railway lines.

828. Then, as a matter of fact, the railways have increased development in the agricultural districts? Yes. As a matter of fact, without railways agricultural development in the interior would be impossible, because agricultural produce cannot afford to pay a high rate of carriage, such as would be the case if it had to be carted for any distance.

829. And that has not increased the loss on the railways to any considerable extent? No. Last year in relation to the railways was almost as satisfactory a year as we have ever had.

830. You have constructed a line of railway to Temora from Cootamundra? Yes.

831. Is that a paying line now? No.

832. Does it pay interest? Of course, the mineral resources of that line have been considered to be a big reason for constructing that line. On the Cootamundra to Temora line the loss, after deducting working expenses and interest, was £3,500 in the year ending 31st December, 1897.

833. Is the loss steadily decreasing or being maintained? Last year, from an agricultural point of view, was not a particularly good one, but for the last three or four years there has been practically no improvement on the Cootamundra-Temora line.

834. Attributable, I presume, to the bad season? The bad season; and I think that practically there has been very little difference in the operations at Wyalong; in fact, 1896 was a better year than 1897.

835. Would any considerable portion of the traffic to be drawn to this proposed line be drawn away from the Temora line? Yes.

836. Therefore, if this proposed line were constructed, it would add to the losses on the Temora line? Yes, it seems to me so.

837. Can you give the Committee reasons why the Commissioners have come to the conclusion that the time has not arrived for Wyalong to have the benefit of railway connection? One reason, principally, is that the railway from a financial point of view would not be a success, and the Commissioners consider that Wyalong is reasonably well off in regard to railway communication. The people there have a good road and not an extravagant distance to carry goods.

838. *Mr. Watson.*] I suppose the term "good road" is comparative? It is a level road; there are no grades of 1 in 10.

839. *Chairman.*] I suppose it is comparatively good because there is comparatively little traffic on it? It is a level road. Cartage on that road, I think, has averaged about 15s. a ton.

840. *Mr. Watson.*] It is higher than that now? The information we had some time ago was that cartage could be got for about 15s. a ton from Wyalong to Temora. I am inclined to think that the Commissioners got that information a couple of years ago when they were inquiring into the matter; in fact, the Commissioners in their report on the Cootamundra to Temora branch, said this—

In view of the great uncertainty of the future of Wyalong the Railway Commissioners recommend that the proposed extension of the Cootamundra-Temora branch line be deferred for six months or until such time as there can be no reasonable doubt as to the future of the place.

There has been very little difference in three or four years, so far as traffic is concerned. The Commissioners go on to say in their report—

I am to add that the Commissioners have ascertained that both passengers and goods are being carried at reasonable rates between Temora and Wyalong, and therefore no hardship would be consequent upon the postponement suggested.

That was, of course, four or five years ago. The Commissioners were up there in 1895, and with regard to the rate they then reported—

The Public Works Department have placed the worst portions of the roads in fair order, and the cost of carriage between Temora and Wyalong is as low as 15s. a ton, passenger fares being equally reasonable, and there does not appear to be any great disability consequent on the want of railway communication.

841. *Dr. Garran.*] A serious tax upon the railway revenue is the heavy loss from one or two lines that are very unproductive? It is a tax.

842. Such a line as the Mudgee line, for instance? Yes.

843. And the South Coast line? Yes.

844. Where you come to lose £20,000 a year on one railway the loss is serious? Yes; one of the heaviest losses is on the section from Tamworth, north.

845. That was constructed more for intercolonial purposes than for local purposes, was it not? Yes.

846. Therefore it is scarcely fair to take that as a sample railway made to open up the country? No. The line from Goulburn to Cocma entails a very heavy loss.

847. But where you come to the railways that are pushing out into agricultural districts, and which do not entail upon you a loss of more than £3,000 or £4,000 a year, and where there is a prospect of settlement the case is very different? Yes, it is.

848. The Temora line has not been directly productive, but has it not caused a great deal of agricultural settlement around Temora? Not to my own knowledge. It may have done so, but I have not the figures or the facts before me.

849. Has it not greatly facilitated trade with Wyalong? Yes, it must have assisted Wyalong. When the railway was opened Wyalong was not working, but within a few months of the railway being opened Wyalong broke out, and we had a big rush of traffic. That first year the line paid better than it does now.

850. But the Wyalong trade is not a contemptible addition to your traffic? No. A flourishing gold-field always gives you a good business.

851. So if the line to Temora does not directly pay, it has been a valuable line to the country? Yes, from a national point of view.

852. And may almost be considered justified in the light of our present experience? Yes. I do not think the Commissioners look upon that line as being a burden in any sense of the term. For—apart from regarding it from a national point of view—there is a certain value in the amount of traffic which it brings to the parent line, for which we have made no allowance in the figures to which I have already referred. H.  
McLachlan.  
26 July, 1890.
853. Do you make allowance for what it brings to the main line? Not in the figures I have quoted.
854. So the loss may not be so great to you? If you could work it out, the loss to the railways, as a whole, would not be £3,500 a year.
855. Because, with your existing appliances, you can work that branch without any very enormous additional expense? Yes, on the main line.
856. And it does throw some traffic on to the main line? Yes.
857. With regard to the line before us, from Grenfell to Wyalong, with the exception of a small area of land which is rather pastoral than agricultural, we are told that there are fair prospects of increased settlement all the way along to the Bland? I think that is so up to the Bland.
858. We are told that there is a constant stream of practical farmers coming across from Victoria looking out for good selections in our Colony? That is so.
859. And, I presume, you have noticed that they all like to get within reach of a railway if they can? Yes.
860. Because the struggle for life is far easier than if they had to go farther into the bush? Yes. As a matter of fact, agricultural produce cannot afford to pay a heavy rate for cartage.
861. They like to be within 15 miles of a railway station? At the outside, 20 or 25 miles. Beyond that it becomes practically unprofitable.
862. If we wish our Colony to be attractive to this class of settlers, we must have land available for them within 15 or 20 miles of a railway station? I should think so. The point is, whether you have not sufficient land already available which answers that condition, and which might be opened up without going to the expense of constructing new lines of railway.
863. If we had, would they not go to that part of the country? At present, land without railway facilities is naturally cheaper. Cheap lands attract them, and afterwards they ask the Government to make it up to them by giving them a railway.
864. But is not the best land within reach of the older railways now almost all private property? I suppose most of it is taken up.
865. So if a new settler wants to get new land on the cheap Government terms, he must go a little outside the old boundaries? Yes; if he wants to get cheap land. But it opens up the question whether we are to be pioneers, and the railway is to be saddled with the expense of opening up new country. The Commissioners have, more than once, suggested that if the Government does expect that of them, they should have a set-off as is done in Victoria by writing down the railway capital.
866. Would it not be better to give you the surplus over £1 an acre on land adjoining the railway, more than the land would otherwise fetch? Some such suggestion has been made by the Commissioners—that the increased value of the Crown lands should be credited to the railway by writing down the railway capital, and that we should have to pay the working expenses only.
867. With regard to the 8,000,000 acres that are to fall in in a year or two, I suppose that a large portion of that land is worth more than £1 an acre if it is within 15 miles of a railway station? That is assuming it is good agricultural land.
868. I am speaking of the best quality land; and if the State were anxious to get the value of this land it could get more than £1 an acre for it? Yes.
869. Would it be fair to get that in order to provide railway facilities out of the surplus? The Commissioners have looked at the matter from a commercial point of view.
870. They have intimated that they think the pressure on the capital account might be fairly reduced by some contribution from the extra value they give to the land? Yes; when you make a line presumably for the development of the country. They look on the matter from a commercial point of view, and how it is going to affect them financially.
871. Of course your Department looks at the whole question necessarily from a Departmental point of view? Yes.
872. You want to make your Department pay? Yes. At the same time the Commissioners always consider what they think will be the best route to take, both in the interests of the country and of the railway traffic; for instance, in this question they point out that they think that the Grenfell-Wyalong is the better route, as against the Temora-Wyalong.
873. But the Government, taken as a whole, is not only a great railway proprietor, but it is also a great landlord? Yes.
874. And, therefore, the Government, and this Committee, also, as an adviser of the Government, have to take both those points into consideration? We quite recognise that.
875. Whereas your Department principally confines itself to the payableness of the proposed railway? Yes; in fact, I think that is the intention of the Act which says that the Commissioners shall make a report as to the practical financial prospects of the line; it does not ask them to look at any national question particularly.
876. But, although we are called upon to report on the financial prospects, we are not supposed to ignore the national results of settlement? No. I should think that would be within your duty.
877. There has been a point raised before the Committee between the policy of extending from Temora and the policy of extending from Grenfell; if you take the Grenfell connection, you connect with your line at Koorawatha? Yes.
878. And that gives you the choice of going to Sydney *via* either the Western or the Southern line? Yes.
879. If you choose the Western line it helps the traffic on the present unremunerative cross line between Blayney and Murrumburrah? Yes.
880. And with you that would be a consideration? Yes, that would be a consideration. But there are two or three important considerations in connection with the Koorawatha route. First, we reckon to open up better country. Another very important item is, that as it is a mining district it gives you the most direct access to a coal-field. That is a very important consideration, if you are considering the length of the routes.

- H. McLachlan.  
26 July, 1899.
881. We have had some evidence to the effect that the quantity of coal used at Wyalong is not likely to be so very great as to materially effect your receipts;—do you think it would be? That is a question more for a mining expert; but I should think that, for a mining field, cheap fuel would be a consideration. I can understand that very little of it has been carried to that district up to the present time because of the distance it would have to be carried by road.
882. Have you at all gone into the question if it would pay better to concentrate at Wyalong and send to Lithgow for treatment, or to send the coal to Wyalong for entire treatment there? I do not feel competent to express an opinion on a question of that sort.
883. It would pay you best, I suppose, if you had full trucks both ways? That is of course what we always try to get—loading both ways.
884. If you had a certain amount of concentrates going to Lithgow, and the same trucks carried back full loads of coal to Wyalong, that would suit you? Yes.
885. If you had only one train every other day, it would pay you very well? Yes.
886. It has been pointed out that if we connect with Temora, although we get no advantage in connection with Sydney, we do get an advantage in a shorter connection with Melbourne;—how would that affect your receipts? Well, we would not get so long a carriage; therefore, that would be rather against us.
887. But would you get more per mile between Wyalong and Albury than between Wyalong and Sydney? We should, at the present time.
888. But if you came under the proposed Inter-State Commission you would not, I presume? Of course a longer haul is always recognised by any railway company to be less expensive per mile than a shorter haul; but the gross result would be less from the Melbourne side, I should think, on account of the very much longer distance that the freight has to be carried on the other side—250 as against 130 miles.
889. On the whole—if the agricultural produce of Wyalong and that district all went down to Melbourne—you would make a little less than if it all came to Sydney? Yes; but, on the other hand, from the information we have, we think there is not a great deal of agricultural country around Wyalong. You touch the agricultural country in coming from Grenfell.
890. We are told that it is all agricultural country to Hillston, and that some of the very best agricultural land is south of Hillston;—is there any special freight to Hillston, which the Commissioners always speak of as the possible terminus? It is looked upon as an objective point. It is a point that you fix your mind upon as being a centre.
891. Is it a large township? No; but it is a central point, and it has always been debatable whether we should go from the south or from the west to it.
892. It would be a good point at which to sweep a certain class of traffic? Yes. It is also about the latitude where we would look for a central point for a cross-country line.
893. Some witnesses have intimated that a little further north, towards Willandra, would be rather better? It is only a matter of degree—the difference is only a few miles. The point we had in view was to go across from Cobar or from Hillston; and as we pointed out, the further south we travelled the more likely we should be to intercept business.
894. It is quite immaterial to the Commissioners whether the line goes a few miles one way or the other? It would not matter much.
895. You wanted to strike the Lower Lachlan? That was the point.
896. And even if there were to be a slight loss in extending the line to the Lachlan, do you think there would be good general grounds for submitting to that loss? So far as the Hillston line is concerned, I have not consulted the Commissioners in regard to this line. At present, they are not looking at an extension of the railway beyond Wyalong.
897. But, in one or two reports, they refer to further extension as a desirable thing? They originally had the idea of going from Condobolin, but that was a considerable time ago, and I think that if they were going to report on the question again they would like to study it afresh.
898. If the present proposal to go from Wyalong to Grenfell had been carried out before the line to Condobolin were considered, do you think the line to Condobolin would have been recommended? Yes, I think it would, because you are going almost northerly there.
899. You think that the line from Parkes to Condobolin is far enough north not to be a surplus line? Yes. I think that on its own merits a line in that part of the country would have been recommended.
900. Is there any mineral country to the north of Condobolin which would be worth striking from that point? There is a lot of copper country, I believe, not yet developed, but that is a matter upon which the Mines Department could better express an opinion.
901. You would rather see the mining developed before you make the railway? Yes.
902. But you do not object to making a railway into visible agricultural district, in hope of development? An agricultural district suits us better for railway purposes, as it does not get worked out.
903. You know there will always be something in it? Yes.
904. So far as the detail working of the line is concerned, an extension of the line from Grenfell to Wyalong could be worked, I suppose, with your maximum cheapness? Yes. We have put down the expense at £4,800 for 60 miles, and we know from the experience of other lines that that line could be worked at about that rate—that is, running a train every second day.
905. Going one way one day and back the next? Yes.
906. That would be superabundant for the present traffic? Yes.
907. Would that be a mixed train? Yes.
908. And a mixed train would travel faster than the coach? Certainly.
909. And I suppose at half the price? Yes, for produce, and for passenger fares, it would be very much cheaper than the coach.
910. You are not afraid of the teams cutting you out on the line? No.
911. As they do on some of the great trunk lines still? They have not cut us out. The proportion of traffic carried by team is extremely small.
912. Well they are enough to cut the road up? One team may do that. The team traffic is in such a small proportion that it is not worth considering, so far.
913. It is not an appreciable loss to you? No.
914. I noticed the other day some heavy machinery going to Lucknow by road? I think the public get a bigger idea of this traffic than is justified, because a team takes two or three weeks on a road, and gets reported from several places. We have seen one team reported in the paper eight times. 915.

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915. And I suppose with some consignees time is not a great object? No, not in connection with some parcels.
916. Although the Commissioners do not warmly recommend this line, they do not condemn it? No; they recognise its merits in regard to the development of the country.
917. It may mean a small loss for a few years? Yes.
918. But there is a fair prospect of its making its money in time? I think there is a prospect; but at the same time the Commissioners do not recommend it. They think it had better be held over for some little time.
919. Do you think, if the line were made to Wyalong, you would get any of the Hillston traffic at Wyalong? I think Hillston is rather a long way off to get that traffic to Wyalong.
920. Where does the Hillston traffic go to now? Some of it drifts to the South-western line, and the other goes south to the rivers. It is divided.
921. Some of it goes to the Hay line? Yes; some comes in at Carrathool.
922. To get the whole of the Hillston traffic you would have to go right to Hillston? Yes.
923. And on the whole you prefer a connection between Wyalong and Grenfell to one between Wyalong and Temora? Yes.
924. It would fit in better with your working arrangements? Yes; and the Commissioners, taking everything into consideration, think it is the better connection, with a bigger promise of development.
925. *Mr. Trickett.*] Did I rightly understand you to say that the line from Cootamundra to Temora had been a losing line? Yes.
926. Could you let us have a return appended to your evidence, showing what the loss has been since that line was opened? I can do that [*Vide Appendix*]. I think it was opened in 1893 or 1894.
927. On two former occasions the Commissioners have given evidence that they did not see their way to recommend the line from Temora to Wyalong? Yes.
928. Do they see any reason to change their opinion at the present time? No.
929. You regard that line as being a line that would really serve only local interests—it would not serve the country generally? It would be largely local interests. There would be a certain amount of traffic drawn from the district immediately around it, but it would not serve so much country as a line from Grenfell, which the Commissioners think should be undertaken if you are going to make a line to Wyalong at all.
930. I understand that they do not regard it as a line which should be constructed to tap the western country? I would not say that. They have not looked at that recently; but some years ago, when they looked at that question, they recommended an extension down the Lachlan *via* Euabalong; but circumstances have altered a great deal since then. For instance, you are making a railway to Grenfell, and the Commissioners simply look at this line as a line to Wyalong, and not beyond it.
931. Are you aware whether the water supply to Wyalong has been perfected? No.
932. In a former report one of the reasons given with regard to the possibility of Wyalong not being in such a good position as it might have been, was that there was no permanent water supply there? That report was from the Mines Department.
933. You are not aware whether that has been improved? Not of my own knowledge.
934. Is there a daily service now to Temora? Yes.
935. How long has it been established? Three or four years.
936. Has that improved the traffic at all? It has, but not greatly. Of course, the circumstances hardly afford a fair comparison, because at the time we introduced it the Wyalong field had not long started, and there was a big rush of people going up, and also building material, and so on; therefore, the comparison can hardly be considered a fair one.
937. Do you consider that all the traffic between Wyalong and Sydney, each way, is sent *via* the Temora railway? Yes; I think it is.
938. Then that line gets all the benefit at present of the trade to and from Wyalong? Yes. With regard to the road carriage, I may say that an officer who was in the district in December, 1898, says—
- The lowest rate of team carriage between Wyalong and Temora is 15s. per ton, while the average rate, when the roads are good, is quoted at £1 2s. 6d.
939. On the Koorawatha to Grenfell line, a system of betterment has been introduced as regards the landholders adjoining the line? Yes.
940. Do you think that some such system should be applied if the line were extended to Wyalong? The Commissioners have always recognised that some such principle would be an equitable one to introduce where a railway would lose, so as to enable the railway to be recouped to some extent. The Commissioners made a direct recommendation to that effect in connection with the Green's Gunyah line, and I think that their recommendation led, practically, to the adoption of the principle by Parliament.
941. And although there was some objection at the time to that principle on the branch from Koorawatha to Grenfell, yet I understand that the landholders have "toed the mark" and given the necessary land? Yes. That has been dealt with by the Works Department, and apparently they have arranged for the land to be given by the landholders.
942. And you regard it as an equitable arrangement? Yes.
943. *Chairman.*] In estimating the revenue from lines in these producing districts, do the Commissioners ever credit them with the increased traffic on the suburban lines? No.
944. Seeing that it would be impossible to live in or about Sydney, unless people went into the country to produce, do you not think that some portion of that traffic might be credited to these lines which you have termed not paying? Well, it would be impossible to work out the figures. They say that the traffic over the section of the line itself pays so-and-so. Any development which that line may create is of value to the parent line; but it would be impossible to show it in figures.
945. But still it does profit from working for those who handle produce in Sydney? Yes. Any development of the railways in the country is, of course, good for the railways generally, but it is impossible to show it in figures. We show the actual results on the section itself.
946. Still it would be a fair thing to consider that, would it not;—when you are reporting as to whether in the opinion of the Commissioners, a proposed line should or should not be constructed, has that matter ever

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ever been considered? Yes. If you recollect, the Commissioners on several occasions have almost said that if a new line into agricultural country would pay its working expenses, and if the cost of construction were deemed reasonable, it would be, perhaps, a fair case for the country to make that railway, leaving the interest to be paid by the additional traffic thrown on the main line. You will find that they have referred to that several times.

947. *Mr. Levien.*] I suppose you know nothing of the country between Grenfell and Wyalong? No; I have not been over it, but Mr. Harper has, and he will be able to give you details as to the country.

948. Which line do the Commissioners favour? Grenfell to Wyalong. This Committee asked the Commissioners to report as to the different routes, and in a letter of 16th June to the Under Secretary for Finance and Trade, a copy of which, I suppose, you have, the Commissioners said:

The capital cost of the Grenfell-Wyalong extension would be greater, but a larger area of good country would be opened up, and consequently the prospects of intermediate traffic are better.

949. There is not much difference between going from Sydney to Wyalong *via* Grenfell and from Sydney to Wyalong *via* Temora? About 5 miles shorter *via* Grenfell.

950. But as a matter of construction? There are 20 miles more to make.

951. Which is the most expensive line per mile? I think the cost per mile would not vary very much. I think there are a few more creeks to pass on the Grenfell country, but the character of the two countries is similar.

952. *Mr. Watson.*] The Commissioners have stated that the country between Grenfell and Wyalong is better and more likely to produce traffic than is the country between Temora and Wyalong? Yes.

953. Have they ever inspected that land themselves? Yes; they have been over both routes personally—over every mile of it.

954. Do they regard black-soil plain country as being good from a railway point of view—as likely to produce anything? The rainfall is better about Grenfell than it is about Wyalong or Temora.

955. But the point so far as the rainfall at Grenfell is concerned is settled, because the Grenfell line has already been decided upon;—I believe that the rainfall on the Bland is as low as it is at Wyalong or Temora? But still the Bland crossing is 45 miles from Grenfell.

956. You see on the map a blue circle that is drawn around Grenfell—that is approximately a radius of 20 miles around Grenfell? Yes.

957. Would it be proper to assume that the land within that 20 miles radius of Grenfell would be served by the line which it has already been decided should be constructed to Grenfell? I would sooner that the officer who went with the Commissioners should give information about the probable traffic.

958. I suppose it is fair to assume in regard to any railway constructed to a certain point that it has an influence for a certain distance in all directions beyond the terminus? Very much.

959. Especially with regard to agricultural products? Yes.

960. It has an influence for a certain distance all around the terminus? I think that for agricultural production you may, as an approximate estimate, take 20 miles on either side—that is, assuming that there is no railway on either side of it nearer.

961. We have before the Committee the evidence of men who are supposed to know the country thoroughly, that the agricultural land out of Grenfell towards Wyalong does not extend more than 20 miles? It does not extend the whole way, but there is a better prospect from Grenfell, the Commissioners think, than from Temora.

962. You admit that you yourself do not know that there is? No; I have not been over the district.

963. You stated that the question of coal supply to Wyalong might, in the future, assume some prominence? Yes; that might be an argument in favour of going by the west.

964. You are aware, I suppose, that they do not use coal to any extent at Wyalong now? Yes. The carriage, if nothing else, would be prohibitory of that at present.

965. Do you know why they should use coal when they have plenty of wood? But the wood soon cuts out. Take the Cobar line, for instance. We carry a very large quantity of coke and coal to that district.

966. Is not the country about Wyalong naturally much more heavily timbered than that about Cobar? It may have been.

967. Do you know the difference in length of haulage in going from Lithgow to Wyalong *via* Temora and in going from Lithgow to Wyalong *via* Koorawatha and Grenfell? Sixty-three miles.

968. Can you give a rough estimate what that difference would amount to per ton;—that is, 292 miles from Lithgow to Wyalong *via* Temora, and 229 miles *via* Koorawatha and Grenfell? About 4s. a ton.

969. What rate, approximately, would that be per mile? Approximately, about three farthings, tapering off.

970. You admit that there will be a necessity to earn more money on the Grenfell connection than on the Temora connection? Yes.

971. A necessity to earn more money to square accounts, because of the extra capital cost, and, presumably, the increased cost of maintenance. Yes. Of course, if an equal quantity of goods were carried on both lines you would get 60 miles against 40 miles of freight.

972. But your total distance to Sydney would not be any greater? I am speaking only of the extension.

973. But it would not matter, in essence, to the Commissioners whether it were carried over a branch for 900 miles or over the main line for that distance? You are assuming the business would be all with Sydney. If the whole of the business were to be to and from Sydney the through rates would not probably vary very much.

974. You would want to get more traffic to earn expenses and interest on the Grenfell connection than you would on the other? Yes.

975. In the estimate the Commissioners made with respect to the Temora-Wyalong extension in 1895, they calculated the interest at 4 per cent.? Yes.

976. On £85,000? Yes.

977. In the calculation they put before the Committee on this occasion, the interest has been put down at 3 per cent.? Yes.

978. So if we were considering the question of constructing a line *via* Wyalong, it would be fair to put down the interest at the same sum? Quite so.

979. During the last four years—from 1895 until to-day—has there been any reduction in the working expenses, mile per mile? The expenses of the Temora line for the last three or four years have been practically the same.

980. Would the estimate of the Commissioners to-day for constructing a length of, say, 40 miles, be lower than a similar estimate made by them four years ago? I am inclined to think it would be slightly lower, but I do not know that there would be much difference. I have not the Temora report before me, and I do not recollect what it was. The working expenses would be about the same. H. J. McLachlan.  
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981. But I am justified in putting the interest here down at 3 per cent. instead of 4? Yes, quite justified.
982. That is, the two lines would compare, so far as annual expenses were concerned, in this way. The Grenfell to Wyalong line would cost £9,112 per annum, and the Temora to Wyalong line would cost £6,100? Yes.
983. What do you think would be a fair deduction to make from the present income of the Temora branch because of the subtraction of the Wyalong trade? That matter was gone into by the Chief Traffic Manager, in connection with figures which I will ask him to bring along with him to the Committee. He has made some allowance for it, I know, in his traffic return for this Grenfell-Wyalong line. I spoke to him particularly about that point. I would not like to quote the figures from memory, but I shall ask him to bring them along with him.
984. I suppose that if a line is constructed *via* Grenfell and Koorawatha, the Commissioners contemplate taking the traffic over the Western line? It is the shorter road, and I daresay that most of the traffic would be taken that way.
985. That would involve a much longer train journey as regards time? I should not say very much longer, because a passenger could travel by the mail-train for some distance, and travel by a mixed train for a longer distance; you, however, do not look at the thing only to-day, but further ahead. You would have a longer run by the mail-train on the Southern line.
986. That, of course, would get you a little ahead? Yes.
987. Is it not a fact that, taking the 172 miles on the Western line to Blayney, which is the take-off point for Koorawatha, if you are going to Wyalong by that route, the mail-train takes almost two hours longer in going that 172 miles than the mail-train takes in going a similar distance on the Southern line? Yes; the Western line is heavier, and there are more frequent stoppages.
988. Are not the grades worse on that line? Yes; the road is a bit heavier. The Southern line would be quicker at the present time.
989. So, over the portion that passengers travel by mail-train on the Western line—172 miles—they would lose nearly two hours? Yes; the road is heavier, and the stops are more frequent.
990. So the actual loss of time over 172 miles on the Western line to Blayney is two hours? Yes.
991. I presume that the mail-trains travel about the same speed? Yes; they do under the same conditions.
992. I mean that there is no effort to hurry one against the other, irrespective of conditions? No.
993. Therefore, there is a certain amount of saving of time so far as the Southern line is concerned? Yes.
994. One of the factors in the extended line is that the grades are such that it takes the mail-train longer to travel on the Western line? Yes.
995. If that is so in regard to passenger traffic, does it not mean a greater cost of haulage, so far as freight is concerned, to take it by the Western line? I do not think you can work it out in figures that way. As a matter of fact, you have the same ruling grade out of Sydney in both cases. From Picton to Mittagong you have as heavy a grade as on the Blue Mountains, and one single grade would rule the road for a long distance. We have been cutting out a lot of the western grades to make the road easier. It is very difficult to compare isolated cases of that kind.
996. In the Koorawatha-Grenfell inquiry a question was asked in that connection, and I understand that the reply given was that the adverse grades on the Western line were in extent greatly in excess of those on the Southern line? Yes, the western road is the heavier; but it would be impossible for anyone to say whether there was any difference in the working cost. You would have to start away with the same load out of Picton as you do out of Penrith practically.
997. And does one set of engines always take a load right through? Well, it is the same grade. I think you may say, generally, that the Western road is heavier, but it would be impossible to give any idea of the relative cost of working the two sections.
998. The return you quoted was with respect to the earnings of the Temora line during last year;—have you any figures dealing with the previous year? Yes; I have promised to submit a return covering the time since the line was opened, and I will send that in.
999. I think that the return for last year was exceptionally bad, because Temora had to depend mostly on wheat? Yes; I stated in reply to Mr. Trickett that the year before was a much better one. As a matter of fact, it was £1,500 better; but I will send in a return from the time the line was opened.
1000. It has been acknowledged that Temora, although at one time having a lot of mineral development of an alluvial character, is now dependent almost solely on farming? Yes; the first year of the Temora line was, I think, the best year we ever had on it; but Wyalong broke out about the same time.
1001. And there was a rush of traffic in consequence of that? Yes, and not only that, but a lot of produce had been held back until the line came into the hands of the Government.
1002. Do you know anything in regard to the population of Wyalong at the present time? The district population is, I believe, said to be about 5,000.
1003. The Commissioners in 1895 were rather apprehensive of the population falling off considerably? Yes. The population of Wyalong, and within a 5-mile radius, is said to be 4,200. That is the information which we got locally.
1004. You are aware, I suppose, that between Grenfell and Wyalong there are no centres of population? There are several stopping-places.
1005. Yes, stopping-places, but no aggregations of people? There are no towns.
1006. Whilst between Temora and Wyalong there is at least one town of fair size? Yes, Barmedman.
1007. Do you think that the fact that the Crown still possesses a fair quantity of land on the Temora-Wyalong route should come into the Committee's consideration? I think that is a fair point. But we understand there is also a large area of Crown land along the other line.
1008. It does not seem to show much on the map? Well, in the report we had from the local officer, he said that the leasehold areas of Crown land expiring from 1898 to 1900 amounted to 324,000 acres—that is, within 20 miles on each side of the line. That would be, I suppose, part of the 8,000,000 acres mentioned this afternoon by Dr. Garran.

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1009. *Mr. Dick.*] In reply to Dr. Garran, you stated that you thought it would be a fair thing if it could be arranged that all the increase in value over £1 per acre brought about by the construction of the railway line, say, from Grenfell to Wyalong, should be credited to the Railway Department? I would not fix a figure. I think that if a railway going into a district increases the value of the Crown lands, purely by the construction of the railway, it is only a fair thing that the capital cost of the railway should be credited with some of the enhanced value. In Victoria, for many years, I think, the Government allowed £200,000 a year to the credit of the railways, on account of the enhanced value of Crown lands by reason of railway extension. I believe the Victorian railways have been credited to the extent of £3,000,000 or £4,000,000 owing to that.

1010. Such a principle would be difficult of application to a railway between Grenfell and Wyalong, according to the evidence we have received, because nearly the whole of the land along that line is alienated? Well, as I said, according to the evidence of one of the local officers there were 324,000 acres of leased Crown lands which could fall in by the end of next year.

1011. That is within the 20-mile limit? Yes.

1012. I think you also stated that the Wyalong trade now goes to Temora? Yes.

1013. As a general thing, is it not wise to preserve, as far as possible, existing channels of communication, when you propose to construct a railway line—other things being equal? Other things being equal, I daresay it is; but I do not think there is a great deal in that.

1014. Well, presuming that the line from Grenfell to Wyalong were constructed, you would really have two lines—the line from Wyalong to Koorawatha and the Temora line—dividing the trade which now goes from Wyalong and the surrounding districts? Yes.

1015. Without, for some years at any rate, bringing about any increase in the total amount of traffic? Of course, if the railway were going to be made purely for the purpose of serving Wyalong, that would be a strong point in favour of extending it from Temora; but you are making the line to open up 60 miles of country, and the Commissioners say that a better country would be opened up and developed outside Grenfell, and on the road from Grenfell to Wyalong. Wyalong is not the only consideration in this matter. As a matter of fact, Wyalong did not exist, you may say, beyond six years ago as a centre. It is only a new place, and there are no long-vested rights in connection with its establishment.

1016. We have been assured by witnesses from the Grenfell district that the whole of the agricultural land along the proposed line to Wyalong is probably within 30 miles of Grenfell? As a matter of fact, there is comparatively little agricultural cultivation about Wyalong. I think 3,000 acres is about the outside. Wyalong, therefore, has not much cultivation of its own to be considered.

1017. At present two-thirds of the agricultural land will be served by the Koorawatha-Grenfell extension? Yes.

1018. Well, taking that point into consideration, and the fact that over 20 miles of the Cootamundra section of the line is already served by railway, does it not seem—taking a general view—that the construction of a line from Temora to Wyalong would open up a larger area of country now unserved by railway communication of any kind than would the extension from Grenfell to Wyalong? I cannot see that.

1019. We are assured by witnesses that two-thirds of the agricultural land situated along the Grenfell-Wyalong line will be served by the Koorawatha-Grenfell extension? Yes.

Charles Edward Rennie, Chief Draftsman, Department of Lands, sworn, and examined:—

C. E. Rennie.  
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1020. *Dr. Garran.*] Have you any statement to make in reference to the land on either side of the proposed line? I have a statement here of the tenure of land within 20 miles on each side of the proposed railway from Grenfell to Wyalong, and also from Grenfell to Hillston direct, and also Grenfell to Hillston *via* Cargellico.

1021. Give us first the statement in regard to the line to Wyalong? On the Grenfell to Wyalong line there are 932,000 acres of alienated land; 144,000 acres of leases, other than pastoral leases—that is, scrub and settlement leases; then there are reserves, 346,000 acres; and Crown lands, 388,000 acres.

1022. Do you know anything as to the quality of this Crown land? No; I have no knowledge of the character of the land. These are merely figures taken from the official maps.

1023. How much land will be available for settlement within the next few years of all that you have mentioned? Between 1899 and 1904 there will be 179,000 acres of leasehold area which will be available to be dealt with for settlement, and there are at present held under occupation license 133,000 acres, which is open to settlement, and there are 76,000 acres which are practically untenanted. Part of that area may be held under annual lease, but it is not under any more fixed tenure.

1024. When the line from Temora to Wyalong was under the consideration of a previous Committee, did you give any similar evidence as to the land available on that line? I gave evidence on previous occasions about these lines, but I cannot say whether it was exactly the same line.

1025. Can you give us exactly the same information in regard to the line between Temora and Wyalong as you have now given in regard to the line between Grenfell and Wyalong? I have not the figures here.

1026. Can you produce them another day? Yes.

1027. Now will you give us the figures as between Wyalong and Hillston? I have not the information in that form. I have it for the whole line, Grenfell to Hillston. I should require to take the figures out and find the differences.

1028. Perhaps you will put that before the Committee another time? Yes. I can now give you the details for the whole length—that is, Grenfell to Hillston direct, and Grenfell to Hillston *via* Cargellico. The figures for the total lengths are as follow:—Grenfell to Hillston direct: Alienated land, 1,470,100 acres; leases other than pastoral, 377,900 acres. That includes settlement, homestead, improvement, scrub, and inferior leases. Then there are 766,600 acres of reserves, and 1,908,300 acres of Crown lands. That is divided between 737,700 acres leasehold area, the leases of which will expire between 1899 and 1904, and 110,600 acres (in the Western Division), the leases of which will not expire until 1918. There are held under occupation license 479,400 acres; and practically untenanted, 580,600 acres. Then for the line Grenfell to Hillston *via* Cargellico, the figures are: Alienated land, 1,618,600 acres; leases other than pastoral, 424,100 acres; reserves, 806,400 acres; and Crown lands, 1,871,200 acres. Those are made up as follows:—565,500 acres, of which the leases will expire between 1899 and 1904; 289,000 acres—that is, Western Division leases—the leases of which will expire in 1918; 550,300 acres held under occupation license; and 466,400 acres practically untenanted.

THURSDAY,



THURSDAY, 3 AUGUST, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.	The Hon. WILLIAM JOSEPH TRICKETT.
The Hon. ANDREW GARRAN, LL.D.	WILLIAM THOMAS DICK, Esq.
JOHN CHRISTIAN WATSON, Esq.	

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

Edward Fisher Pittman, A.R.S.M., Government Geologist, Department of Mines, sworn, and examined:—

1029. *Mr. Watson.*] You have recently paid a visit to Wyalong, have you not? Yes; I was there two or three days.
1030. From that visit, and the report of the officers in your Department, you are able to express some opinion as to the possibility of mining development at Wyalong? Yes.
1031. Will you give the Committee some idea of what the possibilities are? I think it is a fact that Wyalong can now be regarded as developed into what I should call a permanent field.
1032. You think it is? I think it is an undoubted fact. It is the best gold-field that we have in New South Wales at present as regards its production, and there is every indication that the reefs will be permanent.
1033. You are speaking of Wyalong and its immediate vicinity? Yes.
1034. Have you got any statistics as to the yield at Wyalong? I cannot say that I remember the yield.
1035. At what depth are they working now at Wyalong? At various depths. The richest mine is at a depth of about 300 feet; but some have got down to nearly 600 feet.
1036. Are there indications of permanency at that depth? I did not go down that mine. They told us it was at present in a barren patch; but I do not anticipate that that will continue. I think the probability is in favour of their getting on to gold again.
1037. Of course, it is frequently the case in mining that you come on a barren patch and find the gold again below? Yes; that is an essential feature of the Wyalong gold-field. The reefs are very variable; they thin out to nothing, then make again to a considerable width. This claim, which is said to be on a barren patch, is only 17 feet.
1038. Which is that? The Bantam.
1039. You see no reason to doubt the permanency of the field? No.
1040. Did you see any indication there of sulphide? Yes, most of the gold is being obtained from sulphide ores.
1041. Do you think that would necessitate coal for smelting furnaces to any considerable extent later on, or can the ores be treated by the present method? I think the ore is being satisfactorily treated at the present time on the field.
1042. You do not anticipate that there will be any great demand for coal there? No, I should not think so.
1043. Do you think that the class of ore which they are now in is likely to continue? Yes; I think so, undoubtedly.
1044. Have you visited Barmedman with a view to inspection? I have not.
1045. Have any of your officers? No; I cannot say that they have. There has been really very little doing at Barmedman.
1046. Have you had any opportunity of inspecting the range of country from Wyalong to Hillston? No; I cannot say that I have been along that line. I have been to Yalgogrin.
1047. What are the prospects there? They seem very good indeed. It is a similar class of country to what we have about Wyalong. They have obtained some very good returns from there.
1048. Were there any number of claims working there? Yes, a good number.
1049. Were they down any depth? I cannot tell what was the greatest depth. The greatest depth that I went down was about 150 feet.
1050. In any case, you think the prospects are encouraging? I do.
1051. You have not had an opportunity of ascertaining what prospects there are further out towards Hillston or Lake Cudgellico? No; I have not been along that line. I know the country to the western boundary of the colony. There are mining properties about Mt. Hope, Nymagee, and Cobar. There is a lot of mineral-bearing country in that direction, although at present, beyond what I have mentioned, there are no mines being worked in a large way.
1052. Of course you know the general tenor of the report of the late Rev. W. B. Clarke in reference to that south-western country? Yes.
1053. Did he express any opinion as to the probabilities of gold being found in that part of the country? I do not remember.
1054. I was under the impression that he said it was likely to be a gold-bearing country? That country is of such a geological nature that it is probable that he would say so.
1055. Do you know of any gold developments between Grenfell and Wyalong? I do not.
1056. Or anything which might lead you to believe that there might be any there? I am not aware of any. I should not be surprised if gold or other minerals were found there. It is country where you would expect to get minerals. It consists of palæozoic rocks chiefly.
1057. *Dr. Garran.*] What leads you to think that Wyalong is a permanent gold-field? Well, I gave some evidence before this Committee some years ago, and I stated then that I had every reason to believe that it would be. I was asked whether I thought the reefs would exist at a depth of 200 or 300 feet, and I said they would, and it has proved true. They are richer at a depth of 300 feet than they were then. The field is clearly richer at a depth of 300 feet than on the surface, whilst the character of the reefs remains the same.
1058. As the reef gets into the harder rock, does it diminish in size? No. I was asked that question five years ago, and I said I had every reason to suppose that it would not, and it does not, diminish in size. The reefs are of the same character on making and thinning. In 10 feet you will get them thinning out to an inch or two, or making to 4 or 5, and, as I saw recently, to 12 feet.

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1059. Does that indicate that the gold is an infiltration into the rock? Yes.
1060. And the width of the vein depends upon what the width of the old fissure was? Yes.
1061. Can you guess how deep those veins are likely to go? It would be purely guess-work. In Charters Towers they have gone down 1,000 feet, and more.
1062. Is Charters Towers the nearest analogue to Wyalong? Yes; it is a reefing district, the gold is in reefs in granite.
1063. Are the veins there uncertain and occasionally thin, as they are at Wyalong? No. In Charters Towers gold-field they are more consistent in width, as far as I know.
1064. Are there any known indications of the possibility of discoveries of minerals between Hillston and Menindie? Only as far as the rocks themselves are concerned. I do not know of any minerals having been found yet, but I should expect some to be found there.
1065. There is no impossibility? None, whatever.
1066. The minerals would be covered over? Yes; by the surface deposits.
1067. You do not expect to find surface indications? No.
1068. At Wyalong there were no surface indications? No.
1069. It was an accidental discovery almost? Yes.
1070. And the same thing might occur anywhere between the Lachlan and the Darling? Yes.
1071. The whole of that country might turn out, at any time, to be mineral country? Yes.
1072. The probability is that this alluvial deposit has covered over mineral ranges? Yes.
1073. And we have to find out where they are? Yes.
1074. You could not give the same statement with regard to the country north of Menindie? There you get into the artesian water basin, which is not mineral-bearing.
1075. Between Hillston and Menindie, we are not in the artesian water area? No.
1076. How far does it go? It comes a little south of Bourke.
1077. The east Darling country is not artesian? No.
1078. And for that reason it may be mineral country? Yes.
1079. When we get into the artesian country, we may say good-bye to mineral discoveries? Yes; except in isolated cases, where the palæozoic rock crops up.
1080. Then, if we extend this line of railway to Wyalong, we shall not be taking it into a dead or decaying gold-field? No; I see every indication that Wyalong is a really live gold-field.
1081. But as to the country between Grenfell and Wyalong, there is nothing to be said about it? Only as to the possibility of minerals being found there in the future.
1082. There is nothing on the surface? No.
1083. Does the change from black soil on the Bland Creek, indicate subterranean minerals? No; it increases the difficulty of discovering them.
1084. What has made the difference between that black soil country and the other? Black soil generally results from the decomposition of basalt. I cannot say whether it is the case there, or whether it is simply flood soil.
1085. Is not a great deal of the red soil from the disintegration of trap rock? Yes.
1086. Is it supposed that there is more ironstone in the red soil than in the black? Yes.
1087. Is there anything to indicate the mineral character of the country between Wyalong and Condobolin? No; I do not know of anything. That again would be palæozoic country, so there is every possibility of minerals occurring there.
1088. Do not mineral deposits often lie in lines of longitude? I think that is only a coincidence. The strata of the palæozoic rock is in a northerly and southerly direction, and the minerals may fall in the lines of the rocks in which they occur. But the mere fact of certain gold-fields being in a line north and south with others is a mere coincidence. You can find similar lines in other directions in other places.
1089. There is nothing to be inferred from the fact that it is in the same meridian of longitude? I do not think so.
1090. *Mr. Trickett.*] Although you regard Wyalong as a permanent field, do you regard it as a poor man's field? I should not regard it as a poor man's field. It was when it was first opened, because the decomposed granite rock was so soft; now it is hard granite.
1091. It is a field now that requires to be developed by capital? Yes; in that way a good deal of labour should be employed, possibly more than would be if it were in the hands of ordinary miners.
1092. The reefs do not get richer as they go down? The lowest level of Neeld's claim is the richest yet, and it is down 300 feet.
1093. Do you know how many people there are at Wyalong at present? I do not know of my own knowledge, but I have heard that there are 3,000 or 4,000.
1094. Has there been any alluvial gold discovered there? No. I may state that the Minister is sending me down next week to choose some sites for bores for alluvial. I reported that I thought there was every probability of there being alluvial deposits there, only they are so difficult to find that the ordinary miner can hardly be expected to find them, and I recommended that some bores should be put down.
1095. Does the gold require expensive treatment at Wyalong? The treatment of sulphides is more expensive than the treatment of free gold.
1096. Do you know what the treatment of the gold costs? I do not.
1097. What is the average yield? They talk about 20 to 30 oz. a ton in Neeld's claim.
1098. What is the average? They say that is the average of the face that we looked at.
1099. Do you know what is the area around Wyalong in which they find payable gold? I cannot speak from memory, but we have published a geological map which shows all the lines of reef.
1100. How many batteries are there going at Wyalong at present? Four or five.
1101. And how long has the field been in existence? Since the end of 1893.
1102. In five years they have got four batteries going? Yes.
1103. Is that a big development for a gold-field? It is a fair development. It is certainly the most productive gold-field that we have at present in New South Wales.
1104. Did you see any claims lying idle when you were there? I only went with a Ministerial party, and I did not make a close inspection of the field.
1105. You do not know whether there are any claims lying idle? I think it is very likely that there are a good many; but I did not go round to see.

1106. Do they refine the gold locally? Yes; they have the chlorination process and the cyanide.

1107. Since you were there before, had the place increased in population and in activity? I hardly think it had increased in population, because the first time I went there was at the height of a great rush—people were arriving every day in hundreds. The field has now a decidedly well-settled appearance; it has all the signs of a permanent field.

1108. I suppose it is a field that can only be developed by the introduction of large capital? It has always been my opinion that any other method of dealing with it was bound to be a failure, because ordinary working miners cannot put down the same class of work as a company. In a field like that you want substantial workings carried to a good depth.

1109. When you were at Wyalong last did you inquire how many claims were on payable gold? No; I did not. But the report by Mr Watt, geological surveyor, gives all that information.

1110. How did you go to Wyalong? I went from Temora.

1111. What state was the road in? It was in a very bad state. We left Temora about half-past 10 in the morning, and we did not reach Wyalong until 8 o'clock at night.

1112. Do you think the development of the place is retarded by their having to cart goods from Temora to Wyalong;—is there a want of supplies or machinery there? There is no want of supplies or machinery, but no doubt they cost more than they would if they had railway carriage. I notice one thing, and that is that they obtain supplies and machinery from Melbourne, and their gold goes to the Melbourne Mint.

1113. I suppose that possibly the promoters belong to Melbourne? They are Victorians. They declared to me that their reason for going to Melbourne was that they could do better business there, that they could get their machinery cheaper at Melbourne, and get more for their gold, and that they could get rid of their gold at night, which they cannot do here. On the other hand, the Deputy-Master of the Mint here assures me that it is not true about the price. He admits that they cannot leave their gold and get a receipt for it at night. They can leave it with the constable at the gate, but he will not give them a receipt.

1114. Is it a fact that the arrangements of the Mint at Melbourne are more favourable to them for the disposal of their gold than they are at the Sydney Mint? I am telling you what Mr. Neeld assured me of. On the other hand, the Deputy-Master of the Mint assures me that it is not true that they get more for their gold in Melbourne. Mr. Neeld says he can get better prices in Melbourne, and that he can take his gold there at any time, day or night, and get a satisfactory receipt. He also states that he can get his machinery cheaper in Melbourne than in Sydney. He declared that, personally, he preferred to deal with Sydney, but that it paid him better to deal with Melbourne.

1115. *Mr. Watson.*] I suppose in Melbourne they keep the office open so that gold can be weighed and proper receipts can be given? I understand so.

1116. *Mr. Trickett.*] Is there another mining field between Temora and Wyalong? Yes.

1117. Is that likely to become a big field? It is rather dull at present.

1118. You do not look upon it as being so rich as Wyalong? No; it is not such a promising field as Wyalong.

1119. Is it the same character of country? No.

1120. Are there reefs there? Yes, there are reefs; but they are not in the same class of rock; they are in slate at Reefton, in granite at Wyalong.

1121. Did you hear at Wyalong any demand for railway communication? Yes; they are very much troubled about railway communication at Wyalong. They consider that they were practically promised a reconsideration of the question six months after the last inquiry; but I think that, generally speaking, they are inclined to blame the Temora people, who opposed the railway.

1122. Did the Wyalong people favour any particular route? They do not care where it comes from, so long as it comes there. They would favour the route that is most likely to be adopted.

1123. Did you see much traffic on the road? Yes, a good deal.

1124. Was it inconvenienced by bad roads? Yes. I look upon it as the worst road that I have travelled on for many years.

1125. Is it a bush road? Yes. It is simply impossible to get out of a walk between Barmedman and Wyalong. After rain it is just like a glue-pot.

1126. Did you pay any attention to the character of the country, independently of its mineral nature? Yes; it seems to be a class of country that would grow anything, provided that it had a sufficient rainfall.

1127. Is much cultivation visible? No; there is not much cultivation.

1128. Then, I suppose that, as regards the Wyalong district, the gold-field will be looked upon as the chief factor for feeding the railway? Yes.

1129. *Chairman.*] Do you think the construction of this railway would increase the development of that field in any way? Undoubtedly it would.

1130. You think that the mines would be more fully worked if a railway were constructed there? I think so. I think the effect of a railway would be to cheapen everything. If you have cheaper carriage to the field you have cheaper mining, and therefore better mining.

1131. Have you any knowledge of the country between Grenfell and Wyalong? No; I have not been along that line at all.

1132. You could not say whether the country about there is fit for agriculture? No.

1133. You have no doubt as to the permanence of the Wyalong gold-field? I have no doubt whatever about it.

1134. Are there any indications, further west, of a permanent field? I think Yalgogrin would be a permanent field, but it has not been developed.

1135. You think there are possibilities there? Yes.

1136. You have no doubt that the extension of a railway to a gold-field tends to the better development of that field? I think it is so, undoubtedly.

1137. That is independently of their getting supplies cheaper? Yes; the cost of carriage is reduced, and consequently there are better facilities for working. I think Wyalong would have been a better field today, considerably, if the railway had been extended to the field four years ago.

1138. *Mr. Shepherd.*] Is it not a fact that a good deal of stone has been carried to Temora from Wyalong? I was not aware of that. But my time was so taken up on my visit that I could not make inquiries.

1139. I think we have had it in evidence that a good deal of stone has been carted to Barmedman from Wyalong;—if they have four crushing-plants there, are they able to treat certain descriptions of stone.

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- or have they to send it away to be treated somewhere else? I think the probable cause of the crushing of the stone at Barmedman, if they are doing so, is the want of water at Wyalong. Wyalong is continually suffering from droughts.
1140. If stone is being carted away to any extent, of course a railway would be a great help in making the carriage of the stone so much cheaper? Yes.
1141. I think nearly the whole of the traffic is between Wyalong and Temora; but there is very little between Wyalong and Grenfell? There is no traffic between Wyalong and Grenfell.
1142. Is the country between Temora and Wyalong fairly good? Between Barmedman and Wyalong, I should say it is better than between Temora and Barmedman. It seems to be country that would be good enough if they had plenty of rain.
1143. Have they ample supplies of timber? Yes.
1144. Is the field very extensive? No; it is rather a confined field.
1145. It is possible that it may be opened out more extensively? As far as the prospecting has gone, they have not extended it much—they have not developed it laterally or longitudinally.
1146. You are satisfied that it is likely to be a permanent field? Yes; I think there is absolutely no reason for doubting it now.
1147. The mining industry is an industry that is likely to feed a railway, and if that failed the railway would be a failure? Yes.
1148. With regard to carting stone;—of course, it would pay them better to carry the stone on the railway than to cart it? Yes.
1149. Railway communication might possibly enable them to crush a much larger quantity of ore than they are doing at present? Yes. In the event of their being short of water it would enable them to take the stone to Barmedman, and have it crushed there.
1150. *Mr. Dick.*] You do not think that the character of the minerals obtained at Wyalong is such as would necessitate the furnace treatment and the use of coal? They are using furnace treatment there now.
1151. Do you think that the construction of the railway would lead to a large consumption of coal? I hardly think they would use much coal. They are using wood in their furnaces.
1152. Is there much furnacing going on? Not a great deal, but still they are using furnaces.

TUESDAY, 8 AUGUST, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.	WILLIAM THOMAS DICK, Esq.
The Hon. ANDREW GARRAN, LL.D.	JOHN CHRISTIAN WATSON, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

John Harper, Chief Traffic Manager, Department of Railways, sworn, and examined:—

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1153. *Chairman.*] Have you had an opportunity of making yourself acquainted with the proposal before the Committee, to construct a railway from Grenfell to Wyalong? Yes.
1154. Do you know the country well between Grenfell and Wyalong? Yes; I have travelled over it.
1155. Will you give your opinion as to what it is like? A great deal of it is very good agricultural land, a great portion of it good pastoral land, and generally it is very promising country.
1156. Is it fairly well settled? There is not much settlement, except within a few miles of Grenfell. Of course, there is the outlying township of Marsden along the route of the proposed line, lying to the north.
1157. Is it a class of country which is likely to induce settlement? Yes; I think there would be a great deal of agricultural settlement along the route of the proposed railway.
1158. Did you notice any farming being carried on? Yes; there is farming for at least 20 miles, travelling from the direction of Grenfell.
1159. Does any of that produce find its way to an existing railway? Yes.
1160. How far? For a distance of about 50 miles. It finds its way to Grenfell, or to the railway at Cowra or Young. They have no other market.
1161. How long have they been farming that land? Not for very long, beyond Grenfell.
1162. Have you had an opportunity of knowing whether they are satisfied with their prospects? When I passed through there, they certainly were satisfied. A number of Victorian farmers who were there regarded it as equal to anything they had seen anywhere.
1163. Is the railway from Koorawatha to Grenfell under construction? Yes.
1164. If that line is continued to Wyalong, do you think it will serve country which will be brought under the plough? Yes; we passed from 30 to 35 miles of very good agricultural country; then you reach pastoral country, black soil, which is not so suitable, until you begin to approach Wyalong, and you come there to agricultural country.
1165. Have you been west of Wyalong? Yes.
1166. Is there any agricultural country there? If you go far enough west, to Hillston, there is certainly a very large area of good country. In the immediate neighbourhood of Wyalong the country is not good.
1167. What is the case if you take Wyalong as the centre for a radius of 20 miles? Generally speaking, it is mallee and inferior country; but when you go further west and reach Ifumbug Creek, and still further west, you reach very good agricultural country.
1168. Is it proposed that Wyalong is to be the terminus for a long time? I should imagine not. I should think you could now scarcely look upon any point on the railways as a terminus, unless it might be Sydney and Newcastle.
1169. Do you think that there will be enough traffic on the line, if constructed, to give anything like a reasonable return? I am inclined to think that, since the estimate was given, the prospects of Wyalong, judging from what we can read, have improved. If its mining prospects are only nearly as good as predicted, I should say that a line there would be justified.
- 1170.

J. Harper.

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1170. Has there been an alternative proposal for a railway from Temora to Wyalong? Yes.
1171. How would the two lines compare? I should favour the one from Grenfell to Wyalong.
1172. Why? For the reason that it will better divide the country, as between existing lines, and, in my opinion, will pass through very much better country. It will represent a line, assuming that it will be extended westward, which will be practically midway between the Lachlan line and the Southern line. It is also closer to Sydney by a few miles; and if it is going to develop, as it is indicated it will, into a great mineral field, then it would be an advantage to be 100 miles closer to a source of coal supply.
1173. Will there be any traffic in fuel for Wyalong? That will depend upon the development of the field. When the Cobar railway was built it was never anticipated that there would be such an enormous fuel traffic as has since developed.
1174. Generally speaking, have the anticipations of the residents in the different localities seeking railway communication been realised? Not in all cases.
1175. Has that been the case, generally speaking, in connection with those lines which have been asked for in order to develop agricultural country? I am afraid that the list of non-paying lines indicates that it has not, in a good many cases. But there is another phase of the question which I think should be looked at by this Committee. The interior of the country cannot be left without railway communication; and even if there is no immediate prospect of the lines paying, there certainly are outlying portions of the country which are entitled to railway communication, and which will pay in future.
1176. Does not each mile of additional line do good to the existing line? Yes; I might quote the Cobar railway, which certainly did not pay when first built, and which gave no indication of paying, but it is now paying well.
1177. *Mr. Watson.*] I think you indicated to-day that you were rather inclined to liberalise your estimate of the possibilities of the railway to Wyalong, in view of the later developments in mining? Yes; and as a matter of fact as far as even the estimate of produce is concerned, I should say it is a low one.
1178. In 1895, your then estimate was made when the question of connecting Wyalong *via* Temora was under consideration;—was not that estimate based on a probable permanent population of 1,800? Yes.
1179. Since then has the population remained between 4,000 and 5,000? Yes.
1180. To that extent, your then estimate has been bettered? Yes, I would like to explain the circumstances under which that estimate was made. I then had before me the report of the Government Geologist, and I think his evidence was before the Committee at that time, and it was to the same effect,—that is, that Wyalong would be a shallow field, and that when the granite was reached the field would, practically, pan out. As everyone knows, that prediction has not been realised. As they get deeper into the granite the country has improved.
1181. In any case, the fact that the gold yield has increased year by year, and that the population has not decreased to any extent, justifies you in modifying what you said previously? Decidedly.
1182. Of course it is inevitable, in connection with any new field, that a lot of people will rush there, for whom there is no chance of employment, and, consequently, there must be a diminution of population as compared with the first onset? Yes; that was the view I took in 1895, when it was practically a new field.
1183. I think in 1895 you also thought that if a railway were extended to Wyalong it would not be taken as the basis of an extension to Hillston? No; because at that time the question of an extension from Condobolin along the Lachlan was under consideration. The other proposal had not come under the consideration of the Department at all.
1184. You were then in favour of reaching Hillston by Condobolin? Yes.
1185. Do you now think that it should be reached from Wyalong? I fancy that, seeing that Wyalong has developed favourably, there are stronger reasons to-day for an extension to Hillston, through Wyalong, than there were then, because you pass through the centre of a large population, which promises to be permanent; whereas that cannot be said so far as the extension from Condobolin is concerned. The position has absolutely altered in that direction since 1895.
1186. The body of population on the route ought to help traffic? Decidedly.
1187. How long is it since you travelled between Grenfell and Wyalong? About twelve months.
1188. How long is it since you travelled between Wyalong and Temora? The same time; we came back by that route.
1189. Were you speaking from your own observation when you said there is good land 30 miles out from Grenfell? Yes.
1190. In a direct line? I would not like to say it is all good land, but generally speaking it is good land practically for 30 miles along the route of the railway.
1191. Did you follow the actual route of the railway *via* Bimbi? No, we did not go so far south as Bimbi; we took two or three tracks between the bush, and we recrossed the line several times. We did not adhere to the track.
1192. After passing this length of good agricultural country, did you get into the pastoral, black-soil country? Yes; on the Bland.
1193. How far was it from the Bland that you reached that black soil—how many miles away from the creek? My memory does not serve me on that point; but I should think that it was probably 10 or 12 miles.
1194. When you crossed to the other side, what class of land was it on the western side of the Bland, at the crossing place? Black soil for a little distance, then we began to get into scrub.
1195. Have you ever been at Marsden, or north of Marsden, towards Lake Cowal? I have been at Marsden; but I have never been out to Lake Cowal.
1196. In your report you say that you think there will be a certain amount of traffic attracted to the Grenfell-Wyalong line from the north, which would not be attracted to Wyalong if it were connected by rail with Temora? Yes; my impression is that the produce from the Bland country would not find its way into Wyalong if the line were built *via* Temora; it would continue to find its way into Grenfell. Previously it found its way into Cowra or Young.
1197. Do you anticipate getting any large amount of traffic from the Bland country? Yes.
1198. Of what nature? Wool and stock.
1199. Do you think that would be too far removed from either Grenfell or Wyalong, supposing each were a terminus? I daresay that in the view of those who have to pay for the carriage it would be too far.

- J. Harper. 1200. In any case, would it be more than 30 miles? It would be a distinct improvement on what exists to-day.
- 8 Aug., 1899. 1201. Would it be more than 30 miles away? I think from the Bland crossing it is a little further. I think it is 45 miles from Grenfell to the Bland crossing.
1202. I said that either from Grenfell or Wyalong, it would not be more than 30 miles—assuming it to be 45 miles, what would you regard as the limit of attraction, with respect to stock and wool, of a railway; we know that a railway terminus will attract traffic from a certain distance, and in the case of agricultural produce we fixed the limit at from 20 to 25 miles;—what is the limit for stock and wool? As far as stock and wool are concerned, there is practically no limit, because they have to find their way to market.
1203. Is there the same necessity to push a line out in a country growing only stock and wool, as there is when you want to touch agricultural country? No.
1204. I want to know whether, in your opinion, you are likely to get from the Bland country generally any other traffic than wool and stock? No.
1205. You will notice that Forbes, on the Lachlan, is distant from Sydney 290 miles? Yes.
1206. Grenfell, from Sydney, *via* the Western line and Koorawatha, would be distant from Sydney 266 miles? Yes.
1207. Then, assuming the limit of attraction of the existing terminus at Grenfell to be 20 miles, that would make it 286 miles? Yes; that is from the point of production.
1208. Is it not probable that a large proportion of the stock would be trucked at Forbes, except in the case of stock which would be close to Marsden? No; as far as Lake Cowal it would certainly all come in to the Bland crossing.
1209. From 20 miles out westward from Grenfell on the proposed line, the distance to Sydney would be exactly the same, as far as trainage is concerned, as it is from Forbes? Yes.
1210. Would there not be an equal chance of attracting traffic from the intervening country? Yes.
1211. Does the good agricultural country come in again as you go northward to Forbes? Yes.
1212. Would the produce of that agricultural country probably go to Forbes? Undoubtedly it would go to Forbes.

WEDNESDAY, 9 AUGUST, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

John Harper, Chief Traffic Manager, Department of Railways, sworn, and further examined:—

- J. Harper. 1213. *Mr. Watson.*] Do you produce a map showing the district affected by the proposed railway? Yes. The area within the brown etching represents the country 25 miles west of Grenfell. The next area, within the blue etching, represents the country, generally black soil, for a distance of 45 miles from Grenfell. The pink etching represents the area from which it is anticipated traffic would come in at Wyalong. The leasehold and resumed areas are shown, and as it is an 1896 map the probabilities are that they will remain as they are shown on the map.
- 9 Aug., 1899. 1214. Assuming the Grenfell line to be finished, and Grenfell to be the terminus, how far westward do you think the railway would be available for agricultural purposes? I should think that, as under existing circumstances wheat is carried from Grenfell to Young, you may reasonably expect that it will come from a radius of 30 miles. I do not mean to say that under all conditions it would pay to cultivate wheat; but with good prices and seasons, no doubt it will pay. The inducement would not be a strong one to settle that distance from a railway terminus when there is so much other land available closer to railway termini.
1215. Taking 30 miles as the extreme limit for agricultural purposes, is it fair to assume that within 20 miles there would be a fair development? I should think so. There is some exceptionally good soil in that neighbourhood; but it would depend largely on circumstances. I would not like to say that if land were available closer to existing or projected lines of railway that people would be disposed to undertake the cartage by road over that distance.
1216. In this case we are dealing with land which at present is largely alienated within the 30-mile radius? Yes; I am referring, not only to Crown land, but to all the alienated land, the owners of which might be disposed to throw it open for agriculture.
1217. You think that under existing circumstances it is possible that the line to Grenfell would affect and serve land 20 miles westward;—it might be so under existing circumstances, but is it a reasonable assumption to say 20 miles? Yes; the circumstances would have to be favourable, even with regard to 20 miles. It would be necessary to have good crops and good prices.
1218. Is it not the case that all round the district, and for years past, they have cultivated that land fully 20 miles from a railway? Yes, decidedly; but in past years prices have been better than they probably will be when we begin to export produce in larger quantities.
1219. Have we not for some years past been governed almost by the state of the outside market? That is the tradition to some extent. We are supposed to be governed by Mark-lane prices; but I do not know that that is quite the case with regard to local prices.
1220. Yet, within a few pence, have we not been governed by outside prices, plus the cost of carriage? Yes.
1221. Seeing that during the last three or four years there have been very low prices, and the people have continued cultivating at a distance in that district fully 20 miles away from a railway, is it not probable that they will continue to do so? Yes, that is a reasonable assumption; but it is very difficult to

to understand what their position may have been during the last two or three years, or to what extent they may have become involved.

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1222. Assuming that between 20 and 30 miles is the distance over which the Grenfell terminus will exercise an influence, would not that go pretty well to the full extent of the agricultural country as far as we know? Yes; all the red-soil country until you touch the black soil.

1223. Do you anticipate that the construction of a line towards Wyalong through that country would make a very considerable difference in the amount of land which will be put under cultivation within the 30-mile limit? I should imagine so. A considerable amount of land north and south of the line, within 20 miles of it, would be put under cultivation.

1224. If you go any considerable distance south, will you not get within the influence of Young—so that you could hardly expect to go 20 miles south? I am only speaking approximately. You will notice that in the map I have not gone more than 5 miles south on account of the influence of Young.

1225. Would it not be probably cheaper to use the railway at Young, if the road cartage were not too far, than to use the railway, say, 10 or 15 miles west of Grenfell? Yes, if it were south of Grenfell.

1226. If you go too far north of the proposed line, will you not come within the influence of the Forbes terminus? I have not allowed for anything in that direction. The extreme limit I have gone to is nearly 30 miles from Forbes.

1227. Have you been over the line between Wyalong and Temora within twelve months? I was over that country twelve or fourteen months ago.

1228. Did you notice any increase of settlement there, as compared with what you saw on your previous visit between Wyalong and Temora? Very little.

1229. Do you still think that the answer given by you in 1895 on that subject will hold good. The following is an extract from the evidence on that occasion:

Can you tell the Committee the character of the settlement between Temora and Wyalong? There is absolutely none, except mining. There are about half a dozen selectors on the road.

What have you to say with regard to that? Yes; it is practically the same now. I fully expected that the mining development at Wyalong would have led to more farming development in that part of the country.

1230. Do you still say there are only half a dozen selectors on the road? I do not say that; there might be twice as many, but I expected there would be a great many more by this time.

1231. I want to know whether, on the last visit, you noticed any alteration since that statement was made four years ago? It is almost imperceptible.

1232. Do you think that answer is approximately correct now? Twelve months ago I noticed very little difference in the amount of settlement between Temora and Wyalong.

1233. Would you be correct in saying that twelve months ago there were only half a dozen selectors there? I did not take the trouble to count the number of selectors at that time. I was not interested in the matter, as I was only returning home by that route.

1234. Supposing a line from Grenfell to Wyalong were not constructed, and the line now under construction remained at Grenfell, and another railway from Temora to Wyalong were constructed, how much of the country between Wyalong and Grenfell would be left unserved? In view of the policy of railway extension which we are now pursuing, I should think that any portion of the country 10 miles away from Grenfell would be badly served. As far as practicable in districts of that character, pioneer railways should be brought within 10 miles of people who wish to successfully cultivate for export.

1235. Does not that go against the generally-accepted idea of a 20-mile limit? No; I think 20 miles is considered the outside limit. I think that, in view of the policy which appears to be guiding the country in this matter—that is, to provide facilities for the development of agriculture—the road carriage should be reduced as far as possible, so that farmers on both sides of the line in agricultural districts should have the advantage of railway transit to market.

1236. Would not that involve rather heavy expenditure in railway construction? Yes; but I take it that there is some method in designing the whole of these railways. I cannot conceive that this line has been designed simply to run between Grenfell and Wyalong. I take it that it is a small portion of a western extension. It seems to me that, for the present at least, it would fairly equally divide the Western line at Condobolin from the South-western line.

1237. But in the meantime, I presume, we have to take into consideration the possibility of the line paying on its own basis? Yes, decidedly.

1238. The land which you have marked on the map as within the Bland area, which is approximately all black soil, would be traversed by the railway for a distance of about 22 miles? Yes.

1239. So that you have to cut out that section, so far as agricultural production is concerned, with our present knowledge of what can be done with that soil? Yes; but I would add, that whilst considering the agricultural interests, the pastoral interests should not be neglected, and from that area there would be large quantities of stock and wool traffic. It is splendid pastoral and fattening country. My estimate is that between 600 and 700 trucks of fat stock will be sent from that district to the metropolitan market.

1240. Do you think that that stock would not go to one of the three points which would be available if a railway were constructed from Temora to Wyalong, those being Grenfell, Wyalong, and Young? I should imagine that the better point to which it could go would be that where they would have the shortest transit to market, and where there would be the shortest distance for driving the stock on the road before being trucked. My experience is that, when settlement becomes closer, the pastoral industry requires more railway transit for fat stock than it did seven years ago when the country was open. As far as Wyalong is concerned, it would be a much greater distance. It would be 30 miles further for the Bland area. A point 40 or 50 miles from Grenfell would be in the Bland area, where facilities would be given for trucking stock and wool.

1241. Assuming that they went to the shortest point from which they could reach Sydney—say Grenfell—do you think that 40 miles of road would deter the owners from sending fat stock to market? No, I do not suppose it would, because our experience shows that 1,400 miles does not deter them from sending fat stock to market. It is quite within our experience that fat stock comes that distance from Queensland.

1242. Is it not a fact that you now get at Young a great deal of the fat-stock traffic from the Bland? Yes.

1243.

- J. Harper. 1243. If the season is good, and they have fat stock, will they send it a reasonable distance to market?  
Yes.
- 9 Aug., 1899. 1243½. The advantage you would get with regard to this railway, as far as the Bland is concerned, is that you would get another 50 miles of railway freight? That is an advantage certainly, as far as considering the merits of the line is concerned; but, I think, we are entitled to look at the matter in another way. While every attention is paid to the agriculturist we should see that the interests of the pastoralists are not neglected.
1244. Is there any chance of the stock traffic paying, as far as constructing railways is concerned, unless you have a very large area to serve? Certainly not.
1245. Would it be likely that the stock traffic from the Bland country would itself pay for constructing a railway? No. If it were merely a question of dealing with the stock traffic from the Bland country, I should say that there is no justification for a railway.
1246. Would not the main traffic for a line from Temora to Wyalong be gathered at a terminal point—that is, about Wyalong? Yes; but there would be intermediate traffic at Barmedman.
1247. What I mean is that the main objective in building a line is Wyalong? Yes, Wyalong and the west, and, to a limited extent, the south.
1248. But Wyalong and the west would be the main thing to be aimed at, and consequently the greater portion of the traffic would come from there? Yes.
1249. Does that traffic mainly go by way of Temora now? Yes.
1250. In so far as we succeed in attracting in a new direction from Wyalong to Grenfell, will you take it away from the existing line at Temora? Yes; but I may add that it is always urged that a railway will develop more traffic. The probabilities are that so much traffic will be created at Wyalong by the construction of a line from Grenfell as will compensate for anything which will be lost to Temora. I think that that is a fair thing to assume.
1251. Would it compensate for the full amount of traffic which goes from Wyalong to Temora now? I should hope so. The district will be developed by the railway passing through it, and the country to the west of Wyalong will also be developed; agriculture, and possibly mining, will be developed, and any loss in the trade between Wyalong and Cootamundra will be compensated for.
1252. At present, does all the traffic practically go by way of Temora? Yes.
1253. Do you make any allowance in your estimate for loss which would be sustained on the Temora line? Yes; that estimate presents a net estimate, less the amount, which to-day is obtained at Temora.
1254. What would that loss amount to? About £3,000. That is the value of the Wyalong traffic to-day at Temora.
- 1254½. Yet the Temora line shows a deficit? Yes.
1255. So that with the construction of the Grenfell-Wyalong line it will show a still heavier deficit? It would immediately; but I do not know that it would, subsequently.
1256. What new avenues could be opened up for Temora? I think there is a very strong possibility of agricultural development taking place west of Wyalong. Then there would be the agricultural development which would take place between Grenfell and Wyalong, and that would compensate for the loss which might be sustained on the Temora line. Personally, I do not regard it in any sense as a competitive line with Temora. The Temora line was built, as Members of this Committee know, for a specific purpose, before Wyalong had been heard of. It is not as if the line from Cootamundra had been built subsequently to reach Wyalong. The Wyalong traffic came in quite incidentally.
1257. For what specific purpose was the Temora line built? It was built as an agricultural line primarily, and to a centre of settlement which did not promise at that time as well as Wyalong does to-day.
1258. But should the fact of its having been built to reach Temora, and to go into agricultural land, prevent the consideration of its suitability as a starting-point of another development? No. I wish to make my position absolutely clear. This line is not projected as a rival line with the Temora line, and it is not as if the line to Temora has been designed for the purpose of reaching Wyalong.
1259. What is your opinion of the country between Wyalong and Temora? I do not think it is nearly as good as the country between Grenfell and the Bland country.
1260. That is, you do not think the land between Temora and Wyalong is as good as the land between Grenfell and the point where the black soil commences? Yes.
1261. Do you know the country round Temora? Yes.
1262. Did you ever see that country before the railway was taken through in the early days? Yes; I was out in that country when the line was in projection.
1263. Do you know that it is now considered that the land around Temora is fair wheat land in good seasons? Yes.
1264. Was there much difference in the appearance of the Temora land before the railway was made, and in the direction of Barmedman? Yes; the land in the neighbourhood of Temora struck me as being much better than a great deal of the land between Temora and Wyalong. It falls off as you go towards Wyalong. I am not going to decry the quality of the land in which the mallee grows, but I am only speaking of it as regards practical settlement. I went to Temora when the rush first broke out precisely as I went to Wyalong, and I carried away fairly vivid impressions of both trips. I have no hesitation in saying that the country between Temora and Cootamundra, where I travelled at that time long before I travelled for the purpose of reporting on a railway, seemed to me to be better land than that which I travelled over between Temora and Wyalong, when the rush to Wyalong first broke out. That impression was confirmed when I last travelled over it.
1265. Do you know that they are growing wheat right up to Barmedman now? Yes.
1266. Of course, beyond that there is no appearance of cultivation to any extent? No.
1267. Have you ever been off the road between Barmedman and Wyalong? I have been about 4 or 5 miles back to the east from the road.
1268. Was there any difference in the appearance of the country east of the road between Barmedman and Wyalong? Yes; there are patches which are better than the land between Barmedman and Wyalong—there are flats which are better.
1269. I think you stated yesterday that you attached some importance to the wisdom of connecting Wyalong with the Western railway, with a view to reaching the coal resources? It is a matter worth considering, but it is a question on which geologists could give a better opinion.



1270. The Government Geologist, in his evidence a few days ago, told the Committee that he did not think there would be any variation in the character of the ore which would be obtained at Wyalong—that the same class of ore would continue to be obtained at the lower levels;—is it not a fact that there is no necessity for using coal to smelt the ore at present obtained? Of course, I would not like to differ in any way from the opinion of the Government Geologist, as he is a better authority than I am on that subject. I incidentally mention that matter because we have the experience of other fields. I heard only the other day that it was anticipated there will be some very rich silver and copper developments in the Inverell district. That was overlooked before, and it is only the fact of a railway being constructed there which has opened up the prospect of those deposits being dealt with.

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1271. You have referred to the fuel requirements at Cobar, but are not the requirements at Cobar quite different from those at Wyalong, seeing that it is smelting from beginning to end at Cobar? Yes. But the whole of the district we are referring to is understood to be a mineral district—practically the whole district, both west and north-west—and it is hard to tell what developments may take place.

1272. Have there been any prospects, so far, of anything except gold? I cannot say.

1273. Have you heard of any other prospects, except gold, around that district? No.

1274. Do you think that, on the whole, a line from Grenfell to Wyalong would give better results than a line from Temora to Wyalong? Yes.

1275. Do you not think that, to some extent, it is right to consider the people who are already engaged in traffic with each other—for instance, trade relations are already established between the Temora and Wyalong people;—if other things were equal, would you not be justified in considering the fact that these trade relations already exist? Our experience is that when a railway line is opened trade relations of that character cease to exist. The facilities given by railway communication enable people to seek other markets and avenues for business. I can mention an instance which has occurred only within the last fortnight. An officer was sent to Manilla to prepare a time-table which would be satisfactory to the residents of that district. We were under the impression that their trade relations with Tamworth having existed so long they would naturally desire a service which would continue those trade relations, but, to our astonishment, 90 per cent. of the people there did not study Tamworth in the matter at all. What they wanted was communication which would bring them within the readiest access to Newcastle and Sydney. As far as they were concerned, having a railway, Tamworth had ceased to exist, except as another town on the line. They selected a time-table which gave them the readiest communication with Newcastle and other places. I do not mean to say that the Tamworth people would quite approve of the same thing, but it is the people at the other end whom we have to consider.

1276. In that case, is it not possible that the consideration would come in that passengers would be benefited by having communication with a mail train, while the goods would suffer nothing? As far as that is concerned, I suppose that both Manilla and Tamworth, and also Wyalong and Grenfell, would do their business with Sydney or Newcastle houses.

1277. Would you think it worth consideration if it were a fact that the Wyalong people desired a connection by way of Temora? That is a matter for the Committee to consider. If a line were built from either point to Wyalong, I do not know whether the people there would consider either Grenfell or Temora.

1278. The Temora line junctions with Cootamundra, and practically with the Gundagai line; by that means it is possible to get from Temora into the hilly country with a comparatively short run;—do you think it is worth considering that the people west of Wyalong would, by that means, have a chance of getting their stock into the hilly country, if necessary, by means of a much shorter run? The last season has been quite a novel experience, so far as the movement of stock is concerned. Although the people north of Wyalong might be desirous of getting to the hilly country about Gundagai in the event of a drought of a general character, it is an open question whether they could get there, because our experience is that the whole of that country was occupied by Riverina squatters, who were able to pay a better rent for the country, owing to the high class and value of their stock. Ninety-five per cent. of the stock which went to Gundagai came from the Riverina.

1279. But that does not show that there was not room for a little more? Practically there was no more room.

1280. Does it follow that there would always be a drought in the Riverina at the same time that there would be one at Wyalong? The whole thing is problematical. Large portions of the Central Division, in the neighbourhood of Wyalong, such as Orange and other places, would be equally as available as Gundagai; and, in fact, that part of the country was availed of by western squatters—I refer to the country around Dubbo and Orange. We carried enormous numbers of stock to those districts. As a matter of fact, we rarely carry starving stock; it is quite exceptional, and I hope it will continue to be so.

1281. Can you tell the Committee why the Commissioners seem to be anxious to load the Western line with branches, in view of the fact that the grades on that line are heavy? Would you be surprised to hear that there is twice as much mileage of 1-in-40 grades on the Southern line between Cootamundra and Sydney as there is between Blayney and Sydney.

1282. I would not be surprised; but I suppose I am stating a fact when I say that the grades are heavier on the Western line? As a matter of fact, there are  $8\frac{1}{2}$  miles with a grade of 1 in 40, and 1 mile of 1 in 35 on the Southern line, while on the Western line, in the direction of Sydney, there are 4 miles of 1 in 40, and 1 mile of 1 in 35. I may also add that the Commissioners have now, either in construction or in projection, deviations and grade reductions which will take out the greater part of those grades, with the exception of one or two points, where the assistance of another engine will neutralise the effect of the grades.

1283. Are they not doing the same on the Southern line? Yes.

1284. If the grades are practically good on the Western line, how do you account for the fact that the mail train takes one hour fifty minutes longer to get to Blayney from Sydney than it does to get the same distance on the Southern line? The stops on the Western line are more numerous and longer, for the reason that we have only one through train on the Western line, which has to take all the traffic, whereas on the Southern line we have the Express and the Mail trains, so that there are two trains to do the work of one on the other line.

1285. I have counted the stopping-places in your time-table, and I find that in that distance on the Western line they only exceed the stops on the Southern line by seven? A greater time is allowed for

- J. Harper. the stops for the reason I have indicated—that is to say, the greater volume of business, on account of there being only one train, causes nearly an hour's difference between those points.
- 9 Aug., 1899. 1286. Do you know that there has been a fair amount of mining development between Temora and Wyalong? Yes.
1287. There may be developments there in future, and do you not think that matter should be considered? That is a matter for the consideration of the Committee. I should not be disposed to consider it from what I saw. When I was there four or five years ago there were a number of localities where mining had been started and had been abandoned.
1288. I have now found what I was referring to with regard to the difference in the grades on the Western and Southern lines;—in an appendix to the evidence given by Mr. Deane, in connection with the line Koorawatha to Grenfell, there is a statement showing that the total rises against the load from Grenfell to Sydney, *via* Young and Harden, or on the Southern line, was 6,841, while the total rises against the load on the Western line, *via* Koorawatha and Blayney, was 7,598? They are being reduced, and Mr. Deane would include everything up to 1 in 100, which is neither here nor there.
1289. But 1 in 75 is the highest given in this return? We are now reducing the number of the grades on the Western line, which were 1 in 40, to 1 in 75.
1290. But are you not also making great alterations on the Southern line? They are being carried out more extensively on the West, for the reason that the volume of traffic on the West is so much larger than on the south.
1291. But will not that volume of traffic become greater if you continually run your branches on to the Western line? That is all the more justification for reducing the grades.
1292. Although you starve the other line? I do not consider that.
1293. *Mr. Trickett.*] When Mr. McLachlan was here he promised to furnish us with some more figures through you? I do not know that I can give you any more.
1294. What do you think will be a fair reduction to make from the Temora branch owing to the subtraction of the Wyalong trade? I have already stated that £3,000 is allowed for that: £700 for passenger traffic and £2,300 for goods traffic.
1295. He also promised to give us a return of the earnings of the Temora line since it was started, up to the present;—did he hand you that? No; but I think I can give you the returns up to the end of last year, showing how the figures stood, as far as the line was concerned, after providing working expenses.
1296. Have you gone into the question of the population of Wyalong? Yes; I have had a return furnished to me showing that the population is 4,300.
1297. Then the population has decreased since we had this connection with Wyalong before us last time? Yes; but it was practically a new rush at that time. I think it has now settled down, and may be regarded as fairly stationary.
1298. The water supply was considered at the last inquiry;—do you know what condition that is in at the present time? I did not hear any complaints about it twelve months ago. I do not know how it is now.
1299. Have you a detailed statement of your traffic estimate? Only a general statement.
1300. Have you not sometimes handed in statements with regard to the estimated traffic from various stations? I have not been able to go into it in that detailed way. My time is more limited than it used to be, but still the figures have been worked out just as accurately, the only difference is that I was then able to devote more time personally to it. The traffic coming in at Wyalong is estimated at 1,500 tons of goods, at 5s., £375; 2,000 tons, at 12s. 6d., £1,250; 661 tons of wool, at 9s., £297 9s.; 656 tons of ore, at 1s. 6d., £49 4s.; total, 4,817 tons, £1,971 13s. At the Bland crossing—80 tons of goods, at 5s. 8d., £22 13s. 4d.; 60 tons, at 11s. 4d., £34; 740 tons of wool, at 9s., £333; 570 trucks of stock, at 6s. 10d., £194 15s.; total, £584 8s. 4d. Wheogo—25 tons of goods, at 5s., £6 5s.; 181 tons of wool, at 3s., £27 3s.; total, 206 tons, £33 8s. Total, 5,903 tons, and 570 trucks of stock, £2,589 9s. 4d. That is allowing the reductions I have mentioned for the Temora traffic.
1301. Then, in a statement which the Commissioners have handed in, the revenue from passenger traffic is estimated at £2,054; mails, £720; parcels, £500; making a total of £5,863? The passenger traffic is made up in this way: 5,000, at 10s., £2,500; 500, at 7s. 6d., £187 10s.; total, 5,500, £2,687 10s. Less, diversion from Temora, 2,000 passengers, at 6s. 4d., £633 6s. 8d., leaving a net total of £2,054 3s. 4d. for passengers.
1302. Is the item of mails calculated on the usual mileage? Yes, £12 per mile. You will observe in that that very little credit is given for wheat or anything of that kind. It is an unknown quantity as far as that district is concerned.
1303. When you were examined before on the Temora-Wyalong proposal in 1895, you then put down the probable estimate of earnings of that railway at £2,764? I did not allow for a population of more than 1,800—that was including the intermediate population at Barmedman.
1304. You then put it down at £2,764? Yes.
1305. What is your present estimate of that traffic? I have made no estimate; that has not been before me.
1306. Do you think it is more at present? It would naturally increase with the settled population.
1307. Could you give the Committee even a rough estimate? I would not like to undertake it.
1308. When you made up that estimate of £2,764, on what basis did you make it? I took the actual wool and stock traffic which we then had. I based it on the average rate of consumption per head which we know fairly represents what each unit of population would consume. That was on the basis of 1,800, and that included the intermediate population. Everything we did was to form an estimate on the then population.
1309. When the Temora-Wyalong proposal was before us was it your opinion, and also, I think, the opinion of the Commissioners, that it would be judicious to let that railway stand over? Yes.
1310. Is that still your opinion? Yes. If an extension is to be constructed to Wyalong, I certainly prefer it from Grenfell.
1311. Now that the Parkes-Condobolin line is constructed, and the Koorawatha to Grenfell railway under construction, do you not think it is desirable to construct the Temora-Wyalong line as a means of tapping the western country? I do not think a line from Temora to Wyalong is desirable. My view is that a western extension towards Hillston should take place by way of Grenfell and Wyalong.
1312. Was it made a condition that the land through which the Koorawatha-Grenfell line is to be made should be given free by the owners? Yes.

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1313. Has that been carried out? So I learn from Mr. Deane.

1314. Was there not also a kind of betterment clause put in the Act? I do not remember that; but such a condition was put in another Act.

1315. Do you regard that as an equitable provision? There is very much to be said for and against the betterment principle; I have not considered the question.

1316. Do you consider that the principle of betterment is equitable? Yes.

1317. But you do not wish to pledge yourself to the mode of carrying it out? No.

1318. At the present time, does all the trade to and from Wyalong and the metropolis go by way of Temora? Yes.

1319. Would the people of Wyalong be much prejudiced by having to divert their course of trade if a line were constructed from Grenfell? Taking into consideration the fact that the whole of their business is with Sydney, and that the haulage is 6 miles less by the proposed line, they would not have much reason to complain.

1320. If the feeling at Wyalong is in favour of a connection with Temora, I suppose it must be a kind of sentimental feeling, because the actual cost of transit will not be more? It will be less by 6 miles.

1321. *Mr. Dick.*] It is a fact, I believe, that the estimate for the Wyalong to Temora extension is £50,000 less than that between Grenfell and Wyalong? I cannot tell, as I have not got the figures before me.

1322. Can you give even an approximate estimate of the traffic to be derived from the construction of the Temora to Wyalong line? I cannot do so now; but I should anticipate there would be more from the Grenfell-Wyalong line, by reason of the fact that it would attract the whole of the Bland wool and stock traffic, which would not be taken to Wyalong if a line were constructed from Temora to Wyalong. The disposition would be to continue on, as Mr. Watson indicated, to Young with their stock. That country is intersected by the Grenfell to Koorawatha line, and they would have to go back, to reach Wyalong with their stock. You may practically take Marsden as the centre of the district. As you will observe from the map, in order to reach Wyalong they would have to go back on their route to the market. Their disposition would be to continue as at present—to go to Grenfell or to Young. Hence I should expect a smaller traffic on a line from Temora to Wyalong than on a line from Grenfell to Wyalong. Then, as I have already stated, I consider that the country at least 30 miles west of Grenfell is better than that between Temora and Wyalong.

1323. Do you not anticipate any intermediate traffic between Wyalong and Temora, and also westward of the proposed Wyalong to Temora line? Decidedly. There is settlement at Barmcdman. The population at Barmcdman is not as great as that at Marsden, by 220.

1324. Taking the so-called rival routes, Grenfell-Wyalong and Temora-Wyalong, does it not appear to you that the Temora-Wyalong would open up and supply a larger area of new country as yet unserved by railway than the Grenfell-Wyalong line? No. There is, however, a lot of excellent country west of Temora, and the question will have to be determined some day as to how it can be served. Probably it would be done by a line running parallel with the Southern line. A line was projected from Coolamon in that direction to Ariaiah, but the Committee rejected it. I have not the least doubt that some day a line will have to be projected west from Temora to this country, which is excellent agricultural land. But a line between Temora and Wyalong would be of very little advantage to the country in the direction of Ariaiah.

1325. Could you prepare an estimate of the probable traffic on the Temora-Wyalong line? Within a fortnight, perhaps, I could have it done. It would have to be investigated on a number of points. I am extremely doubtful whether traffic from the Bland district would find its way into Wyalong; it would continue to go to Grenfell or Young. It would have to be discarded from the estimate of stock and wool traffic, which I have included in the line from Grenfell to Wyalong. An officer would require to go to the district and pick up the information.

1326. *Mr. Watson.*] Do you anticipate any great amount of traffic being attracted towards the line from Grenfell to Wyalong from the south of Wyalong—that is, towards Barmcdman? No.

1327. Would Wyalong be further from Sydney than Temora for such traffic? From the pink edging you will see that approximately about 10 miles of country are shown there, but it is all mallee country, and there is nothing in it at present.

1328. *Dr. Garvan.*] With regard to starving sheep, we have had a great deal of evidence as to the possible value of westward-stretching railways in drougthy years, and we have been told that this year something like 15,000,000 sheep have been lost through drought;—if we had had those railways which have been spoken of, do you think we could have found feed for 15,000,000 or 20,000,000 sheep in the highlands? I am certain you could not. As a matter of fact, we removed altogether 1,250,000 sheep, and they were removed all over the country, some from as far as Queensland in the north. I know that it was only with the utmost difficulty, and by paying most extraordinary prices, that country was procured for that number. If it had not been for the fact that the drought did not affect the Central Division in certain districts, they certainly would not have been able to accommodate that number.

1329. If 2,000,000 of sheep had come forward, or more, could they have been accommodated? No; the necessary country could not have been found. As a matter of fact, they exploited the whole of the Coast district as far as Port Stephens, especially with cattle, and a good many came back as bad as when they left.

1330. In a drougthy year, could sheep be sent on to the eastern slopes without any fear of foot-rot? I think there would not be much fear of foot-rot; but there might be of fluke.

1331. I understood you to say that the country about the foot of the Australian Alps is pretty well taken up by the Riverina squatters? Yes.

1332. Do they pretty well stock it with their own sheep? That country was rented this year, and speaking approximately, I think that about 100,000 sheep were sent there, and that exhausted the country which was available.

1333. Then that Australian Alps country could not have taken up 1,000,000 sheep? Apparently not; because that was all they sent there. I know that Mr. McCaughey, who sent his sheep there, paid a very high rent.

1334. When people indulge in general talk about the value of pushing railways to the west for starving stock, is there some illusion about it? Such railways would assist in saving starving stock by enabling them to carry fodder. Enormous quantities of fodder were taken to the sheep during this drought.

1335.

- J. Harper.  
9 Aug., 1899.
1335. Would it pay to take fodder to the ordinary class of sheep? No; but a great many of our flocks are of such a character, they have been bred up for so many years, that they are worth preserving even at a greater cost than their value. That is the case, especially with Riverina sheep.
1336. With regard to the least valuable sheep, we have had evidence that it is better to let them die than to take food to them? No doubt that is the experience. As a matter of calculation, it may be assumed that it would cost 5d. a week to feed a sheep. That does not seem to be a very large amount; but in six weeks it would come to as much as you would get off that sheep, because that amount would represent the value of the wool.
1337. If we had an unlimited market for frozen meat, would it be a good thing to have railways to take the sheep down before they perished? Yes; but at present they are only valuable for their wool. There is no inducement, with the limited market which we have, to fatten them.
1338. We could not look for any great paying traffic in the conveyance of what we call starving stock? No. Of course, in the interests of the country it would be a good thing to be able to carry the starving stock to better country; but, as a matter of fact, the carriage of starving stock has involved the Commissioners in very serious loss, for this reason: 50 per cent. rebate is given, and the carriage is infinitely more costly than in the case of ordinary fat stock. The movements of the waggons and engines are so erratic, and the demand is so strong, that we frequently had the following occurring during three or four months, when the removal of the stock was being carried out to the utmost extent: perhaps forty sheep-waggons were sent from Flemington to Hay, or somewhere in Riverina, to remove stock to Gundagai; there was a very short full haulage, and a very long empty haulage. On arrival at Gundagai, the same waggons would frequently be required to be sent direct from Gundagai, perhaps, through to Bourke, empty, in order to bring sheep to Dubbo.
1339. So far as the Railway Commissioners are concerned, the starving stock business is a losing one? Yes, so far as carrying the stock is concerned; but ultimately it will be an advantage.
1340. If we are to occupy Riverina, stock it up, and expect to keep the stock alive through dry seasons, we must find artificial feed? Yes; otherwise the stock must die.
1341. Are these the only alternatives at present? Yes.
1342. Is the railway now before us one of those lines where we are called upon to face an initial loss in the hope of making it good in a few years' time? Yes.
1343. As an expert in traffic, would you recommend that as a good policy to a Government which is the great landowner as well as the great railway proprietor? Yes; it is absolutely good policy, and as you have invited my remarks on the subject of policy, I think that, associated with these non-paying lines, some provision should be made for a sinking fund—that is to say, the ordinary business of existing lines should not be called upon to bear entirely the burdens of these non-paying lines. I can foresee what inevitably must happen if we continue to construct these non-paying lines, and if, at the same time, the Railway Commissioners are expected by the country to return interest on the capital cost, as well as working expenses; that is to say, freights and fares must be maintained at a level which I consider is abnormal, as far as the development of the country is concerned.
1344. That is to say, if the people of the district want a railway which will impose a loss upon the general revenue of the Department, they should make a contribution to cover that loss? I would not advise that, in the sense that the district should be burdened. My own opinion is that the general revenue should bear these losses, or some portion of them. The railway debt is increasing year after year. Of course, it is not for me to indicate from what source this should come; but, as a matter of fact, it is the users of railways and the people who are developing the country who are really meeting those losses now.
1345. Does not the general revenue bear the loss now? No; the Commissioners are paying the interest on the capital cost, and that can only be done by the users of the railways contributing the money to do it.
1346. Do you think the users of the railway should be willing to pay such fares and freights as would make the line a paying line? No; not the users of that individual line.
1347. But taken as a whole? They are doing it to-day. What I mean is that the whole cost of developing the country generally should not fall upon the users of the railway.
1348. Do you think that the proprietors of the land who get their land increased in value should pay it? I think the great proprietor of the land—the Crown—should have made provision long ago to write down the interest. It might have formed a fair charge against the Crown lands as alienated, and as their value was improved by the railways.
1349. Would it be fair that wherever a new line is made all the unsold land within 20 miles on either side should be sold at a railway valuation—that is to say, supposing any enhanced value is given to it? As a matter of fact, I think that is the position to-day. I think the land is sold at a price including the added value by reason of the railway being there.
1350. Is not the land taken up at the upset price? As far as leasehold land is concerned, when it is assessed, the fact of its being close to the railways is taken into consideration.
1351. But if you select land within a mile of a railway, do you not get it at the upset price? Yes; the railway debt is increasing, and it would be very hard for any one to indicate where a line which would pay from the beginning could be constructed anywhere in New South Wales. I must confess I do not know of one.
1352. *Chairman.*] Do you say that you think it is not fair to charge the users of a paying line with the losses of a non-paying line? No. I say that whether the railways are paying or non-paying, those who use them have to pay such freights and fares as will enable the Commissioners to meet the interest on the capital cost, as well as the working expenses—that is to say, they have to carry the whole burden of the lines, whether they pay or not, and whether they have been built for the development of the country or not.
1353. Do you think that part of the cost should be borne by the general taxpayer? Yes; I think that should have been done long ago, and it would not have been felt.
1354. Is it your opinion that the general taxpayer, or the people residing in the large cities, could not reside there unless other people went on the land? I would not like to indicate what the incidence should be; but I certainly think that asking the users of the railways to meet the very large amount of interest which has to be paid annually, in addition to paying for the actual working expenses, is imposing upon them a very heavy burden. It must inevitably cripple the development of the interior, so long as those freights and fares have to be maintained.

1355. *Dr. Garran.*] The estimated loss on this line is £3,249;—do you think that is a fairly reasonable loss to face? I think so. Under the circumstances it is not unreasonable, because, as I have already indicated, the estimate is not so liberal. Very little allowance has been made for agricultural development; and, as a matter of fact, the figures are based upon the actual business of to-day. J. Harper.  
9 Aug., 1899.
1356. Is that loss of £3,249 exclusive of the £3,000 loss which you anticipate on the Temora line? Yes; the estimated revenue is net.
1357. Then the total loss would be £6,240? Yes.
1358. The loss of that £3,000 is somewhat disguised by not being mentioned in the same connection? I do not think it is intentional.
1359. I do not say that it is intentional? There is no railway constructed which will not more or less affect some other railway.
1360. You have spoken of an almost certain extension of this line to Hillston;—as an expert, do you think it would be wise to go in for that extension straight away? I should not think so at present.
1361. Would you be content to go to Wyalong? Yes; at Wyalong there exists to-day a large and apparently settled population and industry. From whatever point the line is constructed, I think that Wyalong is entitled to consideration.
1362. If we stop at Wyalong, there will be settlement for 10 or 15 miles west of Wyalong; and afterwards, if we want to make an extension, we will have to buy the land back from these people? The Committee could attach such conditions to any such extension as might appear to them to be reasonable.
1363. After a survey has been made, would it not be possible to reserve the land in that direction so as to prevent private ownership? Yes; for many years a number of surveyed trunk lines had a mile or half a mile reserved on either side; but before the lines were built I think a great deal of that land was alienated.
1364. Were there not great complaints that those reserves checked free selection? Yes.
1365. Did it not often happen that people looking forward to a probable extension of a railway line selected land along the route? I have heard of it; but I cannot say anything about it of my own knowledge.
1366. In that case would they not get the increment of value? Yes.
1367. Do you think that the railway revenue should get the benefit of that? I am not going to say that. I think, as units, they should contribute towards it.
1368. Do you think the Treasury should obtain the benefit of the increment of value given by railway extension? That is not only my own view, but I think the Commissioners have, on numerous occasions, emphasised that opinion.
1369. Personally, you coincide with them? Yes.
1370. The question is how that could be brought about? Yes; I speak feelingly, because I have watched the growth of our capital debt, on which interest has to be paid year by year. I know we are adding each day to the non-paying lines, and I know that for the development of the country it is absolutely essential that those lines should be constructed.
1371. So far as our present experience has gone, in making extensions into the less settled districts, have you any encouraging illustrations to give us of lines which have become paying lines? Yes; there is the Moree line, which paid within less than three years of its construction. The Cobar line is just about paying now.
1372. In the case of the Cobar line, was that mainly due to mineral development? Yes. The Parkes-Forbes line is getting on pretty well now; it is getting very close to the paying point.
1373. What about the railway in the Richmond River district? I am pleased to say that is improving.
1374. Is the Temora line improving, or is it stationary? Last year it was better than the year before. The loss in 1897 was £3,519; in 1898 it was £2,866.
1375. Is there any one of these lines absolutely stationary? Yes, unfortunately. We cannot get the main Northern line between Tamworth and the Queensland border to move up.
1376. Are the other sections paying? Yes.
1377. *Mr. Watson.*] Does the section between Sydney and Newcastle pay? That is not taken out separately. From Tamworth to Armidale the loss is £28,433; from Armidale to Jennings the loss is £56,366. These are the losses we do not like to face. The unfortunate part of the business is that they are so expensive to work. Then from Wallerawang to Mudgee the loss is £26,000. These are all annual losses.
1378. What about the line from Kiama to Shoalhaven? The Sydney to Kiama line is improving; but there is very great room for improvement—the loss is £37,000. The loss from Kiama to Nowra is £12,000.
1379. *Mr. Watson.*] What is the loss on the line Murwillumbah to Lismore? £23,398.
1380. *Dr. Garran.*] Looking at the prospects of this Grenfell to Wyalong line, do you think that a loss of between £3,000 and £4,000 is not an unreasonable one to face? Yes.
1381. May we hope that within five years it will make good that loss? Yes; I should expect it to do so.
1382. Looking at the additional settlement which we may expect when the leases fall in, is it reasonable to suppose that there will be a large increase in agriculture and production? Yes.
1383. Even if it would not pay a purely railway company, might it pay a railway company which was also the great landowner in the district? Yes.
1384. *Mr. Shepherd.*] Is the land for 30 to 35 miles on the Grenfell line towards Wyalong good agricultural land? Yes.
1385. Does it improve again near Wyalong? No; we then strike pastoral black-soil country. After passing through over 20 miles of that country, you again strike red-soil country in the neighbourhood of Wyalong. It is not as good in quality, nor is the rainfall as good as in the neighbourhood of Grenfell.
1386. What is the nature of the cultivation there? Wheat almost exclusively.
1387. We have it in evidence that there was a certain quantity of stone taken from Temora to Wyalong? Yes; I have included that in the estimate.
1388. Is that traffic on the increase? I have not got comparative figures, but it has only recently started, and it may be said to be on the increase each year.
1389. Would the construction of a railway give an impetus to that traffic? Yes, decidedly. They pay more for cartage from Wyalong to Temora by about 2s. or 3s. a ton than it would cost them to send it from Wyalong to Dapto.

- J. Harper. 1390. I suppose the only advantage in sending the traffic from Wyalong to Temora is that it is so much shorter? Yes.
- 9 Aug., 1899. 1391. In the event of the line being made from Grenfell to Wyalong, would it absorb the whole of the traffic? Yes.
1392. In giving evidence as far back as 1894, I see that you said there were about 40,000 bags of wheat produced at Temora? Yes.
1393. Would that be in all directions around Temora? Yes.
1394. Has that increased much in five years? Not materially. We have had a succession of bad seasons since then.
1395. Have you any return showing the amount of wheat produced at Grenfell? I think that would be found in the evidence given on the line from Koorawatha to Grenfell.
1396. Is Grenfell too far from the railway at present to be able to produce very much, and if a railway were constructed would it give an enormous impetus to production? Yes. The rainfall there is good; there is an average of about 28 inches.
1397. What is the character of the black-soil country there? It is magnificent fattening country, and would give us a considerable volume of traffic in live stock and wool.
1398. What is the nature of the timber there? There is no useful timber for railway purposes.
1399. Do you favour the line from Grenfell to Wyalong in preference to a line from Temora to Wyalong for all purposes? Yes.

THURSDAY, 10 AUGUST, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

George Charles Yeo, draftsman, Stock Branch, Department of Mines, sworn, and examined:—

- G. C. Yeo. 1400. *Chairman.*] Do you produce a map of the Grenfell-Wyalong district? Yes. The red portion is the area that will be included in the proposed line, Grenfell to Wyalong. There is also a blue edging showing the alternative proposal, Temora to Wyalong. The following are returns connected with the proposed railway, Grenfell to Wyalong:—
- 10 Aug., 1899.

Stock Returns in area tinted pink on map "A." Area, about 4,800 square miles.

Year.	Horses.	Cattle.	Sheep.
1896.....	1,435	4,376	616,087
1897.....	1,224	3,762	499,034
1898.....	1,140	2,216	373,777

Clip for 1896, 1,200 tons; 1897, 860 tons; 1898, 650 tons.

1401. Do these refer to sheep running in the district which would be served by the proposed railway? Yes. I have also the following returns concerning the proposed railway, Temora to Wyalong:—

Stock Returns in the area edged blue on map "A." Area, about 3,000 square miles.

Year.	Horses.	Cattle.	Sheep.
1896.....	1,027	3,389	472,259
1897.....	831	2,948	368,192
1898.....	779	1,493	272,775

Clip for 1896, 820 tons; 1897, 640 tons; 1898, 610 tons.

1402. *Dr. Garran.*] Your figures show a steady decrease in pastoral production during the last three years? Yes.
1403. I believe we may attribute that to the drought? Yes.
1404. Is it attributable to any other cause? Not that I am aware of.
1405. If the seasons had been good, would you have expected an increase? Yes.
1406. Has this district felt the pinch of the dry weather? Yes.
1407. Have you any figures as to the increase of agriculture, either in the Grenfell or Temora district? No, we do not deal with that in our Department; that is done in the Agriculture Department.
1408. If the drought has been felt at Wyalong, has it been felt west of Wyalong, towards Hillston? Yes.
1409. Do the returns which you have furnished deal with the country west of Wyalong? No.
1410. Do you simply give what was raised in the district? Yes.
1411. I presume that the stock and wool which would come to Wyalong from the west, to be taken by the railway, would also show a decline? I should say so; but as I have not taken out those figures, I cannot speak definitely.
1412. In watching your statistics from year to year, have you noticed that where there is a moderate taking up of pastoral land by small settlers—but only a moderate taking up—there is no great decrease in the quantity of wool produced in that district? No.

1413.

1413. Does the quantity seem to keep up, although a certain portion of land has been withdrawn from the squatters? I have never gone into that question. G. C. Yeo.
1414. Do many of these settlers also take to growing wool? Yes. 10 Aug., 1899.
1415. So that the number of sheep depastured in the district will not actually diminish? No; our general returns show that there is a slight increase all over the Colony in favourable seasons.
1416. If land is taken for agriculture that is taken from pasturage, would that quantity appreciably diminish the quantity of wool grown? Yes; I should think so.
1417. Have you noticed whether the pastoral leaseholders, when they are confined to a smaller area, have a larger proportionate product of wool, or do they produce the same quantity per acre? I have never observed that; but I should not think that they would have a larger production. They are already in many cases overstocked.
1418. Do you notice the difference in your statistics as between old and new settlers? No; we confine ourselves to the quantity of produce.
1419. *Mr. Shepherd.*] Has there been a gradual increase in production for many years until the bad seasons came on? Yes; but there has been a falling off for the last seven years.
1420. Have you noticed whether, in this district, the falling off in sheep and cattle has been regular, or has one class of stock suffered more than the other? From what we know, the sheep have suffered most, because this is mostly sheep country. There are very few cattle there, and most of our returns refer to dairy cattle, which are hand-fed.
1421. *Mr. Dick.*] Do your stock records go very far back? Yes; for a great number of years.
1422. Do you know whether, many years ago, a large number of cattle were depastured on the Bland country, between Grenfell and Wyalong? I cannot say, except by looking up records and returns.
1423. Previous to the period of prolonged drought which we have just experienced, has there been an increase in the amount of stock carried along the proposed line? I cannot say with regard to that particular district; but there was an increase in the number of stock in the Colony, taken as a whole.
1424. *Mr. Watson.*] Can you say where the Bland stock goes to now? There is a big drift of stock going up the Bland River, and making towards Wagga Wagga, and those places.
1425. Would that strike the railway at Stockinbingal, Yeo Yeo, and Cootamundra? Yes; a good many go in that direction.
1426. Does any of it make over towards Grenfell? Yes; there is a fair drift making down from Forbes to Grenfell. That would not affect the railway; they could be trucked at Forbes as well as at Grenfell. The same thing would apply to the traffic which comes from Condobolin, and north of that, because there is another railway there.
1427. Have you any knowledge as to what quantity of fat stock is taken off the Bland country? No; but I could give you that, because we get a return every year showing the cast of fats.
1428. Is there anything in that return to indicate their destination? No; simply the number prepared to go to different markets. I will send in that return. [*Vide Appendix.*]

William Henry Hall, Sub-editor of Statistical Year Books, Government Statistician's Office, sworn, and examined:—

1429. *Mr. Trickett.*] Have you any statistics for the Committee with regard to agriculture and other matters connected with the district proposed to be served by this railway? I have several returns prepared—one is in connection with the population that would be affected. In this estimate is included a suggested extension as far as Hillston. The following is the first return:— W. H. Hall.  
10 Aug., 1899.

PROPOSED RAILWAY, GRENFELL TO WYALONG, AND THENCE TO HILLSTON.  
ESTIMATED Population that will be served by the construction of such a line.

Locality.	Estimated Population.	Locality.	Estimated Population.
Bimbi .....	380	Marsden .....	920
Morangarell.....	600	Ungarie .....	380
Reefton.....	380	Yalgogrin .....	280
Barmedman.....	700	Hillston .....	1,360
Wyalong .....	4,300		
		Total.....	9,300

1430. Does that give the population of the district starting from Grenfell? Yes, but exclusive of Grenfell.
1431. What is the population from Grenfell to Wyalong? 7,280. That includes Wyalong, but excludes Grenfell.
1432. Have you similar information with regard to the country which will be traversed by a railway from Temora to Wyalong? Yes; but of course in a great many cases the same localities would be served by either railway. The following is the return:—

PROPOSED RAILWAY, TEMORA TO WYALONG, AND THENCE TO HILLSTON.  
ESTIMATED Population that will be served by the construction of such a line.

Locality.	Estimated Population.	Locality.	Estimated Population.
Morangarell.....	600	Ungarie .....	380
Reefton.....	380	Yalgogrin .....	280
Barmedman.....	700	Hillston .....	1,360
Wyalong .....	4,300		
		Total .....	8,000

1433. What would be the population served between Temora and Wyalong? 5,980.

W. H. Hall. 1434. In giving information with regard to these railways, to what distance do you go on either side of the proposed line? Twenty miles I hand in the following returns.—  
10 Aug, 1899.

PROPOSED RAILWAY, GRENFELL TO WYALONG, AND THENCE TO HILLSTON  
STATEMENT showing the Area under Cultivation and Yield therefrom, for the years 1895 to 1898

Locality	Year	Cultivation															
		Total Area Cultivated.	Wheat		Maize		Other Grains	Hay.						Green Food	Area under—		
			Area Cut						Area Cut	Potatoes	Other Crops						
			Wheaten		Oaten and Barley			Lucerne									
Area	Yield	Area	Yield	Area	Yield	Area	Yield	Area	Yield	Area	Yield	Acres	Acres	Acres			
Bimbi	1896	2,631	1,808	16,231			5	788							23	3	4
	1897	2,637	1,566	16,938	100	4,000	34	977	743						110	4	6
	1898	4,535	3,026	7,600				1,399	370						79	1	13
Morangarell	1895	3,004	1,748	489	20		8			1,135					79	1	13
	1896	3,040	2,349	20,632	16		29			508					100	2	36
	1897	3,395	2,519	22,810	89		35			679	518	8			51	2	14
Reefton	1898	4,545	3,541	4,500			5			999	170						
	1895	2,169	1,756	16,192			20			393							
	1896	3,594	2,846	29,650	20		20			706							2
Barmedman	1897	4,790	3,680	40,260						1,110	945						
	1898	5,557	4,310	29,580						1,247	906						
	1895	1,646	582	2,504						1,059						1	4
Wyalong	1896	2,044	825	5,722			6			1,206							
	1897	2,053	1,065	10,082						973	634						7
	1898	7,489	4,670	5,781						2,810	289				4		5
Marsden	1895	951	139	508						812							
	1896	1,341	136	847						1,205							
	1897	1,467	734	7,708						721	539	12					
Ungarie	1898	3,630	1,870	5,849						1,760	853						
	1895	612	439	104	23					116							3
	1896	787	456	1,944						269							12
Yalgogrn	1897	764	496	4,661	4		10			198	178				30		12
	1898	1,289	826	1,336			32			421	168				7		3
	1895	612	147	101						442					10		3
Hillston	1896	952	258	305						657					13		13
	1897	958	211	2,828			4			734	753				11		9
	1898	2,561	1,664	8,238			10			867	495	16			16		2
Hillston	1897	30								30	50						
	1898	132	14	120			4			114	44						
	1895	6,700	4,236	32,932			11			2,403							
Hillston	1896	8,013	5,064	33,749			80			2,850							
	1897	9,494	6,055	49,948						3,413	2,267				5	1	13
	1898	14,256	8,669	9,370						5,561	571						26

PROPOSED RAILWAY, TEMORA TO WYALONG, AND THENCE TO HILLSTON.  
STATEMENT showing the Area under Cultivation and Yield therefrom, for the years 1895 to 1898.

Locality	Year	Cultivation															
		Total Area Cultivated	Wheat		Maize		Other Grains	Hay.						Green Food	Area under—		
			Area Cut						Area Cut	Potatoes	All other Crops.						
			Wheaten		Oaten and Barley			Lucerne									
Area	Yield	Area	Yield	Area	Yield	Area	Yield	Area	Yield	Area	Yield	Acres	Acres	Acres			
Morangarell	1895	3,004	1,748	489	20		8			1,135					79	1	13
	1896	3,040	2,349	20,632	16		29			508					100	2	36
	1897	3,395	2,519	22,810	89		35			679	518	8			51	2	14
Reefton	1898	4,545	3,541	4,500			5			999	170						
	1895	2,169	1,756	16,192			20			393							
	1896	3,594	2,846	29,650	20		20			706							2
Barmedman	1897	4,790	3,680	40,260						1,110	945						
	1898	5,557	4,310	29,580						1,247	906						
	1895	1,646	582	2,504						1,059						1	4
Wyalong	1896	2,044	825	5,722			6			1,206							
	1897	2,053	1,065	10,082						973	634						7
	1898	7,489	4,670	5,781						2,810	289				4		5
Ungarie	1895	951	139	508						812							
	1896	1,341	136	847						1,205							
	1897	1,467	734	7,708						721	539	12					
Yalgogrn	1898	3,630	1,870	5,849						1,760	853						
	1895	612	147	101						442							3
	1896	787	456	1,944						269							12
Hillston	1897	764	496	4,661	4		10			198	178				30		12
	1898	1,289	826	1,336			32			421	168				7		3
	1895	612	147	101						442					10		3
Hillston	1896	952	258	305						657					13		13
	1897	958	211	2,828			4			734	753				11		9
	1898	2,561	1,664	8,238			10			867	495	16			16		2
Hillston	1897	30								30	50						
	1898	132	14	120			4			114	44						
	1895	6,700	4,236	32,932			11			2,403							
Hillston	1896	8,013	5,064	33,749			80			2,850							
	1897	9,494	6,055	49,948						3,413	2,267				5	1	13
	1898	14,256	8,669	9,370						5,561	571						26

1435. Do these figures indicate that in all the districts which you have enumerated agriculture is practicable? Yes; they indicate that each year there is an increasing area under cultivation, but with a smaller result. The drought has so affected returns that they have shrunk considerably. Take the case of Bimbi. For the period included in this return the area under cultivation has been doubled, while the yield is only half what it was at the beginning of that period.

1436. Is that accounted for by the almost unprecedented drought? Yes.

1437.



1437. Do any of the figures which you have quoted tend to show the comparative productiveness of the land between Temora and Wyalong, and between Grenfell and Wyalong? An opinion on that subject can be derived in this way: Following out a suggestion made by Mr. Shepherd when I was here last, I have tried to get the wheat averages for a period of years. In most cases I have got those returns for four years, and in some cases for three years. The returns show practically the productiveness of each district, because the conditions are somewhat similar, so far as the drought is concerned. A comparison of those figures will afford a comparison as to the productiveness of the districts. I have summarised them as follows:—

W. H. Hall.  
10 Aug., 1899.

PROPOSED RAILWAY FROM GRENFELL TO WYALONG, AND THENCE TO HILLSTON.

Wheat Averages.

Locality.	Period of Years.	Total Area under Cultivation.	Total Yield therefrom.	Bushels per Acre.
		acres.	bushels.	
Bimbi.....	3	6,400	40,824	6.38
Morangarell.....	4	10,157	48,436	4.77
Reefton.....	4	12,592	115,682	9.19
Barmedman.....	4	7,142	24,089	3.37
Wyalong.....	4	2,879	14,912	5.18
Marsden.....	4	2,217	8,045	3.63
Ungarie.....	4	2,280	11,472	5.03
Yalgogrin.....	1	14	120	8.57
Hillston.....	4	24,074	125,999	5.23

PROPOSED RAILWAY FROM GRENFELL TO WYALONG, AND THENCE TO HILLSTON.

Hay Averages.

Locality.	Period of Years.	Character of Hay.	Total Area under Cultivation.	Total Yield therefrom.	Tons per Acre.
			acres.	tons.	
Bimbi.....	2	Wheaten	2,376	1,113	0.47
Morangarell.....	2	Oaten and barley	1,678	688	0.41
Reefton.....	2	"	2,357	1,851	0.79
Barmedman.....	2	"	3,783	923	0.24
Wyalong.....	2	"	2,481	1,392	0.56
Marsden.....	2	"	619	345	0.56
Ungarie.....	2	"	1,601	1,243	0.78
Yalgogrin.....	2	"	144	94	0.65
Hillston.....	2	"	8,974	2,833	0.32

PROPOSED RAILWAY FROM TEMORA TO WYALONG, AND THENCE TO HILLSTON.

Wheat Averages.

Locality.	Period of Years.	Total Area under Cultivation.	Total Yield therefrom.	Bushels per Acre.
		acres.	bushels.	
Morangarell.....	4	10,157	48,436	4.77
Reefton.....	4	12,592	115,682	9.19
Barmedman.....	4	7,142	24,089	3.37
Wyalong.....	4	2,879	14,912	5.18
Ungarie.....	4	2,280	11,472	5.03
Yalgogrin.....	1	14	120	8.57
Hillston.....	4	24,074	125,999	5.23

PROPOSED RAILWAY FROM TEMORA TO WYALONG, AND THENCE TO HILLSTON.

Hay Averages.

Locality.	Period of Years.	Character of Hay.	Total Area under Cultivation.	Total Yield therefrom.	Tons per Acre.
			acres.	tons.	
Morangarell.....	2	Oaten and barley	1,678	688	0.41
Reefton.....	2	"	2,357	1,851	0.79
Barmedman.....	2	"	3,783	923	0.24
Wyalong.....	2	"	2,481	1,392	0.56
Ungarie.....	2	"	1,601	1,243	0.78
Yalgogrin.....	2	"	144	94	0.65
Hillston.....	2	"	8,974	2,838	0.32

1438. Does the information which you have given clearly show that wheat can be grown at Wyalong? Yes.

1439. That being so, there is very little doubt that between the two places, Grenfell and Wyalong, and between Temora and Wyalong—being more to the east, and possibly having a better rainfall, they could grow wheat all along the proposed lines? I know nothing about the country, except what I have heard.

- W. H. Hall. There is a good deal of black soil all through there, and in that country they could not grow wheat,—that is on the Grenfell-Wyalong line.
- 10 Aug., 1899. 1440. Is it a wheat-growing district between Temora and Wyalong? I passed through there seven years ago, and it struck me after leaving Barmedman that a portion of the country there is black soil, and not suitable for wheat,—that is coming from Barmedman towards Temora.
1441. Are not the averages which you have quoted rather low? Yes; they comprise the last four years, which were years of drought.
1442. Have you any statistics to show the average yield in fair seasons? No. The particulars have been taken for several years; but certain results were not taken out, and as a consequence they are of no value.
1443. Which of the two routes proposed would serve the larger number of producers? I cannot say, as we have no information in the office about that.
1444. Is wheat-growing in those districts a recent development? Yes.
1445. Has not the growth of wheat immediately around Wyalong increased very much during the last few years? Yes; it started with 129 acres, in 1895, and it has increased to 1,870 acres, in 1898.
1446. *Mr. Watson.*] In the return as to the population on the two routes, and dealing with the population between Grenfell and Wyalong, have you taken in Bimbi? Yes.
1447. That is within the 20-mile limit; but do you know whether it is likely that the Bimbi people would use the railway, if made between Grenfell and Wyalong? I do not.
1448. Can you offer any opinion on the same subject with regard to Morangarell? No.
1449. Would not Morangarell be within 20 miles of the line Temora to Wyalong? Yes.
1450. So that if the population there is counted, should it not be counted in connection with both lines? Yes; Morangarell, Reefton, Barmedman, and Wyalong. Bimbi is really the only place not included in both lines, and also Marsden.
1451. Have you included Barmedman and Reefton in your returns with regard to the Grenfell-Wyalong proposal? Yes.
1452. But Reefton is not within the 20-mile limit? On the map which I have I laid down the 20-mile limit very carefully, and Reefton does come within it.
1453. By the road it is about 24 or 25 miles;—do you include both Reefton and Barmedman in your returns with regard to the projected Grenfell-Wyalong line? Yes.
1454. Would it not appear, from the return as to the wheat production, that Reefton has given the best return for the last four years? Yes; the best average.
1455. And Bimbi next? Yes.
1456. Did you say that when you were going between Barmedman and Temora, some years ago, you saw some black soil? Yes.
1457. When you said black soil, were you thinking of what is generally known as black-soil country, that is, the country subject to inundation? Yes.
1458. Must you not have been a considerable distance off the road? Yes; it was impossible to traverse the road; it was in the flood of 1892, when the whole country was flooded.
1459. Is it not generally supposed that there is no black soil on the road? We had to keep away to the right of the road.
1460. Then you must have got on to a portion of the Bland country which is composed of black soil? Yes; we had to get into the paddocks.
1461. Are you not confusing some of the gilgai country with it? No.
1462. *Dr. Garran.*] Your figures seem to show that in spite of the bad seasons the area under cultivation has steadily increased? Yes.
1463. Does not that seem to imply that the farmers are determined to go on in the hope of getting good seasons? Yes.
1464. Therefore, the first good season we get, we may expect a very large increase of produce in this district? Yes.
1465. Is it a district which is tending towards agricultural development as hard as it can go, although the people there have not yet realised their expectations? Yes.
1466. So that the prospect of a railway will give additional encouragement to these people? I should think so.
1467. So that there will be no speculation as to the prospect of an increased production? No.
1468. *Mr. Dick.*] On which of the two routes has the persistent increase in the area under cultivation been more marked—on the Temora to Wyalong or the Grenfell to Wyalong, leaving out Grenfell as a centre? The influence of the two lines will be practically over the same area, with the exception of two localities—Bimbi and Marsden. Those are the only two localities unaffected by the Temora to Wyalong line, so that practically the increase is the same.
1469. Can you give the proportionate increase around Bimbi and around Reefton? The proportionate increase for a period of five years, as far as Bimbi is concerned, is 72 per cent., as against 156 per cent. in the case of Reefton.
1470. Do your agricultural returns show that between Grenfell and Wyalong there is a considerable area of black-soil country unfit for cultivation? No.
1471. Do you know the Bland country between those points? I travelled over a portion of it, but I did not pay much attention to it, and I would not attempt to give any opinion.
1472. *Mr. Shepherd.*] Has the country which we are now considering suffered about equally with other parts of the country during the drought of the last four years? I should think so, judging from the returns.
1473. Has Wyalong particularly been a sufferer from the drought? Yes.
1474. Then the statistics which you have given can hardly be said to indicate the productiveness of the country? Only to the extent that they cover a period of four years.
1475. But have not the last four years been exceedingly dry? Yes.
1476. So that these figures would not indicate the character of the country at all? It would not be a fair estimate by any means.
1477. Still, the fact that the area under cultivation has increased shows clearly that the farmers there have confidence in the country? Yes.

1478. With the return of good seasons, would the production be largely increased? Yes. In addition to the returns which I have already handed in, I furnish the following:—

W. H. Hall.  
10 Aug., 1899.

PROPOSED RAILWAY FROM GRENFELL TO WYALONG AND THENCE TO HILLSTON.

MINERAL production for 1898.

Locality.	Gold.	
	Quantity.	Value.
Barmedman .....	oz. 2,950	£ 8,456
Reefton .....	300	1,186
Wyalong and Wyalong West .....	34,582	138,328
Yalgogrin .....	1,180	4,130

PROPOSED RAILWAY FROM TEMORA TO WYALONG AND THENCE TO HILLSTON.

MINERAL production for 1898.

Locality.	Gold.	
	Quantity.	Value.
Barmedman .....	oz. 2,950	£ 8,456
Reefton .....	300	1,186
Wyalong and Wyalong West .....	34,582	138,328
Yalgogrin .....	1,180	4,130

Charles Edward Rennie, Chief Draftsman, Department of Lands, sworn, and further examined:—

1479. *Dr. Garran.*] You gave us some information before with regard to the tenure of the land on the Grenfell-Wyalong line, and you were good enough to say you would get corresponding figures with regard to the proposed line from Temora to Wyalong? Yes, I have those figures with me now; they are as follows:—

C. E. Rennie.  
10 Aug., 1899.

\* TENURE of land within 20 miles on each side of railway trial lines.

Line.	Alienated land.	Leases other than pastoral.		Reserves.	Crown land.
	acres.	acres.		acres.	acres.
Temora to Wyalong .....	675,000	120,300	{ 67,300 acres scrub leases .....	251,600	291,800
			{ 53,000 " settlement leases .....		
			{ 92,300 " homestead leases .....		
Wyalong to Hillston (direct) .....	670,300	476,800	{ 281,400 " improvement leases .....	429,000	1,482,300
			{ 52,500 " scrub leases .....		
			{ 39,300 " inferior leases .....		
			{ 11,300 " settlement leases .....		
Wyalong to Hillston, <i>vid</i> Cargellico ..	818,800	465,140	{ 126,200 " homestead leases ..	476,000	1,495,860
			{ 66,700 " settlement " ..		
			{ 211,740 " improvement leases ..		
			{ 60,500 " scrub leases .....		

TENURE of Crown Land.

Line.	Leasehold area.	Expiration of lease.	Held under Occupation License.	Untenanted.
	acres.		acres.	acres.
Temora to Wyalong .....	156,300	1899 to 1904 .....	63,500	72,000
Wyalong to Hillston (direct) .....	619,400	1899 to 1903 .....		
	110,600	1918, Western Division	278,630	473,670
Wyalong to Hillston, <i>vid</i> Cargellico ..	447,200	1899 to 1903 .....		
	239,000	1918, Western Division	373,360	386,300

Areas quoted as under lease and occupation license do not include reserves within the holdings.

1480. Under each one of these headings are the figures with regard to Temora to Wyalong smaller than the figures with regard to Grenfell to Wyalong? Yes.

1481. Is the area really smaller on the Temora to Wyalong railway route? Yes.

1482. *Mr. Watson.*] The distance between the two points is 17 miles less on the Temora to Wyalong line as compared with the Grenfell-Wyalong line? Yes; and consequently the area must be less.

1483. *Dr. Garran.*] Between Grenfell and Wyalong the reserves are 346,000 acres, and the Crown lands 358,000 acres; how much of that would be available for settlement within a reasonable term of years;—if that is good land will not the whole of it become settled within four or five years? Yes; the presumption is that the area held under occupation license is open, but has not yet been taken up. The other area under leasehold may all become available within a few years.

1484. Is the land held in reserves good land? Yes; but it is impossible to say what will be done with it. It may be necessary to retain them as reserves; but it is more likely that the area will be reduced.

1485. As the pastoral leaseholders die out, those reserves will not be so much required, and they will be available for settlement? Yes, a portion of them at any rate.

1486. Would it be excessive to estimate that 500,000 acres will be available for settlement within five years on the Grenfell to Wyalong line? No. Of course, although there is all that land now available, or it may become available, yet the question is how much would be suitable for closer settlement. The presumption is that the larger portion of it will be.

1487.

\* NOTE (on revision):—Since giving these figures before the Committee, information came to hand of the sale of approximately 200,000 acres of improvement leases near Hillston, and within the 20-mile limit. The figures were, accordingly, altered to correspond.

- C. E. Rennie. 1487. When you get the best land all taken up, do you find that the poorer land remains permanently unoccupied, or do the settlers nibble at it gradually? Small settlers gradually take it up, and the inferior parts are disposed of under different tenures—annual leases, improvement leases, and scrub leases.  
10 Aug., 1899.
1488. Do the people in the neighbourhood take it up? Yes; those tenures do not require additional settlement, but there is additional use of the land.
1489. Is there any possibility of making an estimate of the quantity of land on the Temora to Wyalong line, which will probably be taken up during the next five years? It is very hard to say. Perhaps there might be about 300,000 acres, but that is only a guess.
1490. *Mr. Watson.*] The map which you produce, showing the manner in which the land is held between Grenfell and Wyalong, shows private land for the greater portion of the way which the line goes? Yes, pretty well the whole of it.
1491. Between Temora and Wyalong does the map show that there is a railway reserve for the greater part of the way? Yes; there are reserves the greater part of the way. The trial line is only roughly sketched, and, as the reserve is not a wide one, the permanent line might not pass through the reserve the whole of the way; it is probably a travelling stock reserve.
1492. Do you notice that reserve shown on the map a little to the south-west of Grenfell,—what class of reserve is that? It is a forest reserve, called the Weddin forest reserve.
1493. Although that is included in the return, is it likely that that would be fit for settlement? I do not know the character of the country, but, being a forest reserve, it is probable that it would be retained. There are 35,500 acres in that reserve.
1894. Is it usual in your Department to indicate all the ranges on the map? There is no rule observed, but the principal ranges are shown on the maps.
1495. Are the portions shown on the map with hatchings in blue, settlement leases? They are scrub and settlement leases.
1496. Are the lands in settlement leases necessarily poor country? No.
1497. As I understand it, it is a form of tenure designed to be applied to land when, although it is perhaps good enough for agriculture, it is too far away from a railway to be availed of for that purpose? There are settlement leases for agriculture up to 1,280 acres. Over that area they are for grazing purposes.
1498. Then some of the land in scrub leases, if it were near a railway and cleared of the scrub, might be fit for agriculture? Yes; it does so happen sometimes that if the land is clear and near a railway it is under occupation for agriculture.
1499. Some people have an impression that because a piece of land is thrown open as scrub-land it is necessarily poor? That is not so. It does not necessarily follow that it is inferior land for agricultural purposes.
1500. When you get west of Wyalong I notice that on the map you show a considerable area of country either untenanted or under occupation license at a very low rental? Yes.
1501. What would the presumption be with respect to that land? Probably it is largely scrub land, but I cannot speak with confidence as to the character of the country. I know there is a considerable area of scrub-land there.
1502. If scrub were the only drawback to that land, would not the Minister be able to dispose of it under scrub or improvement leases? Yes; perhaps that is so.
1503. From the fact that there is a considerable area out in that direction untenanted, may we not presume that it is not extra good? There might be many reasons for its not being taken up. It might be the want of a water supply or distance from market. That would not apply in the case of pastoral occupation.
1504. But it is not occupied even for pastoral purposes? In that case it is probably too scrubby. The term of the pastoral leases is limited. Improvement leases are for twenty-eight years, and the maximum area is 20,480 acres.
1505. Then that area is not sufficient to induce people to take up land in the district towards Hillston? Some of the land there is under improvement lease. Between Wyalong and Hillston there are 92,300 acres under homestead lease; 281,400 acres under improvement lease; 52,500 acres under scrub lease; 39,300 acres under inferior lands lease; 11,300 acres under settlement lease. Then on the proposed line between Wyalong and Hillston, *via* Cargellico, there are 126,200 acres under homestead lease; 66,700 acres under settlement lease; 211,740 acres under improvement lease; and 60,500 acres under scrub lease.
1506. But I notice that on your map, close to the improvement lease areas, there is a large amount of land under no occupation? Yes, that is the case.
1507. Is it possible that that portion, marked "untenanted," is under annual lease? It is not at all likely. We do not keep a record in our office of the annual leases; the tenure is so constantly changing that we do not trouble to show it; but I am pretty safe in saying that there are no annual leases there.
1508. Is it to be assumed that the general conditions as to climate and other characteristics would be the same throughout that district; we notice improvement leases with large areas of unoccupied Crown lands around them;—is it not probable that all that land is of the same character? I suppose the lands are the same; but possibly the unoccupied land adjoining the leases may consist of dense mallee scrub, which, I believe, is practically hopeless. With some kinds of mallee the soil is thoroughly bad, whereas in other cases it grows on good soil.
1509. Is it possible that some of the people who have these homestead or settlement leases are anxious to have the surrounding land unoccupied, so as to have the run of it? It may be so; but it is hardly likely. All their time would be taken up in carrying out the improvement conditions of their leases. They hold very large areas.
1510. Then we must fall back on the assumption that there are not sufficient inducements to people to take up that land? Yes.
1511. *Mr. Shepherd.*] Have there been many forfeitures during the last few years of land taken up on leases or free selections? If you limited the question to a certain area, I could find out. There are always a certain number of forfeitures all over the country; but I cannot give an idea as to how many there are in any precise locality without looking up the records.
1512. Do you not think it likely that if railway facilities were given, a great deal of the land now idle would be taken up? Yes; it is likely that some of the better country out west would be taken up if a railway were made.
1513. Are you aware of the character of the scrub country? I do not know the country. That information would have to be obtained from the local officers. We can get information here and there from the surveyors' reports, but it would take some time to work it out.
- 1514.

1514. *Mr. Dick.*] Can you give us a general idea of the size and character of the holdings between Grenfell and Wyalong—as to whether they are chiefly pastoral or agricultural, and what is their average size? No; I have not got the number of holdings, and it is almost impracticable to obtain them. A great many of the holdings are mortgaged, and they stand in the names of the mortgagees. There are a lot of questionable tenures. I could not give you a reliable return from my own knowledge.

C. E. Rennie.  
10 Aug., 1899.

1515. *Mr. Trickett.*] Following up Mr. Shepherd's question with regard to abandoned holdings,—when you were examined in connection with the Condobolin-Euabalong line, you gave evidence then that there was a large tract of country abandoned between Wyalong and Hillston;—do you know whether that abandonment has extended to the eastward of Wyalong? No; it is not likely, because there it is pretty well all alienated. That evidence applied to pastoral holdings. There is one unoccupied area east of Wyalong, and it is likely that that is held under annual lease.

1516. So that there is every prospect of the land between Grenfell and Wyalong being retained for permanent settlement? Yes; it has practically gone out of the hands of the Crown.

1517. When you referred to the large number of abandoned holdings to the west of Wyalong, towards Hillston and Euabalong, did you refer to the leasehold lands which were devastated by rabbits, and to the scrub land? Yes.

1518. *Mr. Dick.*] Is it a fact that many of these so-called untenanted areas have been left in that condition, as far as leasing is concerned, for a long time, and have then been taken up under annual occupation licenses, because the assessment of the value is considered by the holders to be too high;—do they prefer to take them up under occupation licenses rather than lease them on the new assessment fixed by the Government? I cannot tell you what was the object of the people who gave them up; but I think you will find that that is not the case in this district. I do not think any of the occupation licenses there are abandoned pastoral holdings. Speaking off-hand, I do not think they are.

1519. Since 1884, is it not the case that in many parts of the Colony the resumed areas have not been taken up, but have been held under occupation licenses? The resumed areas are held under occupation licenses, and the land is open for selection from Thursday to Thursday.

1520. Is not the rent for an occupation license much less than for an ordinary lease? Yes; on account of the insecurity of tenure.

Joseph Clarke, Inland Mail Clerk, Postal and Electric Telegraph Department, sworn, and examined:—

1521. *Mr. Dick.*] It is proposed to construct a line from Grenfell to Wyalong; at present the area which that line will serve is served with respect to its postal requirements by your Department;—will you give the details of the contracts which exist now in that area? I have prepared all the information required in the following shape:—

J. Clarke.  
10 Aug., 1899.

PARTICULARS OF MAIL CONTRACTS BETWEEN GRENFELL AND WYALONG.

Contractors' Names.		Addresses.	Postal Lines.	Distance in Miles.	Frequency of Communication.	Mode of Conveyance.	Annual Amount payable to Contractors.	Date of Termination of Contracts.
221	J. McDermott	Grenfell	Grenfell, Piney Range, Wheogo, and Marsden.	45	Three	2 or 4 wheeled vehicle, 1, 2, or 3 horses.	£ 173 0 0	31 Dec., 1900.
239	E. Field	West Wyalong	West Wyalong, Wyalong, and Marsden, via Back Creek and Oakhurst Station Gates.	27	Two	2 or 4 wheeled vehicle, 1 or more horses.	49 10 0	31 Dec., 1899.
224	Fredk. L. Richardson.	Forbes	Marsden, Billy's Look-out, and Ungarie, via Tallebong.	40½	Two	2 or 4 wheeled coach, 1 or more horses.	89 0 0	31 Dec., 1899.
223	Wlm. Hunter	Grenfell	Grenfell, Bimbi, and Williams' Crossing, via South Euroka and North Euroka.	50	Two	Horseback	62 0 0	31 Dec., 1901.
Total cost.....							373 10 0 per annum.	

TABLES FOR MAILS ON GRENFELL, MARSDEN AND WILLIAMS' CROSSING LINES.

Leave Grenfell	Taur.	Sat.	Tue.	6 a.m.	Leave Grenfell	Wed.	Sat.	2.15 p.m.
Arrive (Piney Range)	do	do	do	9 do	Arrive Bimbi	do	do	7 do
„ Wheogo	do	do	do	.....	Leave do	Thur.	Sun.	6 a.m.
„ Marsden's	do	do	do	4 p.m.	Arrive (Williams' Crossing)	do	do	11 do
Leave (Williams' Crossing)	Sun.	Thur.	2 p.m.	Leave Marsden	Mon.	Wed.	Fri.	1 a.m.
Arrive Bimbi	do	do	7 do	Arrive Wheogo	do	do	do	5.30 do
Leave do	Mon	Fri.	6 a.m.	Leave (Piney Range)	do	do	do	8.30 do
Arrive Grenfell	do	do	11 do	Arrive Grenfell	do	do	do	11 do
Leave West Wyalong	Wed	Sat	7 a.m.	Leave Ungarie	Sun.	Wed	6 a.m.	
„ Wyalong	do	do	7.30 do	„ (Billy's Lookout)	do	do	2 p.m.	
Arrive Marsden	do	do	1 p.m.	Arrive Marsden	do	do	6 do	
Leave Marsden	Thur	Mon	6 a.m.	Leave Marsden	do	do	11 a.m.	
„ (Billy's Lookout)	do	do	10 do	Arrive Wyalong	do	do	5.30 p.m.	
Arrive Ungarie	do	do	6 p.m.	„ West Wyalong	do	do	6 do	

J. Clarke.  
10 Aug., 1899.

PARTICULARS OF THE MAIL CONTRACTS BETWEEN TEMORA, BARMEDMAN, AND WYALONG.

Contractors'		Postal Lines.	Dis- tance in miles.	Frequency of Communi- cation.	Mode of Conveyance.	Annual Amount pay- able to Contractors.	Date of Termination of Contract.
Names.	Addresses.						
233 James Rutherford.	Bathurst .....	Temora, Gidginbung, Reef- ton, Barmedman, Wya- long, and West Wyalong. (The contractor is re- quired, immediately on arrival at Wyalong, to convey the mails to West Wyalong, and make pro- vision, as soon as the sort- ing at Wyalong is com- pleted, to carry on the Wyalong mail to West Wyalong, six times a week.)	46	Six .....	4-wheeled vehicle, 2 or more horses.	£ s. d. 176 0 0	31 Dec., 1899.
237 Patrick A. Marshall.	Barmedman ....	Barmedman and <i>Goodwin's</i> (on the Temora-Yalgogrin North line).	22	One .....	1-horse sulky.	52 0 0	31 Dec., 1900.
394 George Alchin.	Narrandera .....	Temora, Mirrool Creek, Bro- ken Dam, and Buddigower <i>via</i> Mandamah, <i>Goodwin's</i> , Kildary, Whitegate, about ½ mile north of Kildary, Blackgate, about ¼ mile west of Whitegate, and Selmes'.	50	Two .....	2-wheeled vehicle, 1 or 2 horses.	115 10 0	31 Dec., 1901.
Total cost.....						343 10 0	per annum.

TABLES FOR MAILS, SYDNEY, TEMORA, AND WYALONG.

Leave Sydney .....	Mon	Tue	Wed	Thur	Fri	Sun	9	p.m.	} by Train.		
Arrive Temora .....	Tue	Wed	Thur	Fri	Sat	Mon	9:40	a.m.			
Leave Temora .....	do	do	do	do	do	do	10:20	do	} by Coach.		
„ (Gidginbung) .....	do	do	do	do	do	do	12:5	p.m.			
„ Reefton .....	do	do	do	do	do	do	1:5	do			
Arrive Barmedman .....	do	do	do	do	do	do	2:20	do			
Leave „ .....	do	do	do	do	do	do	2:30	do			
Arrive Wyalong .....	do	do	do	do	do	do	5:50	do			
„ West Wyalong .....	do	do	do	do	do	do	6:20	do			
Leave West Wyalong .....				Sat	Mon	Tue	Wed	Thur	Fri	7	a.m.
„ Wyalong .....				do	do	do	do	do	do	7:30	do
Arrive Barmedman .....				do	do	do	do	do	do	11:45	do
Leave „ .....				do	do	do	do	do	do	noon	
„ Reefton .....				do	do	do	do	do	do	1:45	p.m.
„ (Gidginbung) .....				do	do	do	do	do	do	2:45	do
Arrive Temora .....				do	do	do	do	do	do	4:15	do
Leave Temora .....				do	do	do	do	do	do	5	do
Arrive Sydney .....				Sun	Tue	Wed	Thur	Fri	Sat	5:55	a.m.
				6:10						a.m.	
Leave Barmedman.....	Sun	7	a.m.	Leave <i>Goodwin's</i> .....	Mon	6	a.m.				
Arrive <i>Goodwin's</i> ..	do	12:30	p.m.	Arrive Barmedman .....	do	11:30	do				
Leave Temora .....	Tue	Fri	11	a.m.	Leave <i>Buddigower</i> .....	Sat	Wed	7	a.m.		
„ (Mirrool Creek) .....	do	do	2	p.m.	„ (Broken Dam) .....	do	do	11:30	do		
„ (Broken Dam) .....	do	do	3:30	do	„ (Mirrool Creek).....	do	do	1	p.m.		
Arrive <i>Buddigower</i> .....	do	do	8	do	Arrive Temora .....	do	do	4	do		

STATEMENT showing the Number of Letters posted at the Post Offices at places mentioned, and the Revenue derived from the Post and Receiving Offices for the years 1897 and 1898.

Name of Place.	Number of Letters posted.		Revenue.							
			Postal.		Telegraph.		Money Orders. Postal Notes.		Total.	
	1897.	1898.	1897.	1898.	1897.	1898.	1897.	1898.	1897.	1898.
Grenfell .....	116,472	117,700	£ 1,079	£ 1,122	£ 289	£ 300	£ 63	£ 64	£ 1,431	£ 1,486
Pincy Range .....			5	5					5	5
Marsden .....	19,650	19,270	185	164	91	113	10	9	286	286
Bimbi .....	3,690	2,360	25	56			1	1	26	57
Williams' Crossing .....			5	5					5	5
Wyalong .....	45,390	44,150	506	411	274	239	47	47	827	697
West Wyalong .....	119,430	83,720	823	872	439	384	91	88	1,353	1,344
Total .....									£ 3,933	£ 3,880

## NUMBER of Mails, including parcels exchanged on the line, with approximate weight per week.

J. Clarke.

10 Aug., 1899.

Line.	Number of bags per week.	Approximate weight of Mails, per week.
Grenfell, Marsden and Williams' Crossing . . . . .	29	5 cwt. 3 qrs. 17 lb.

## STATEMENT showing the number of letters posted at the Post Offices at places mentioned, and the revenue derived from the Post and Receiving Offices, for the years 1897 and 1898.

Name of Place.	Number of letters posted.		Revenue.							
			Postal.		Telegraph.		Money Orders. Postal Notes.		Total.	
	1897.	1898.	1897.	1898.	1897.	1898.	1897.	1898.	1897.	1898.
Temora . . . . .	140,560	157,850	£ 1,356	£ 1,318	£ 484	£ 459	£ 89	£ 88	£ 1,929	£ 1,865
Gidginbung . . . . .			5	5	.....	.....	.....	.....	5	5
Reeiton . . . . .	5,680	6,590	55	69	.....	.....	7	8	62	77
Barmedman . . . . .	28,960	32,160	250	246	119	115	29	30	398	391
Wyalong . . . . .	45,390	44,130	506	411	274	239	47	47	827	697
West Wyalong . . . . .	89,430	83,720	823	872	439	384	91	88	1,353	1,344
Mirrool Creek . . . . .			5	5	.....	.....	.....	.....	5	5
Broken Dam . . . . .			5	5	.....	.....	.....	.....	5	5
Total . . . . .									4,584	4,389

## NUMBER of Mails, including parcels, exchanged on the line, with approximate weight per week.

Line.	Number of bags per week.	Approximate weight of Mails per week.
Temora and Wyalong . . . . .	103 . . . . .	cwt. { 11 inwards. 21 outwards. — 32 cwt.

1522. *Mr. Trickett.*] Can you give us any information as to what charges the Railway authorities will make for conveying the mails which you have just described? The Railway Commissioners charge us at a minimum rate to start with of £12 per mile per annum.

1523. Do they convey all mail matter at that minimum charge? Yes.

1524. Can you offer any opinion, founded on your statistics, as to which district—the Temora-Wyalong or the Grenfell-Wyalong—has progressed the more rapidly during the last ten years? No; I have only two years' returns. Of course, Wyalong has only come into existence during the last three years.

1525. What would be the total charge made by the Railway Department for conveying the mails on the two proposed routes? The charge on the Grenfell to Wyalong line will be £720 per annum; on the Temora-Wyalong line, it will be £504 per annum.

THURSDAY, 17 AUGUST, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.

The Hon. WILLIAM JOSEPH TRICKETT.  
WILLIAM THOMAS DICK, Esq.

ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

William Henry John Slee, Chief Inspector of Mines, Department of Mines, sworn, and examined:—

1526. *Chairman.*] Are you acquainted with the country between Grenfell and Wyalong, from a mineral standpoint? I have been between Grenfell and Wyalong on several occasions, *via* Marsden, but I have not been to Wyalong itself for the last two years.

1527. I believe that at one time it was thought that the Wyalong reefs would not go down to any great depth? My report in 1894 states distinctly that I thought the reefs to be permanent, but that the population, which was at that time about 8,000, would go down. I have never said at any time that the reefs would not go down.

1528. If the impression has got abroad that your Department is of opinion that the reefs are not permanent, it is incorrect? I gave evidence before the Committee in April, 1894, and twice since that date, to the effect that I thought the reefs would be of a permanent nature, but that the population would go down. The population at the time referred to was estimated to be 8,000 or 10,000.

1529. As a matter of fact, the reefs have been proved to a considerable depth? I have not been to Wyalong for the last two years, but I know they have worked down to about 300 feet, and the quartz is as rich as any that was ever found on the surface.

W. H. J.  
Slee.

17 Aug., 1899.

1530.

- W. H. J. Slee.  
17 Aug., 1899.
1530. Does the information possessed by your Department go to show that there is every possibility of the reefs carrying gold further down? Yes.
1531. *Mr. Trickett.*] Will you give us your views of Grenfell and surrounding districts as a mining centre? I may state that I am one of the old pioneers of Grenfell. I had a crushing-machine there in the early days, and I resided there for some years. I do not expect any extensive mineral discoveries between Grenfell and Wyalong, *via* Marsden.
1532. What do you think of Grenfell itself as a mining district? Grenfell at one time employed thirteen crushing-machines. When the field was first started it yielded as much as 8,000 oz. per week, and the reefs were very large. The alluvial, of course, gradually worked out, and the reefs were not developed as they ought to have been. They were in the hands of individual miners. The deepest of them was 720 feet, and it has not been touched for twenty-two years. There are two other shafts which are about 450 feet deep. I believe that Grenfell will in time to come again take its place as one of the best of our mining-fields.
1533. Do you think the field has been thoroughly tested? The Grenfell field has, to some extent, been neglected.
1534. Have they gone in for deep mining there? No; only one mine went down to 720 feet.
1535. Why did it cease working? The mine was very carelessly worked. I paid a visit of inspection to it, and condemned it. The result was that the management were required to spend £800 for repairs, and this they would not do. A few weeks afterwards the mine fell in, and it is there now. That is known as the Consols mine. Then there is the Homeward Bound mine, which is now crushing payable stone at a depth of 450 feet. There is also the Lucknow mine, 450 feet deep. We have had at Grenfell reefs standing clear above the surface and yielding 3 and 4 oz. to the ton. One reef was, in one part, 15 feet in width, yielded 1½ oz. to the ton. The Lucknow mine yielded 7 oz. to the ton. As you went down, as is generally the case, the yield diminished. The first shareholders either sold out or spent their money, and there the reef remained. I have no doubt that, sooner or later, Grenfell will, as a mining-field, come into the first rank.
1536. Do you consider that if the reefs were worked at a greater depth they would pay? Yes; if they were worked on a different principle. They are now worked in a primitive style—in the same way as they were worked thirty years ago.
1537. How far to the west of Grenfell does the auriferous country extend? Twelve miles to the west of Grenfell we have the Weddin Mountain. I do not think there are any minerals about the Weddin Mountain.
1538. Is there only a little patch of auriferous country at Grenfell, or is the auriferous district a large one? The Grenfell mining field is a large one, but, instead of extending towards the Weddin Mountain, extends towards Young—towards Tyagong and other places.
1539. Do you look for any gold development to the north of the Weddin Mountain? No. Small deposits may be found; but I do not look for any extensive deposits between Grenfell and the Weddin Mountain.
1540. You have stated that the gold-bearing country has a tendency to follow the direction of Young? Yes.
1541. I take it that whether a line goes from Grenfell to Wyalong, along the route proposed, or by way of Bimbi, it will not make much difference, so far as minerals are concerned? No, it will not.
1542. How many people are engaged in mining at Grenfell at present? About 150 are engaged absolutely in mining.
1543. Has the field fallen off very much? Not during the last two or three years. Formerly there used to be a very large population there. At one time there were 15,000 people there. That was when there was a mining boom, and when large alluvial deposits were to be found.
1544. The diminution of population applies, I believe, to Wyalong as well as to Grenfell? Yes; the population of Wyalong has reached a level at which we may expect it to remain for some years. It might, of course, rise slightly. When I had charge, as warden, of the Wyalong gold-field it was estimated that there were 8,000 or 10,000 people there. I stated at the time that it would dwindle down considerably. Wyalong, however, will support from 2,000 to 3,000 people for many years to come. In the meantime the farming interest will gradually make its way.
1545. Do you think that the Wyalong population is likely to increase? Yes; I think that at present it is as low as it is likely to be.
1546. Do you regard the Wyalong field as one for individual miners or for companies? It is not an individual miner's field now, although it was at one time, when there was nothing but pick-and-shovel work. Now that a great deal of the cream of the field has been taken away, capital has to be employed, and the work has to be carried on under quite a different system. The country is hard, and the ore is refractory. I believe, however, that in three or four instances the yield of gold has been higher in the refractory ores than it has been in the oxidised ores.
1547. I suppose it is simply a question of scientific mining and treatment? Yes.
1548. Do you know what is the average return of the field now? No; as I have stated, I have not been there for the last two years, and I would not state what it is from hearsay.
1549. What is the character of the country between Wyalong and Barmedman? Leaving Barmedman *via* Wyalong you come to Yalgogrin, which was opened prior to the discovery of Wyalong. Yalgogrin is in a north-westerly direction from Wyalong, and is about 25 miles from it. From Yalgogrin the large extent of country towards Hillston will, no doubt, sooner or later, be worked as mineral country, although it has not developed as fast as it ought to have done.
1550. Is it alluvial or reef country? Reef country. There has been no payable alluvial at Wyalong so far.
1551. Does that class of country start directly you leave Wyalong? There are reefs here and there between Wyalong and Yalgogrin. The principal part is about 25 miles from Wyalong.
1552. What population is there at Yalgogrin? About 250 at present. The farming interests will bring the population up very quickly. A good deal of land has been taken up about there.
1553. Is the population of 250 a mining population? Yes.
1554. Are there any batteries there? Yes; there are two. They have prospected for alluvial there, but without success up to the present.
1555. Do they treat the ore locally? Yes; they have a cyanide plant there.
1556. Does it belong to a company? To a syndicate.



1557. Going to the west, from Wyalong towards Hillston, what sort of country is to be met with? It is the same class of country right to Hillston. In my opinion, nothing very extensive in the way of gold-bearing country will be found. I have been to Hillston, but I did not go from Wyalong. W. H. J. Slee.  
17 Aug., 1899.
1558. Has that country been thoroughly prospected? No. The whole of that back country has had very little prospecting, owing to the severe droughts and scarcity of water. It is only a certain class of men who are accustomed to the back blocks who will go there.
1559. What is the state of the Wyalong supply of water at present? They have several large tanks there. Of course there is no such thing as a running creek or stream there, and the well-water is not very fit for human consumption.
1560. A water supply has, I believe, always been looked upon as a necessity for the advancement of the town? Yes.
1561. Has not a satisfactory scheme been initiated by the Government? The Government have put down several large tanks, and they have resumed several large tanks from Mr. Ricketson. As far as tanks are concerned, the Government have done as much for Wyalong as they have done for any other gold-field in a given time.
1562. Have they tried boring? Boring would be of no good; it would only give us the same water as that which we get in the mines; it is only fit for stock purposes. It is granite country, and you can get no artesian water.
1563. Would it not do for mining purposes? Yes; but even then it would have to be lifted up. The average depth is 200 feet from the surface, and it would have to be lifted that height.
1564. Is there likely to be any large mineral development between Wyalong and Barmedman? Yes. I believe that between Wyalong and Barmedman there is likely to be discovered an area of country which is auriferous—in fact, I have often told the manager of a station, when I have been at Wyalong, that I was quite certain that sooner or later we shall get what would be called in these days “a rush” between Wyalong and Barmedman, on his very station.
1565. Is the character of the country about there the same as it is about Wyalong? No. At Wyalong we have granite country; at Barmedman we have porphyry; and at Reefton we have slate country. The whole of the geological formation there tends to the belief that auriferous deposits may be obtained at any time.
1566. I believe that the slate deposits at Reefton are difficult to work? Not so difficult as the Wyalong reefs. At Reefton they have gone down to a depth of 300 feet with very little blasting.
1567. Is Reefton looked upon as an established gold-field? There is a little town there, formed since Wyalong was opened.
1568. What are the mineral prospects between Reefton and Temora? Between those places there is one continuous line of auriferous country. A report was handed in to you by myself a few years ago showing that sooner or later gold would be obtained along the whole line from Woodtown to Barmedman. It is gradually developing.
1569. As you near Temora, does the process of obtaining the gold become easier? No; some of the country about Temora is very hard. Some of it is diorite country, some of which is very hard.
1570. Which part of the country do you look upon as being the most easy to work? The country about Reefton is as easy as any.
1571. From the point of view of mineral development, which line would you favour as a means of railway communication to Wyalong—one from Grenfell or one from Temora? I would favour a line from Temora, although my personal interests would be in a line from Grenfell. Officially, however, I would favour a line from Temora to Wyalong.
1572. For what reason? I believe it would tap more mineral country. Another reason is that during seasons of drought the people from Hillston and other parts would bring their stock to the Cootamundra line and have it conveyed to the mountains.
1573. Have you regarded the question from an agricultural point of view? No. From an agricultural point of view the Grenfell to Wyalong route is superior to the other. There is really rich agricultural land there.
1574. *Dr. Garran.*] Is the Young gold-field a granite gold-field? Yes.
1575. Is the Temora gold-field a granite gold-field? No. Most of Temora is slate and diorite country.
1576. Like Reefton? Yes.
1577. Is the Grenfell field a granite field? No; it is porphyry, where the best quartz reef occurs. There is, however, a large area of slate country. So far, however, the reefs in the slate formation have never turned out well at Grenfell.
1578. What sort of field is the Forbes field? As a rule we have the porphyry formation at Forbes.
1579. What about Parkes? At Parkes there is almost every geological formation you can mention, and Parkes is one of the best gold-fields we have.
1580. The Wyalong field is of granite formation? Yes. At Barmedman they have diorite and porphyry formation.
1581. So far as you know, there is no probability of mineral development between Grenfell and Wyalong? I will not say there is no probability of it, but as far as I know there will be no extensive mining operations carried on between Grenfell and Wyalong.
1582. There are no surface indications of it? The indications are not good enough.
1583. Neither by the Bimbi nor the Marsden route? No.
1584. Are there any mineral indications west of Wyalong? West of Wyalong you come to Yalgogrin, and go on towards Hillston. That country has not been developed, but it has the appearance of being auriferous.
1585. Have you been along the Willandra Billabong towards the Darling? For some distance. Of course I have only been where mining is carried on.
1586. Have you been out prospecting yourself? No. I may say that all our gold-fields have an up and down tendency. The late Mr. Wilkinson and myself reported in favour of Cobar, although it was considered to be of no good at all. Although a mining-field may be down to-day, the least accidental discovery might bring it up to the first rank.
1587. I gather from your answers to Mr. Trickett that, so far as mineral development is concerned, you prefer the railway from Temora to Wyalong? Yes.

- W. H. J. Slec. 1588. So far as agricultural settlement is concerned you prefer the railway from Grenfell to Wyalong?  
Yes.
- 17 Aug., 1899. 1589. With a good road between Temora and Wyalong, would Reefton and Barmedman be fairly served by railway stations at Temora and Wyalong? I think so. Reefton is only half a mile from a main road. Barmedman, of course, is a proper township.
1590. If the road is good, there would be no hindrance to mineral development along it on account of the difficulty of carrying stores? I do not think there would. At the same time, if machinery and stores cannot be got at a cheaper rate than they can be got by railway, a line must help the development of mining.
1591. Nevertheless, mines are developed far away from roads and railways? Yes; if they are good enough they get developed anywhere.
1592. There is nothing at present to hinder any development between Temora and Wyalong? No; in fact I honestly believe that we may see developments between Temora and Wyalong at any time.
1593. If the gold-fields along the route are so different in character, it is evident that the country is not, by any means, uniform? Yes; but the more disturbance we have of that kind, the more likely are we to get different kinds of minerals.
1594. How far around Wyalong might we reasonably look for mineral deposits? To the east you can go to Temora, and to the north to Lake Cowal and Billy's Lookout. There are some alluvial diggings there. It is in that direction that we expect alluvial gold to be found, if there is any at all. To the south the country has not been very much prospected.
1595. Do you think that there is a likelihood not only of Wyalong being a permanent field, but of a considerable district around Wyalong being discovered to be auriferous? Yes. I believe that not only will Wyalong be a permanent gold-field, but that there will be a settled farming population around it.
1596. Apart from farming, do you think it likely that there will be mineral discoveries within a radius of 10 miles around Wyalong? Yes.
1597. Then we do not yet know the full limit of that gold-field? No.
1598. What is the furthest distance of any mine from the Wyalong township? Yalgogrin is 25 miles away; but there are reefs in between.
1599. Has the intervening country along that 25 miles been moderately prospected? Not so well as one would wish, owing to the lack of water.
1600. You think that at any time good mining country may be discovered between Wyalong and Yalgogrin? Yes, and west of that.
1601. *Mr. Dick.*] You say you think the Grenfell to Wyalong line would offer greater facilities for agricultural development than a line from Temora to Wyalong? Yes; it will tap more of the agricultural country.
1602. Is it not a fact that the greater portion of the good agricultural land along the proposed line is within easy distance of Grenfell? Yes.
1603. Would not that land be served by the extension from Grenfell? I could not say that. My opinion is that you will get good agricultural land all the way from Grenfell to Morangarell, and on towards Barmedman.
1604. Do you know the Bland country between Grenfell and Wyalong? Yes.
1605. Is it good agricultural land? Yes, excepting around Sandy Creek.
1606. Have there been any mineral developments round Marsden? No.
1607. Or around Bimbi? No. I may state that alluvial prospecting, assisted by the Government, has been carried on between Marsden and Grenfell, but so far it has been unsuccessful.
1608. You do not think much of the area between Grenfell and Wyalong as a field for mineral development? No.
1609. *Mr. Shepherd.*] You stated, in 1894, that you had no doubt whatever about the Wyalong field being permanent;—have you had any reason to alter your opinion since? No.
1610. Is the machinery now on the ground at Wyalong capable of treating all the stone raised? I think so. Of course they have greatly-improved machinery. They have not only cyanide, but chlorination works.
1611. I noticed that it was stated some time ago that 130 tons of stuff from Wyalong were being crushed at Wollongong;—do you know the reason of that? Because some people think that a local battery can never be of any good. The further some people send their stuff away the better they think its treatment will be. I know of an instance which occurred in 1896, when a party sent material to be crushed in Victoria, and retained some to be crushed at Wyalong. The return from the material crushed at Wyalong was double the return from that crushed in Victoria.
1612. Your opinion is that the machinery at Wyalong is capable of treating everything that is raised? Yes.
1613. And that there is really no occasion to send material away? In my opinion there is not.
1614. Then, in the event of a railway being constructed to Wyalong, it is not likely that it will obtain much traffic in stone from Wyalong? No. I think that if any large companies are formed they will treat their own stuff with their own machinery.
1615. Are the reefs at Wyalong wide? Some of them are of a good width. Some of them narrow in, as they do in granite country, and bulge out again.
1616. Do they go down without varying much? Yes.
1617. Have any minerals, apart from gold, been discovered at Wyalong? No; nothing which can be worked separately; no regular copper-lode has been discovered.
1618. Are you of opinion that copper-lodes are likely to be found there? I do not think so. The nature of the country does not favour them.
1619. Do you think the agricultural country between Grenfell and Wyalong is superior to that between Temora and Wyalong? I think it is somewhat similar country. After you leave the Tyagong the country is very much similar.
1620. Has there been any extension of the Wyalong field of late years? No; the extension has only been towards Yalgogrin.
1621. I notice from your evidence in 1894 that you stated that the country would be found auriferous for over 50,000 acres;—are you still of that opinion? Yes.
1622. And yet there has been no great extension? No. There is a good reason for that. As I stated before, there is no water there.
- 1623.

1623. I notice that in Western Australia, where the water is scarce, dry-blowing is resorted to;—has that been practised at Wyalong? No; but when I was at Mount Browne, in 1881, there was nothing else there but dry-blowing. W. H. J. Slee.  
17 Aug., 1899.
1624. Is any particular locality more suitable for dry-blowing than another? It requires sandy, dry soil. Wyalong would not be suitable for dry-blowing.
1625. *Chairman.*] We have it in evidence that most of the Wyalong gold finds its way to Melbourne;—can you explain the reason of that? I do not know anything of a definite character about that. I may mention, however, that Mr. Neeld and others, who were first on the field, were farmers from Victoria. Their sympathies are with Victoria—their relatives are there,—and the consequence is they go to the market to which they have been accustomed. Probably they obtain little concessions from the Mint, but I cannot say.
1626. Your opinion is that old associations may have something to do with it, and that certain concessions may be allowed? Yes. At one time the yields from Cobar and Wilcannia went towards Melbourne; but since others have mixed with the people there they are gradually coming to Sydney and to other parts of the Colony.
1627. Has it ever come to your knowledge that the Wyalong people are more liberally treated at the Melbourne Mint than at the Sydney Mint? I do not like to say that they have been. Another thing, I do not believe it.
1628. Even though you heard it, you would not believe it? No.
1629. In answer to a question in the Assembly the other night, the Minister stated that better terms were given by the Melbourne than by the Sydney Mint? It is possible that the Wyalong people might tell the Melbourne authorities that they were coming from New South Wales with a parcel of gold, and the Melbourne Mint authorities, wishing to retain their custom, might order their clerks or officers to receive it at whatever time it arrived.
1630. You have stated that from a mining standpoint you prefer a line from Temora to Wyalong? Yes.
1631. And that from an agricultural standpoint you prefer a line from Grenfell to Wyalong? Yes.
1632. Could you say whether railway traffic from an agricultural country would be more profitable than it would be from a mineral country? No. I believe traffic from a mineral country is far superior and greater than that from an agricultural country. As a rule, a mining population, if it has money at all, spends it. The farmers, as a rule, have enough to do to keep what they earn for a rainy day.
1633. Is there any mineral country to the north of Wyalong, towards Condobolin? There certainly are indications of minerals about Lake Cowal. For instance, several reefs have been worked at Billy's Lookout, only a few miles from Lake Cowal.
1634. Are there any workings there now? Yes; men are working there now, and are making a living.
1635. On which side of Lake Cowal? On the Wyalong side.
1636. The traffic from there would find its way towards Wyalong? Yes.
1637. *Dr. Garran.*] In view of an extension beyond Wyalong, which would be the better direction for minerals, towards Cudgellico or towards Hillston? Towards Hillston. I have been to Lake Cudgellico and to Euabalong from Condobolin, and there is really very little to be said about minerals, only in isolated places.
1638. Do you think it is possible that some day there may be a continuous line of minerals discovered between Wyalong and Hillston? I will not say a continuous line, but I believe that there will be discoveries here and there.
1639. And the line as far as Hillston will tend to develop that country? Yes.
1640. There is no certainty about it? No.
1641. But there are positive indications on that route? The indications are not very grand. There is no certainty about it; still there are indications that mineral deposits may be discovered.
1642. Do the old rocks crop up anywhere between Wyalong and Hillston? Yes, in a few directions.

Henry Chamberlaine Russell, C.M.G., Government Astronomer, sworn, and examined:—

1643. *Chairman.*] Can you give the Committee any information as to the average rainfall over the country which will be served by the proposed line? The average rainfall at Grenfell is 27·23 inches, extending over a period of thirteen years. The rainfall at Brundah, a little north of Grenfell, is 24·65 inches, extending over fourteen years; the rainfall at Oma is 22·01 inches for eleven years; the Marsden record is 19·79 inches for seven years; at Barmedman the rainfall is 19·85 inches for twelve years; at Mandamah, a little south of Barmedman, it is 19·76 inches for thirteen years; at Yalgogrin, to the west of Mandamah, it is 19·42 inches for fourteen years. There is another station, known as Yalgogrin North, where the rainfall is 21·02 inches for eleven years. At Nariah the rainfall is 19·71 inches for fourteen years; at Youngara it is 17·82 inches for nineteen years; at Ungarie it is 18·22 inches for eight years; at Lake Cowal it is 19·72 inches for twelve years; at Condobolin it is 19·78 inches for seventeen years; at Brotherony, a little north-west of Condobolin, it is 18·56 inches for fourteen years; at Booberoi, a little west of Brotherony, it is 17·75 inches for fourteen years; at Euabalong, on the river, it is 18·25 inches for fourteen years; at Lake Cudgellico, close to Euabalong, it is 17·55 inches for fifteen years; at Rankin's Springs, a few miles south-west from Lake Cudgellico, it is 17·64 inches for eleven years; at Conapaira, a little further south, it is 19·73 inches for seventeen years. Hillston reports 16·11 inches, extending over twelve years; and Roto, on the Lachlan, a little east of Hillston, 15·34 inches for twenty-one years. Wangaroo, north-west of Hillston, reports 14·74 inches for twelve years. Merrowie North has 16·55 inches for seventeen years; Yathong, a little west of that, 15·51 inches for ten years; Cowl Cowl, 15·28 inches for twenty-five years; and Marungle, which is not far from Booligal, 14·65 inches for twenty-two years. H. C. Russell,  
C.M.G.  
17 Aug., 1899.
1644. What is the rainfall at Wyalong? There are three Wyalongs, really. There are the station and the two towns. Upper Wyalong (No. 2) has a fall of 20·81 for twelve years, and Upper Wyalong (No. 3) 19·49 inches for fifteen years. Wyalong town has only a two years' record. Temora has an average of 21·00 inches for eighteen years. The averages at Reefton and Bimbi have not been reported.
1645. Is the average over that area sufficient for successful wheat-growing? Generally speaking, the rainfall of this area, with the exception of the extreme western part of it, is in excess of what is supposed to be sufficient for wheat-growing. 1646.

- H. C. Russell, 1646. Is the rainfall distributed in such a way as to beneficially affect the crops, or does it fall at times when it is of little use? It is fairly evenly distributed. If anything, there is a preponderance in the latter half of the year. In the winter, particularly, a good deal of rain falls over this area. There is not much difference between the first and last months of the year.
- C.M.G.  
17 Aug., 1899.
1647. *Mr. Shepherd.*] I suppose the drier portions of the year are the hottest months of summer? Yes, generally. The bulk of the rain coming along Riverina comes during the winter.
1648. Do the rains commence as early as April? Not generally.
1649. That is rather late for putting in crops? The ground does not seem to be hard enough to prevent them, in ordinary seasons, from turning it up and getting it ready.
1650. I notice from your returns that there is a gradual decrease in the fall as you go west from Grenfell? Yes.
1651. Does it still further decrease as you go further west? Yes. When you get to the Darling country it comes down to 10 and 14 inches. Menindie is about the driest place. I published that fact about a year ago, and a gentleman residing on the border, about 100 miles south of Broken Hill, said he had a drier place on his station; but I never could get anyone to record between the Lower Darling and the boundary until quite recently. Therefore I do not know much about it, excepting that it is a dry area.
1652. I suppose, however, that your averages take in the worst as well as the best seasons? Yes. When you get a twenty years' record you may take it that is a fair average of good and bad seasons.
1653. *Dr. Garran.*] What is the Mossgiel return? 12·42 inches for four years.
1654. That is midway between the Lachlan and the Darling? Yes. There is a station with a long record, no great distance from there, called Kilfera. That has a record of 12·31 inches for twenty-six years.
1655. Is the record for Condobolin pretty much the same as that for Wyalong? Condobolin has a record of 19·28 inches, and Wyalong has a record of 19·49 inches.
1656. Has the Wyalong district been much dried up by reason of the last drought? People have complained a good deal about it. I know some people, with whom I am intimate, who were paying very heavily for hay.
1657. Do the monsoonal rains come as far east as Wyalong? They seldom come as far south. Three times out of four the monsoonal rains are not heavy below Cobar.
1658. Does Wyalong get most of its rain from the south? Yes; the south-westerly winds bring it there. It is a sort of branch with the Victorian rainfall. Of course they get northerly rain at times.
1659. I suppose that south of Cobar the warm monsoonal rains do not come? No.
1660. Are they dependent on the southerly rains between Wyalong and Condobolin? Yes.
1661. Does the easterly rain get as far west as Forbes? Very seldom. The only way the easterly rains get inland is all over the low mountains at the head of the Hunter. Above Cassilis the mountains are lower than in the main range.
1662. Does much rain get up that way, and to Gulgong? Yes, sometimes.
1663. The country to which reference has been made cannot trust much to the easterly rains? No.
1664. Has the time of the year at which the rain falls in this part of the country anything to do with the rain coming in from the north or the south? Yes; there is very seldom any monsoonal rain in the winter months.
1665. If they do not get the autumn rains from the monsoons they have to wait until the spring? Yes. Their best months are the last six months of the year.
1666. The Darling country has to wait for the spring monsoons? Yes. If they do not get rain in January, February, or March, they give up hope of getting it, as a rule.
1667. Does it matter much to the farmer whether the rain is a cold or a warm one? Not in the early stages of wheat-growing; but in the latter stages a cold rain rather hinders the growth.
1668. I suppose that for grass-growing a warm rain is the best? Yes.
1669. Does Dubbo get the benefit of the monsoons? Yes. The further north you go the more abundant they are.

Henry Deane, Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and further examined:—

- H. Deane.  
17 Aug., 1899.
1670. *Chairman.*] Would a line from Grenfell to Wyalong, *via* Bimbi, pass through more agricultural country than would the proposed line? I take it that there would be less agricultural country on the Bimbi route, because you arrive upon the plain country earlier. The advantages of the direct route are a slightly shorter length, and that it apparently cuts the country up better, and serves Marsden and the country to the north better. It also avoids back shunting at Grenfell station. Otherwise, as I have already pointed out, the line is estimated to cost about £700 less. With regard to the continuation of the Koorawatha to Grenfell line, it will be remembered that the terminus at Grenfell points nearly due north. To get to Wyalong by way of Bimbi, back shunting would have to be adopted, and there are serious traffic objections to that. The traffic over this class of line consists chiefly of mixed trains. The middle part of the train consists of the goods trucks, and the passenger carriages are placed at the rear. If you run into a station engine first and carriages at the end, when you want to go out in the same direction you have to reverse everything. That means shunting, which would be avoided if there were a straight run through. Thinking it would be of use to the Committee, I had the measurements made of the Crown land and alienated land traversed by the Bimbi deviation. The Crown land traverses in length 45 miles 74 chains, and the alienated land 16 miles 22 chains, making a total of 62 miles 16 chains, which is the length of the line. That shows, of course—for the greater part of the route the line traverses Crown land—travelling stock and other reserves.
1671. As a matter of fact, the country about Bimbi is within reasonable distance of Grenfell? Yes, and of Young.
1672. *Dr. Garran.*] Going north from Grenfell you have to cross a low range;—does that offer any serious engineering trouble? No; there is rather a large cutting at the top of it, but I can get a grade of 1 in 100.
1673. Without much of a detour? The detour is not much at the first range, but when you come to the Weddin Mountains there is considerable curvature.
1674. You would have no such difficulty on a line *via* Bimbi? No; that has a good fall all the way down.
1675. From a constructional point of view, the Bimbi route is the best; but you do not regard the difficulty to which you refer as a serious one? No, because we can get a grade of 1 in 100.

1676. The detour will not very much increase the cost of the line? No; I have already given the comparative estimates. H. Deane.  
 1677. *Mr. Trickett.*] If the Bimbi route were followed, could you avoid the back shunting by keeping a little to the south of the town of Grenfell, and altering the station site? I do not think so, because the approaches into Grenfell are upon very high ground all round the town, excepting in the valley of the Yeo Yeo Creek. To approach from Koorawatha, and to make a short cut round, so as to get a curve to the Bimbi deviation without entering the town, would necessitate a very steep grade. 17 Aug., 1899.

SATURDAY, 19 AUGUST, 1899.

[The Committee met at the "Empire Hotel," Grenfell, at 7.30 p.m.]

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
 The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
 JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

John Sharpe McIntosh, farmer and grazier, sworn, and examined:—

1678. *Chairman.*] Where is your holding? Twenty-nine miles from Grenfell, and 4 miles from Caragabal station, north of the proposed line. J. S. McIntosh.

1679. How many acres do you hold? 2,339 of which 125 are under cultivation. When I first came to The Carse there were only 10 acres under cultivation. Last year I put in 90 acres, and this year 125 acres. 19 Aug., 1899.

1680. Are you satisfied with the prospects of farming? Yes; so much so that I have 500 acres cleared and ready for the plough.

1681. Are you prepared to put more land under cultivation if you have better means of getting the produce to market? We are prepared to let the balance, which we do not require, on lease.

1682. How long have you been in the district? Five years.

1683. Since the construction of a railway from Koorawatha to Grenfell has been sanctioned, have the promises of agriculturists in the district, to the effect that they would clear large tracts of country, been carried out? Yes; the people are at present clearing land under difficulties, on account of bad seasons.

1684. Are they quite satisfied with the prospects of wheat-growing? Yes; if they can get within 10 miles of a railway.

1685. Are the climatic conditions favourable to the growth of wheat? We have had five very trying seasons, and we have had three good crops out of five.

1686. What is the character of the country for stock? It is the most fattening country you could possibly get.

1687. So that mixed farming can be profitably carried on? Yes. With the two combined there is a great future for the district.

1688. Is the land held in large areas? In the district in which I live the Government is throwing open thirty-six selections, averaging from 1,400 to 2,500 acres. They will be thrown open next year.

1689. Do you think 1,400 acres is sufficient for a man to make a living for himself and family upon? No; the smaller areas are not sufficient. It requires 2,500 acres, at least, to enable a man to carry on.

1690. Have you any statement to make to the Committee which would be of service to them in connection with the present inquiry? I have a thorough knowledge of the country between Grenfell and Wyalong, having managed Back Creek station for two years. I have also travelled from Temora to Wyalong. Between Grenfell and Wyalong there is not an inch of country which cannot be made available for pastoral and agricultural pursuits. Between Wyalong and Temora there is some very good land all the way; but I think there will be a greater difficulty in constructing a line over that portion of the country than over this.

1691. How does the land between Grenfell and Wyalong compare with the land between Wyalong and Temora? The better route, taking the whole of the land right through, is from Grenfell. We have a better class of country for agriculture and pasture combined. You can scarcely get an acre of waste land between Grenfell and Wyalong.

1692. Do you know the Bland country? Yes.

1693. Could any of it be cultivated? Some of the Myall Plains are very good. There are two gentlemen at present living on Back Creek who have been following agricultural pursuits on a small scale for the last ten or twelve years, and they have grown extraordinarily large crops.

1694. *Mr. Watson.*] You have stated that the Government is going to throw open holdings of about 1,400 acres each? Yes.

1695. Do you know what capital value has been placed upon them? No; they have not been thrown open yet.

1696. Do you know the carrying capacity of the country between Grenfell and Wyalong? About three sheep to 4 acres.

1697. Do you think the returns from the Stock Department would be any guide as to the quantity of sheep carried? Yes, in fair seasons.

1698. Do you consider that the returns which are sent in are fairly reliable? Yes.

1699. Do you think that the year 1896 can be taken as a fair average season for sheep? Decidedly not; no season since 1894.

1700. Do you think the return for 1894 would be a fair average return? Yes; so far as good, improved land is concerned.

1701. According to the returns of the Stock Department for the year 1896, the land carried one sheep to 5 acres in the district to which we have referred? I will admit that, and I will give an explanation.

1702.

- J. S. McIntosh.  
19 Aug., 1899.
1702. Of course, in 1898, it has come down to about one sheep to ten acres? Yes. There is a lot of waste land, which has never had an axe put to it, being held by the lessees. They have allowed it to get into a worse condition than it was originally. The country which at one time would carry a sheep to 3 acres would not now carry a sheep to 10 acres, because of neglect. I can prove that by the property adjoining my own, and by several other properties in the district.
1703. Then the return to which I have referred is not to be taken as a criterion? No. When the ground is thrown open every inch of it will carry one sheep to 2 acres.
1704. At present it is not carrying one sheep to 10 acres? It is not carrying one sheep to 15 acres.
1705. Have you suffered from the drought? Yes. I lost 1,800 sheep last year. I may mention that my experience of Back Creek is that it has carried, on portions of the country, eight sheep to the acre for four months.
1706. You have stated that a man, in order to maintain himself and family, should have at least 2,000 acres of land? Yes. I consider that anywhere between Grenfell and Wyalong a man would require at least that amount.
1707. Do you regard the land between those two points as good land? As good as any you can find.
1708. Do you know that, not far from Grenfell, a number of men are making a living on 640 acres of land? It must be only a short distance from Grenfell, and there must be a good rainfall.
1709. It is not more than 30 miles from Grenfell? Then the land was improved for them before they obtained it.
1710. It was rung? Yes. I was, a short time ago, referring to land which was thrown open at Wheogo in its natural state. It has been ringbarked, but it is worse than ever now. Where there was one tree formerly there are ten now.
1711. Still, if that land were improved, it would, after a time, be as good as the land which has been improved for a considerable period? Every bit of it; but it would require such a lot of money to improve it that a small farmer going upon 640 acres could not afford to do it.
1712. You do not think 1,400 acres would be sufficient to maintain a man and his family? No; unless the blocks are picked and ready for the plough. Nothing less than 2,500 acres of the heavier land, where the scrub and undergrowth exist, would be sufficient.
1713. Do you think that some of the black-soil country is fit for agriculture? Yes; some of the myall ground.
1714. Is there any large proportion of that between Grenfell and Wyalong? Yes.
1715. Is there any of it between Bimbi and Williams' Crossing? Yes; a portion of it.
1716. Which of the two routes towards Wyalong do you favour—that to the north, *via* Piney Range, or that to the south, *via* Bimbi? That to the north. There will be more available land for agricultural and pastoral pursuits on that route. The land on the Bimbi route is at present held in larger holdings. It is in the hands of the banks, and it cannot be cut up. It also runs right under the base of the Weddin Mountains.
1717. Then on one side of the Bimbi route there is the Weddin Mountain, and on the other side large properties already alienated? Yes.
1718. Therefore you favour the route *via* Piney Range? Decidedly.
1719. *Chairman.*] Have you had any experience of the country in other parts of New South Wales? Yes.
1720. How would the country between Grenfell and Wyalong compare with that in other parts? I used to think that the Bokara was the best fattening property I was ever on; but I now think that in the winter there is nothing to beat the country between Grenfell and Wyalong. In 1897 we had a good fall of rain, and the way in which the sheep put on the fat was astonishing. I was able to get ready for the market sheep which were dying in June.
1721. You think, then, that the land to which you have been referring is equal to any in New South Wales? It is equal to any over which I have travelled; it is as good as any of the Liverpool Plains land—of course, I mean where it is ringbarked and made available for the plough. I bought my present property after two years' experience in the district.

Joseph Hancock, farmer and grazier, Barbingal, sworn, and examined:—

- J. Hancock.  
19 Aug., 1899.
1722. *Mr. Trickett.*] Where is your holding? Twenty-two miles to the west of Grenfell. I have held 2,560 acres since 1885.
1723. Do you carry on mixed farming? Yes; agriculture and sheep grazing. I have 300 acres under cultivation.
1724. Have you extended your farming operations since you have been at Barbingal, on account of the suitability of the land? Yes; especially during the last year or two, with the expectation of a railway coming to the district.
1725. Is the whole of your holding suitable for farming? No.
1726. Will you describe the character of the holding? There are some yarran country, some gilgais, and pine ridges.
1727. Is there much red soil about the holding? It is mostly red soil; some of it is rather white as well.
1728. How does it compare with the soil between Grenfell and Iandra? Very favourably; most of it is similar soil. Of course the gilgai country would not be suitable for cultivation.
1729. How far is Barbingal from Caragabal? About 12 miles to the east.
1730. Will you describe the character of the country between Grenfell and Caragabal? From Grenfell to my place, which is 22 miles distant, the land is nearly all fit for growing feed, except on very few portions where you meet with the gilgais. It is a little hilly at the Grenfell end, but it is not mountainous.
1731. What number of sheep have you? I have lost a large number by reason of the drought, and I have not many left. I have had as many as 3,000 upon my 2,560 acres. That was during a wet season.
1732. Was it an exceptionally good season? We had three or four good seasons, and we could not put enough stock on the land to keep the grass down.
1733. What is the carrying capacity of your land during an average season? About a sheep to the acre—perhaps not so much.
1734. Would it be three sheep to 4 acres? Yes.
1735. Is that the fair average carrying capacity of the country? Yes; in good seasons, if the country is improved.

J. Hancock.  
19 Aug., 1899.

1736. Improved to what extent? By being rung, and a lot of the timber land picked up.
1737. Is that very expensive work? It is very troublesome.
1738. What does it cost per acre to ring? The ringing does not cost much. The difficulty is in keeping the suckers down. It would cost about 4s. to 5s. per acre.
1739. Do you mean that it would cost that to kill the suckers every year? It would not cost that every year.
1740. What is the smallest quantity of land that a man requires, in order that he may make a fair living upon it? If a man goes upon land alone, 1,200 acres will be sufficient. If he has a family, he will require more.
1741. Which do you think pays you better, situated, as you are, some distance from a railway—agriculture or sheep-growing? Sheep-growing.
1742. Which would pay you better if you were within 15 or 20 miles from a railway? If we could make anything out of wheat-growing, we should go in for it largely.
1743. What do you consider the lowest price of wheat per bushel which would justify you in growing it? We could make a living out of it at 2s. a bushel.
1744. If you get 2s. a bushel for your wheat ready bagged on the ground, would it pay you? Yes; but I do not think we should make much out of it.
1745. Would that be the minimum price? Yes.
1746. Do you not think that you could generally get that price? We have done so up till now.
1747. Are the prospects of remunerative wheat-growing, provided you have reasonable carriage, good? I think they are fairly good.
1748. What has been your experience in regard to the increase of agriculture in the district since you have resided here? It seems to be increasing a little every year. Since the railway has been mooted a number of people have extended their agricultural areas. I have 70 acres more land ready for cultivation this year than I had last year, and I am still clearing.
1749. Is the character of the soil such that it will last for any length of time for wheat-growing? I have been cultivating my land for seven or eight years, and it still grows good crops.
1750. Have you not rested it? No; but I intend to rest it this year.
1751. What is the average yield in fair seasons? During one year I had 28 or 29 bushels to the acre; but I think the average in a fair season will be from 16 to 17 bushels per acre.
1752. How close do you require to be to a railway to encourage a larger cultivation of wheat? I could afford to carry wheat 10 or 12 miles, or further, for 2s. per bushel. This year I have carried it 50 miles for 2s. 3d. per bushel.
1753. Supposing there were no good agricultural land suitable for wheat-growing at a less distance than 20 miles from a railway, would it suit you to take it up? Yes.
1754. Then you look upon 20 miles as the limit of the distance which you should be from a railway station to enable you to grow wheat satisfactorily? It depends on the price of the wheat. If I could get a high price I could carry it further than 20 miles. If the railway is constructed from Koorawatha to Grenfell I shall only have to carry my wheat a distance of 20 miles, and I shall be satisfied.
1755. How far will you be from the projected line? If the line follows the northern route it will just touch my land.
1756. Where should you look to for your chief market? I think there would be a good market Hillston way, especially in dry seasons.
1757. Do you think railway communication to your holding would benefit you so far as stock are concerned? Yes; if there had been a railway near my holding I should not have lost as many stock as I have done. If the railway comes near to myself and others we shall have an opportunity of sending small lots of stock away by rail.
1758. Is this a good fattening country in good seasons? Very good; the Bland is as good a fattening country as any in the Colony. The red soil is the best for agriculture, and the black soil is the best for pasturage.
1759. Have you cultivated any of the black soil? No; there is none on my holding, unless it is amongst the gilgais.
1760. Does the red soil predominate between Grenfell and your holding? Yes. Thence towards Marsden the black soil predominates.
1761. Have you seen any of the black soil cultivated? No.
1762. Could you give us any idea of the extent of land on the cultivation between Grenfell and your holding? I could only tell you the quantity near my holding. Mr. Casey must have 400 acres; Mr. Maddam must have 300 to 400 acres; one of the Cleary's has 200 acres, and the other about 300 acres; I have 300 acres. Then there are Mr. Birge and Beazley Brothers, who have only gone in for cultivation during the last year or two.
1763. Do you think that the land between Grenfell and your holding is capable of such extensive agricultural development as is the land from Iandra to Grenfell? I do not think it is. At the same time I do not know what is to prevent anyone from growing wheat all the way along the proposed line to my holding. There are only one or two little hills—perhaps 20 to 30 acres—which would not be suitable for cultivation.
1764. I suppose that land is chiefly alienated? Yes, near the proposed railway line; but there is some unalienated land within a few miles of the proposed line, which is to be thrown open next month.
1765. Do you think that what is known as the "halves" system is likely to largely increase the agricultural development of the district? I think it is; but there is not much in it for the farmer. The land-owners should give the farmers better terms.
1766. With reasonable terms is not the "halves" system a good way of giving a man a start in a district like this? Yes.
1767. How far is it from Marsden to your holding? Twenty miles.
1768. What is the character of the country from your holding towards Marsden? It is mostly plains of black soil. I do not think it would be of much good for cultivation. Still, I have heard that farmers have grown wheat Bundaburra way. From what I have heard, they seem to prefer the black-soil country to the forest land; but I have no actual knowledge of that.
1769. Have you formed any opinion as to whether the route of the proposed railway or the Bimbi route

is

- J. Hancock. is the better? I prefer the northern route, because there are more small holders on it than there are on the southern route, and there is also more land fit for cultivation.
- 19 Aug., 1899. 1770. Do you know the country along the Bimbi route? Yes; I have been over it as far as Bimbi. Along the road the soil is good for agricultural purposes—as good as it is on the northern route.
1771. Is the country you know of suitable for other crops than cereals? Yes.
1772. Will it grow fruit? I think it is rather too dry for that. It would grow grapes if the white ants did not destroy them, as they do to a large extent in that district.
1773. Have you any experience of the dairying industry? At one time I had a number of cows, and they seemed to do well; but I found that sheep paid better, so I got rid of them.
1774. I suppose sheep paid better because they were easier to look after? Yes; and there was no market for butter except in Grenfell, and, of course, we could not get it up like the factory butter.
1775. Is the black-soil country good for feeding cattle? Yes; it is good fattening country. It is famed for being fattening country.
1776. Do you think, if there were a system of treating the milk locally, that dairying could be carried on upon it to a considerable extent? I think the country would be very good for dairying, but it is also in every way suitable for sheep and agriculture.
1777. Do you think the settlement of the district is likely to increase to such an extent that the estimated loss on the proposed line would be speedily reduced? No doubt if the land is thrown open it will be taken up; but I do not know whether it will be settled to such an extent as to speedily reduce the loss on the line.
1778. Is there much land which can be thrown open? Yes, about Wheego.
1779. Where is that? Between Grenfell and Caragabal.
1780. Do you know what extent of country will be available? I am not sure, but possibly 20,000 acres.
1781. I presume that the development of the district must be looked for chiefly in connection with the holders of land increasing their operations in agriculture? Yes.
1782. Do you think that is likely to take place to a large extent? It will take place; I do not know whether it will take place to a large extent. I feel satisfied, no matter what quantity of land is available, that it will all be taken up.
1783. *Mr. Watson.*] How far is Bimbi from Grenfell? Twenty-two miles.
1784. Do you think if the proposed line be constructed *via* Piney Range, the traffic from Bimbi will tap it somewhere about Piney Range or Barbingal, or will it go towards Grenfell? From Bimbi it would, I think, go to Grenfell.
1785. In that case the people of Bimbi would have to travel 22 miles with their produce? Yes.
1786. The distance from Bimbi to the surveyed route of railway is between 11 and 12 miles? Under those circumstances I think many would go direct to the line.
1787. Of course, you understand that if they did they would have more railway carriage to pay for the carriage of their produce than they would have if they came to Grenfell? Yes.
1788. Would you feel inclined to invest any capital in dairying, if you had an area of black soil? I have not had much experience of cattle. I know that the land is very suitable for fattening, and if it will fatten cattle, it will produce milk.
1789. I presume you would not keep your cattle on such land all the year round? I do not think you would be able to depend on the grass altogether. You would have to go in for ensilage, as they do in other parts.
1790. Do you think you could get produce from the black soil with which to make ensilage, unless there is some red soil mixed with it? I think so.
1791. *Mr. Trickett.*] Supposing you had railway communication close at hand, and were encouraged to grow wheat in consequence, how many hands do you think you would employ in putting 1,000 acres under crop? At times I should have to employ twelve or fifteen hands.
1792. Then the development of wheat-growing would mean the larger use of labour on your estate? Yes.
1793. Does agriculture employ more labour than sheep-breeding? A great deal more.

William Walter Bell, farmer and grazier, Grenfell, sworn, and examined:—

- W. W. Bell. 1794. *Mr. Dick.*] How long have you resided in this district? Twenty-six years.
- 19 Aug., 1899. 1795. How would you describe the land for 20 miles on each side of the proposed line? I think the land for 20 miles on each side of the proposed line is second to none. It is, I believe, good for anything. I have not had any experience of the plains, but all the rest is good for anything you like to grow upon it in a decent season.
1796. Your opinion is that, practically, the whole of it, with fair seasons, is good agricultural land? Yes.
1797. What distance along the proposed route is taken up by the Bland plain country? Twenty miles.
1798. Have you supplied the Wyalong market with your produce? Yes.
1799. Do you think that with the construction of the proposed line that market will be even a larger one than it has been in the past? There would be a good outlet for forage at Wyalong in a bad season.
1800. Do you send any wheat to Wyalong? No; only chaff and other produce.
1801. What has been the effect of the sanctioning of the Koorawatha-Grenfell line, so far as the placing of land under agriculture is concerned? It has had the effect of causing two-thirds more land to be got ready for the plough.
1802. Do you think that if the proposed line is constructed to Wyalong the same results will be experienced elsewhere? Yes.
1803. Do you think the proposed line would pay? Yes, after a time. I think the estimate of loss would be reduced after a year or two.
1804. Do you think there is a sufficiently large area of good wheat country between Grenfell and Wyalong, almost equal in quality to that between Koorawatha and Grenfell, to justify the construction of the proposed railway? Yes.
1805. Do you think the people at Bimbi would carry their produce to the nearest station on the line or to Grenfell? I think they would go to the nearest station.
1806. In spite of the fact that they would have heavy traction on bad roads, and a longer railway journey to get their produce to market? The railway journey is not to be compared with the road journey.



1807. What is your opinion as to the maximum distance a man should be from a railway in order that he may grow wheat successfully? It depends on the price of the wheat. A man should clear 2s. a bushel to make wheat-growing pay. If he has to draw his wheat 20 miles he cannot do it under 3d. a bushel. If he has to draw wheat that distance he should be able to sell at 2s. 3d. a bushel. W. W. Bell.  
19 Aug., 1899.
1808. Do you consider that any distance over 20 miles from a railway is a serious handicap to an agriculturist? Anything over 20 miles is a very serious handicap.
1809. What is your opinion as to the relative merits of the northern route and the Bimbi route? The northern route would be the best, and would open up more country. The Bimbi route is along the mountain, and the holdings there are larger than on the northern route.
1810. Do you agree with the evidence which has been given to the effect that a man, in order to make a fair living between Grenfell and Wyalong, requires 2,500 acres of land? Hardly. A man could make a living out of much less than that. If the land is good he could make a living, by farming, off 640 acres. Many men have to make a living off less. If 640 acres will not keep a man and his family the land must be very poor.
1811. Do you think that the land between Grenfell and Wyalong is of such a character that a man could make a decent living off 640 acres? Yes.
1812. Do you attach any conditions to that statement? No; but, of course, a man could not keep sheep upon it, although he might keep a cow or two upon it; and, of course, he would have to be able to get his grain away.
1813. Is it the general experience that, whenever there is a bad season about Hillston and Wyalong, there is a fairly good season in the Grenfell district? Sometimes that occurs.
1814. How many times do you think it has occurred during the last twenty-five years? A good many; I could not say how many.

Jacob John Cundy, produce dealer, Grenfell, sworn, and examined:—

1815. *Mr. Shepherd.*] How long have you been a resident of Grenfell? Over thirty years. J. J. Cundy.
1816. What business have you been engaged in? Buying produce, such as hides, tallow, sheepskins, bones, and so on. 19 Aug., 1899.
1817. Do you generally send your goods to Sydney? Since 1st January I have forwarded about 300 tons of goods to Cowra.
1818. How long have you been engaged in your present business? Over two years.
1819. Have you found that there has been a large increase in your business since you have been engaged in it? Yes; I get more produce of all sorts.
1820. Do you expect a still further extension of business? Judging from present appearances it will extend.
1821. Do you think the Grenfell district is a favourite one for the production of fruit? Grapes and cherries grow well.
1822. What effect do you think the construction of a line from Grenfell to Wyalong will have upon your business? It will increase it considerably. The great drawback at present is the high carriage to market.
1823. What distance from Grenfell does your business extend? I get produce 40 miles from Grenfell.
1824. Has the increase in wool production been very marked during the last two years? I received more wool last year than I did when I first started business.
1825. *Mr. Watson.*] In what branches has your business increased during the last year? Sheepskins, hides, wool, bones, and opossum skins.
1826. Has the increase in sheepskins been general throughout this portion of the Colony on account of the drought? Yes; but if we had a good season we should have an increase in tallow.
1827. Where is the general drift of sheep from the Bland country? They generally make to Cowra.
1828. Have you seen any considerable quantity of sheep going that way? Yes.
1829. Have you been out of the town much? Yes; several days a week I go out from 15 to 20 miles.
1830. Then you do not go upon the Bland? No.
1831. Have you any knowledge of the Bland country? No.

James Beazley, farmer and grazier, sworn, and examined:—

1832. *Mr. Watson.*] Where is your holding? Twenty-six miles west from Grenfell. J. Beazley.
1833. What is its area? 8,228 acres, of which 450 acres are cultivated. 19 Aug., 1899.
1834. Have you increased your cultivated land? Yes; a few years ago I only had 100 acres of it.
1835. Has the prospect of the railway coming from Koorawatha to Grenfell had anything to do with your increasing your area under crop? Yes. We had to go in for mixed farming before that.
1836. Was there not sufficient prospect for making money out of sheep alone? No.
1837. Is your holding near Barbingal? Yes, close to it, on the Caragabal Road. The surveyed route runs through it.
1838. How long have you been in the district? Fourteen years.
1839. Do you know the country beyond your holding, towards Wyalong? I have been to Wyalong. I worked there for eight or nine months.
1840. How would you describe the country between Grenfell and Barbingal? It is good country for wheat growing, to where I live, for 10 miles beyond.
1841. Is there any considerable area of broken ground between Grenfell and your holding? No.
1842. Do the Weddin Mountains make a break in the land fit for agriculture? Yes; but it is good up to the foot of the mountain.
1843. What is the character of the country 35 miles from Grenfell? You get upon the plains there, and they continue about 10 miles further on to the Bland. The route followed by the proposed railway is better for agricultural purposes than is the land lower down; it is not so wet.
1844. How would you describe the land on the other side of the creek, towards Wyalong? There is very good country on the other side of the creek, but the land about Wyalong is rather poor.
1845. Do you regard the plain country as fit for agriculture? Parts of it.

- J. Peasley.  
19 Aug., 1899.
1846. What parts? The red plains. I do not think much of the black parts. The red plains are flat and low, and there is no puffy ground; the puffy ground is where the black soil is, and it is too wet. It is very good pastoral country.
1847. Then you think the greater portion of the route to Wyalong is over good country? Yes, very good country.
1848. Do you know the route of the surveyed line, *via* Bimbi? Yes.
1849. Which of the two routes is, in your opinion, more likely to benefit the country generally? I prefer the northern route.
1850. Does that go nearer to your holding than does the Bimbi route? Yes; but apart from that I think it is the best.
1851. For what reason? It runs through better land. There is more Crown land on the northern than on the Bimbi route. I think it is likely that 35,000 acres will be thrown open on Wheogo and Bogolong.
1852. What sized blocks will be necessary in order that a man may have a chance of making a living? 1,280 acres, combining agriculture with sheep-farming.
1853. Would the railway be of any service to you if it were taken *via* Bimbi? Certainly.
1854. Where would you take your produce if the line *via* Bimbi were constructed? To Bimbi, a distance of about 16 miles.
1855. How far are you from Grenfell? Twenty-six miles. Going to Bimbi would result in a saving of 10 miles of carriage.
1856. Do you think that under those circumstances you would be sufficiently close to a railway to enable you to grow wheat at a profit? I would be in a better position than I am at present.
1857. Do you think that at a distance of 16 miles from the railway you would be sufficiently close to make wheat-growing profitable in an average season at an average price? I think so.
1858. Whilst preferring the northern route, do you consider that the construction of the railway *via* the Bimbi route would be justifiable? Yes.
1859. What do you regard as a fair limit for cartage for a wheat-growing farmer? From 20 to 25 miles.
1860. Is there a good road between your holding and Grenfell? Fairly good. Of course in wet seasons I could not carry produce to Bimbi, and would have to go to Grenfell.
1861. With a decent road, 25 miles would not be outside the influence of a railway for wheat-growing? No.
1862. Supposing the line comes from Koorawatha to Grenfell, and stops there, will you give up growing wheat? No.
1863. Assuming that the present price of wheat is maintained, and you have ordinary seasons, you think it would pay you to grow wheat? Yes.
1864. Has any Crown land been thrown open about the district in which you reside? Yes; during the last two years. It was thrown open as homestead selections at £1 an acre.
1865. Was that timbered country? Yes.
1866. Is it likely to be fit for agriculture if improved? Yes.
1867. Would you care to give as much for the plain country as for the timbered land? I would rather have the timbered land.
1868. Does it not cost more to put it into working order? Yes; but it is the better land when improved.
1869. How many failures are you likely to have out of ten seasons? We have had three failures in thirteen or fourteen years.
1870. What was the average yield of wheat per acre during the good years? Sixteen to eighteen bushels to the acre. We have had as high as 30 bushels to the acre.
1871. Over what area of land? Sixty to seventy acres. Last year was the worst year we have had. Of course, the crop was a failure altogether.
1872. Leaving that year out of account, what was the lowest return? Ten to twelve bushels per acre—the average, however, is as I have stated—16 to 18 bushels per acre.
1873. *Mr. Trickett.*] Do you agree with other witnesses, that the land will carry about three sheep to 4 acres? In fair seasons it will carry about one sheep to the acre.
1874. Do you know what is the profit per acre out of raising sheep? I think that if a man makes 4s. an acre out of sheep-raising it is a reasonable amount.
1875. Do you agree that in order to obtain a profit out of wheat its minimum price should be 2s. per bushel? Yes.
1876. Then, if your average yield is 16 bushels to the acre, you will get a gross return from wheat of 32s. per acre, as against 4s. per acre for sheep-raising? Yes.
1877. Under those circumstances wheat-growing is the more profitable? Yes.

James Casey, farmer and grazier, sworn, and examined:—

- J. Casey.  
19 Aug., 1899.
1878. *Mr. Trickett.*] Where is your holding? Fourteen miles west of Grenfell. I have 7,000 acres of freehold and 3,000 acres of leasehold.
1879. Do you agree with the other witnesses as to the capabilities of the country for wheat-growing? Yes. I have 400 acres under wheat this year, as well as a lot of land already cleared.
1880. Do you contemplate increasing your crop? I have been increasing it during the last few years in the hope of the railway coming from Koorawatha to Grenfell.
1881. In the hope, I presume, of making more out of the land per acre than you can out of raising sheep upon it? Yes. Of course, sheep will pay in one sense, but agriculture will pay better. I may mention that in 1897 I sold at Forbes £360 worth of wheat off 100 acres. I got eighty bags of seed out of it. That was a year of high prices. Of course, I had to pay carriage out of that sum.
1882. Will the proposed railway pass through your property? Yes; it will cut it in two for a distance of  $4\frac{1}{2}$  miles.
1883. Have you any objection to that? No; I think that what is taken away from me will benefit the country.
1884. And yourself as well? Yes.
1885. Are you willing to give to the Government the land they require? Yes.
1886. How long have you been engaged in sheep-farming? Fourteen years.

1887. Do you look upon quick and convenient transit by railway as a necessity for a farmer in this district? Without that he might as well not start farming at all.
1888. Do you know of any instance in which the farmers have not been able to get their crops to market? Yes. I know of small farmers who came here with the intention of cultivating, and who had to sell out on account of there being no market. Practical farmers from Victoria were at that time buying flour in Grenfell for their own use, because it was cheaper to buy it than to cultivate it.
1889. Do you agree that 20 miles is as far as a farmer can profitably cart produce to market? Yes.
1890. Is the climate of the district sufficiently favourable to secure an average of crops which will pay the farmer, even without railway communication? I consider the climate in the Grenfell district is as good as any in New South Wales. The average rainfall is 23 inches per annum. The land is as good for wheat-growing as any in the Colony.
1891. Are the holdings about Grenfell very large? There are a number with 2,560 acres; others with 640 acres and 1,280 acres.
1892. Are there many large holders like yourself, Mr. Wood, and Mr. Greene? Bogolong and Caragabal are large holdings.
1893. Do you think these large holdings would be used more extensively if there were railway communication? Many men, when they see their neighbours cultivating, begin to put their own land to use. If the stock of big holders is of value, they must grow produce for them, and feed them in the winter time.
1894. Do you do that? Yes; I grow a good deal of hay for myself, but I sell a lot as well.
1895. Is this a good fattening country in ordinary seasons? Yes; it is a country which will carry a lot of stock.
1896. What do you think the land is capable of carrying? In good seasons I have had 10,800 sheep on about 8,000 acres.
1897. Would the land carry, on an average, a sheep to the acre? Yes, if it is improved.
1898. Do you grow any corn? Yes; it is a profitable crop in a good season. I have sold some at Wyalong at 2s. a bushel on the ground.
1899. Do you know the Albury district? Yes.
1900. How does the Grenfell district compare with it for vine-growing? The land is better here than it is there for vine-growing. We have chocolate-red soil and little slopes. Only small patches of the Albury district are adapted for grape-growing, but here you can find thousands of acres which are adapted for it.
1901. Which industry is the best as a means of employing labour and increasing settlement? Agriculture will employ more hands by five to one.
1902. Do you think the construction of the proposed line will tend to increase the population of the district? Yes. I think that any vacant Crown lands will be readily taken up.
1903. How far does the agricultural tract of country extend westward from Grenfell? You can get red soil for 32 miles out. After that you cross some plains of black soil.
1904. Do you think that is good for growing crops? Yes; it will grow heavy crops in good seasons, but it is more expensive to work.
1905. Have you any pests in this part of the country which affect the crops? It is sound country; there is very little rust in it.
1906. Does it produce good, marketable, sound wheat? Yes; it produces the best wheat in the Colony.
1907. Are there any pests of any kind in the district? Only the droughts.
1908. *Chairman.*] Have you ever seen the black-soil country cultivated? I think there is very little of it cultivated in this part of the Colony.
1909. Would a man be justified in trying to grow wheat upon it? Certainly.
1910. Would there be any possibility of draining the black-soil country? Certainly; but they will not go to the expense of doing it.
1911. Supposing a railway were constructed through that country, would men owning it be induced to cultivate it and to take all the risks? I daresay the small holders would chance it, but the big holders would refrain from cultivating it as long as possible.
1912. One witness has stated that it pays better to go in for agriculture than for sheep-raising;—is not a man with a lot of land just as eager to make money as is a man with a little land? Some of them are; others will do nothing but run sheep upon their land.
1913. How long will the land about Grenfell stand cropping without a spell? Some of my land has been cropped for thirteen years without a spell. The year before last, which was not a very good season, I got a ton of hay to the acre off it.
1914. *Mr. Watson.*] Was not the year before last a very fair season for hay? Yes, in some parts.
1915. *Chairman.*] Do you get 24 inches of rain at seasonable times, or at such times that will not improve your crop? We get it at seasonable and unseasonable times. Our last twelve months' rainfall was 17 inches. That is sufficient if we can get it when it is wanted. Last September and October we had no rain here.
1916. Generally speaking, does it come when it is beneficial to the crops? Yes; last year, however, it came out of season.
1917. Given a cheap means of getting produce to market, would the owners of land in this district put their land under cultivation? Yes.
1918. Where is your market for fat stock? Sydney. We truck at Cowra, which is 34 miles from Grenfell and 14 miles more from my holding.
1919. What is the cost of carrying a truck from Cowra to Sydney? About £5 3s.
1920. Supposing the proposed line is constructed, and you have good seasons and plenty of grass on the stock routes, will owners of sheep travel their stock by road to Cowra, or will they use the line? If you travel stock from Grenfell to Cowra by road they lose weight all the time, and they are knocked out when they get to Sydney. The result is that there is a loss of about 1s. 6d. per head.
1921. The saving by travelling them would be more than the loss by the falling-off in condition? Yes; the wages of the drovers alone would pay for a portion of the carriage. You would have to keep two or three men on the road for eight or nine days.
1922. Then stockowners would truck their stock at the nearest point for the simple reason that it would pay them? Certainly.

J. Casey.  
19 Aug., 1899.

- J. Casey.  
19 Aug., 1899.
1923. *Mr. Watson.*] You say that you have not seen any of the black soil cultivated? Not on the Bland; but I have seen it cultivated at Forbes.
1924. Do you think that the black soil at Forbes is similar to that of the Bland? Yes.
1925. When did you see the black soil cultivated at Forbes? I saw it last year. It looked right enough when I saw it; but I do not think the crops came to anything.
1926. I presume a crop would burn off quickly on that country? Yes.
1927. Which do you think would stand the drought the better, with a crop in it—the Bland black soil or the red soil? The timbered country would stand it better than would the plain country. If you are growing for ensilage, you can grow more on 1 acre of black soil than on the other soil.
1928. If you could get water for the purposes of irrigation, the black soil would be worth a good deal? Yes.
1929. If a railway is constructed from Koorawatha to Grenfell, you will be within 14 miles of it, and will consequently be fairly well served? I shall be 8 miles off it.
1930. The Railway Commissioners anticipate that the proposed line from Grenfell to Wyalong will show a deficiency of £3,000 per annum;—do you think the increase in production, consequent on the construction of the line, would be sufficient to make up that loss within a reasonable period? Yes. I may mention in regard to dairying that we can make in this part of the country as good butter as is made anywhere; but we have no place to which to send it. It is deplorable to see Sydney butter coming to this part of the country to be sold.
1931. Do you consider that the Young district is as good a district as Grenfell? Yes; from Young to Grenfell is as good a district as any in New South Wales.
1932. Are you aware that for some years past the butter factories in Young have been doing practically nothing on account of the bad season? Yes; I myself started cheese-making on a small scale, but I had to discontinue it.
1933. In view of the experience of Young, and the fact that its rainfall is about the same as that of Grenfell, do you think that dairying here is likely to be successful? It depends on the people who support it.

MONDAY, 21 AUGUST, 1899.

[The Committee met at the Municipal Council Chambers, Grenfell, at 10 a.m.]

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

William Richardson, farmer and grazier, sworn, and examined:—

- W. Richardson.  
21 Aug., 1899.
1934. *Chairman.*] What is the extent of your holding? I have 13,500 acres of secured land, and 10,000 acres of Crown land.
1935. Do you know the character of the country through which it is proposed to take a line from Grenfell to Wyalong? Yes. It is all good agricultural country to the edge of the Bland Plain—that is, for 30 miles out, and for 20 miles on each side of the proposed line. The whole of it is good agricultural land, excepting the tops of the hills, which are stony.
1936. What experience have you had of agriculture? I have grown wheat and corn, and all kinds of produce.
1937. Does your knowledge of the country enable you to say that the land for 30 miles out is suitable for agriculture? Yes; and also for 20 miles to the north and south of the proposed line.
1938. That means an extent of country 30 miles long and 40 miles broad? Yes. It is as I have described, with the exception of the Weddin Mountain, and the tops of the hills, which are stony. The land which is not suitable for cultivation will be, in extent, about 80,000 acres.
1939. Have you any tenants? I have farmers on the “halves” system; they have 600 acres of cropping this year.
1940. Are they satisfied with the results? Yes.
1941. Does your experience lead you to the belief that in a district like this the land will bear continuous cultivation? I think it will do so with safety for five or six years. Then it should be spelled for a couple of years, or there should be a rotation of crops.
1942. As a labour-giving occupation, is agriculture preferable to pastoral pursuits? It is far ahead of depasturing stock—so much so that I only keep three men all the year round looking after the sheep, whereas I have had upwards of twenty men on 600 acres of crop.
1943. To how many men do you estimate employment could be given if the agricultural land which you hold were put under cultivation? About 300.
1944. Are you situated within a reasonable distance of Grenfell? About 5 miles away.
1945. So that whether the proposed line is or is not constructed it would make very little difference to you? Very little difference. In the interests, however, of the people further west, it would be a good thing to construct the line.
1946. From what distance does it pay to carry wheat to a railway station? From anywhere within a distance of 20 miles.
1947. Have you proved the capabilities of the country in any other direction? I have grown all kinds of vegetables and fruit remarkably well.
1948. If the proposed line is constructed, are you prepared to increase the area you have under cultivation? That is my intention. I have already 1,000 acres ready for the plough, and I am preparing more.
1949. Do you think the promises which have been made that increased areas of land will be put under cultivation if the Koorawatha to Grenfell line is constructed are likely to be carried out? Yes. When the line is constructed people will find that they will make more money by growing cereals than by raising sheep.

1950.

W.  
Richardson.  
21 Aug., 1899.

1950. Is there not a reluctance on the part of pastoralists to become agriculturists? No doubt there has been; but as the population increases they must turn to cultivation. They will turn to what pays them best. What they want, however, is a line in order to convey their produce to market.

1951. Is it the want of cheap carriage to market that has prevented people from putting their land under cultivation hitherto? Yes. Opportunities would be given by commercial companies to enable men to clear more land if the line were constructed.

1952. Are the holdings in the district large, or is the land fairly cut up? It is very fairly cut up; but they are quite sufficient for a man to make a living off.

1953. Have you any knowledge of the country which the Bimbi deviation would serve? I know it fairly well; it is very good country. A few miles from Grenfell the land is very good; but it is not so good further on.

1954. Have you any knowledge of the black-soil country being cultivated? Only to a slight extent; but in years to come means will, I think, be found for dealing with that land satisfactorily, so as to enable it to grow cereals. I think it will be necessary to add light manure, so as to make the soil more friable. It will require draining as well. It is very rich pastoral country. All the land on the banks of the creeks is fit for growing crops, and so are the sand ridges. That land is dry and easy to work; the other land becomes saturated in wet weather, owing to the want of drainage.

1955. Is there any fall in the land there? A very slight fall. It would be necessary to run the water-course into the creek. I may mention that I have taken notice of the surveyed route of the line from Grenfell to Wyalong, and I would suggest that a cutting should be made in the gap one mile from Grenfell, so as to shorten the construction by a mile or a mile and a half. Instead of the line going exactly on the route proposed, I would deviate it a little further north, and go through the gap and along the northern side of portion 151. By doing that a large curve would be avoided. If at some future time it were found necessary to connect with Forbes, the Forbes survey could be continued to meet the 315-mile point.

1956. What amount of construction would that save? About  $1\frac{1}{2}$  mile.

1957. Would it not necessitate a heavy cutting? It might necessitate a tunnel 30 chains in length.

1958. Then you think it would be advisable to pierce the range by means of a tunnel 30 chains in length in order to avoid  $1\frac{1}{2}$  mile of construction and maintenance for all time? Yes. I may mention that in the cutting there is a fine head of ballast, which would probably last for all rail and road purposes for 100 years.

1959. *Mr. Shepherd.*] What crops would you grow in rotation in addition to wheat? Oats, barley, peas, and perhaps beetroot.

1960. Would it pay you to grow a large quantity of peas? I think so. Some of the crops might be ploughed down for manure.

1961. There is no doubt that growing green manure thoroughly resuscitates the land? Yes; as population increases people will be compelled to do something of that kind.

1962. What area of land do you think is sufficient to support a family in this district? In order that a man may support a family and live at all well, he would require 2,000 acres, so that he can run sheep upon it. If we had the railway, so that the land could be put to its fullest use, I should think a man could make a comfortable living out of 200 or 300 acres.

1963. Has an attempt been made to grow fodder—sweeds for instance, for cattle? No; we only grow corn, barley, and rye, and have cut it green.

1964. Have you endeavoured to grow pumpkins? Yes; they do well.

1965. *Mr. Trickett.*] Can you say what extent of land over an area of 20 miles on either side of the proposed railway is suitable for agriculture? Taking a radius of 20 miles on either side of the proposed line, and for a distance of 30 miles from Grenfell, there are, so I estimate, 300,000 acres of wheat-land; that area would reach as far as Caragabal one way, half way to Forbes the other way, and to Bimbi on the south. All the land around Bimbi is suitable for cultivation.

1966. Would the northern route accommodate the Bimbi people? The southern route will accommodate them better.

1967. How far would the Bimbi people have to carry their produce if the proposed line were constructed? Twelve miles. If the railway went to Bimbi it would be going towards Young.

1968. If the line is constructed *via* the northern route, will not the Bimbi people bring their wheat to Grenfell instead of striking it at right angles? I think so, because they have a road to Grenfell.

1969. Are the 300,000 acres of land to which you have referred red-soil? Yes.

1970. Is it alienated land? No. I think there must be 70,000 acres of Crown land which will shortly be thrown open.

1971. In one block? No, in various blocks. There are 8,000 acres on Bogolong, and there will be more on the runs further west.

1972. Is the Crown land good land? Yes; it will grow anything when it is cleared.

1973. What kind of country is there beyond Caragabal? Beyond Caragabal you get into the boree and plain country; it is all black soil.

1974. Is it suitable for growing crops? If it were treated with some light litter, such as straw, and were drained, there is no doubt it could be cultivated to advantage. As the population increases in years to come some method will no doubt be found of dealing successfully with it.

1975. But naturally the red soil, which is more easily cultivated, would be taken up first? Yes, certainly.

1976. Does the black soil extend all the way from Caragabal to Wyalong? No. From Caragabal to 20 miles beyond would be the extent of the boree country. That would take you 50 miles from Grenfell. Then there are 10 miles to Wyalong, and a good deal of that country is covered with mallee. If the mallee were destroyed it would be thoroughly good agricultural land. It is a red, loamy soil.

1977. Is it not rather difficult to clear? The people of New South Wales think so, but the Victorians think little of clearing mallee. They burn the bushes, draw the rollers over it, knock up the stumps, and then plough it with heavy ploughs. The stumps are then gathered up and burnt. We have had so much land about here to deal with that we have not been compelled to clear the worst.

1978. Which of the three soils is the best suited for agriculture—the red, the black, or the mallee? Most decidedly the red soil.

1979. In the ordinary course of events, wheat-growing is not likely to extend in that direction until all the good land is used up? I would not say that. If the proposed line is constructed to Wyalong the mallee country will be put under cultivation immediately.

1980.

- W. Richardson. 1980. If that is so, you will be deprived of that portion of the country as an outlet for your produce? Yes.
- 21 Aug., 1899. 1981. In that event your market will, to a large extent, be Sydney? And England, I suppose. We shall have to ship wheat in the same way as we have to ship wool.
1982. I understand that one of the mills in Grenfell has been destroyed, and that the other has been closed? Yes. A movement was started some time ago to establish a mill, but the difficulty was that those who took part in it was not quite satisfied as to where the line was going to be. I understand that, as soon as the position of the line was definitely known, steps would be taken to erect a mill at Grenfell.
1983. Do you think milling will be gone in for locally to a large extent? Yes; fully for the requirements of the district.
1984. Can you give us any information as to the comparative cost of treating land for pastoral purposes and for agriculture, and also as to the actual results? It seems clear to me that, when you take into consideration the making of tanks, the construction of fences, and ringbarking the land, it will cost almost as much money to prepare land for sheep as it will to prepare it for wheat. I estimate that it would cost 10s. more per acre to prepare land for wheat than it would to prepare land for sheep. I think, however, from what I have seen, that the return from wheat is greater than the return from sheep.
1985. We have been told that an average price of 2s. per bushel of wheat on the ground will give a fair profit? I am satisfied that if we had a railway here that would pay. If there were 10 or 20 bushels to the acre the profit, of course, would vary. If we have an average of 16 bushels to the acre, that means, of course, 32s. an acre. Inasmuch as a crop can be put in and taken out for £1 an acre, the result under those circumstances would be a profit of 10s. an acre.
1986. How would that compare with the profits per acre from sheep? If the land is well improved, sheep should give a return of 5s. an acre in this district. When the land is thoroughly improved it will maintain a sheep to the acre.
1987. You estimate, then, that the return from wheat-growing is double that from sheep-grazing? Yes.
1988. What is your opinion of the northern route as compared with the Bimbi route? I think the northern route would be the better, because it is shorter. It would be a quicker way of getting coal to the Wyalong mines, and of sending produce to the west. A good deal of traffic which is not at present thought of would be opened up. I also advocate the northern route with the view at some future day of connecting with Forbes. The adoption of the northern route would avoid the necessity of back-shunting at Grenfell.
1989. What is your opinion of the character of the land on the two routes? I think the land around Bimbi is, on the whole, equal to that I have already described.
1990. You have stated that 70,000 acres out of 300,000 acres are to be thrown open this year;—is the balance held by large holders? No; the largest holdings are from 2,000 acres to 3,000 acres.
1991. Are there no large holdings? Not until you come to Caragabal.
1992. Is the country capable of supporting a population of small holdings? Yes, I know of one person on 160 acres of land. He cultivates it thoroughly, and I know of no farmer who is more comfortable than he.
1993. Then there is every prospect, with a speedy despatch of produce to market, of the population largely increasing? It must do so.
1994. Mr. Donkin, when in Sydney, stated that the country about Lake Cowal and to the south would, he thought, be largely used for dairying? I think so too in good seasons. It is a wonderfully rich grazing country.
1995. Is it not subject to drought? Every district has been subject to drought during the last four years.
1996. He also stated that as the result of many years' experience he found it necessary that a man keeping stock should hold double the land necessary to carry them, in order that he might be able to spell his paddocks? Yes, in droughty seasons; but not in good seasons. I consider that 2,000 acres is sufficient to enable a man to maintain a family.
1997. Does that remark apply to the country in the Lake Cowal district as well? Yes.
1998. Even if a quarter of the land had to be rested? It oftens happens that owing to the want of a railway our stock, when fattened, have to be kept at home. If they are driven a great distance they become poor. If we had railway communication they could be trucked away at once, and we could then spell our land.
1999. Do you know the cost of clearing mallee country? I should think 10s. to 12s. an acre would cover it. For that sum you could cut the mallee down, roll it, burn it, and afterwards plough it.
2000. *Mr. Shepherd.*] The mallee country to which I have been accustomed could not be cleared for anything like that sum, because of the large size of the roots? The mallee about here is very small. It is what is known as scrub mallee. With a strong plough it can be taken up after being rolled.
2001. *Mr. Watson.*] The price you have mentioned would be quite as low as that which is paid for getting dry timber taken off box country? Yes; but in that case we have to dig round the trees and chop out the roots.
2002. I believe the reason the mallee country has not been taken up is because it is more expensive to clear? No; I believe the reason is because it is too far from a market. I feel sure that when we have a railway the mallee country will be dealt with.
2003. You have stated that with drainage the black soil could probably be used for agriculture;—will you tell me to where it would be possible to drain in that flat country? The Bland Creek.
2004. Do you think it would be worth while going to the expense of draining when there is so little fall, in order to get the black soil into cultivation? Yes; when the population increases, say, fifteen or twenty years hence.
2005. How much would it cost per acre to drain any considerable area of that country? I could not give an estimate.
2006. Would it not cost a large amount of money? No. If I were to drain it, I should get a strong team of bullocks, and a huge plough, and would plough a few furrows, and throw the soil out by means of scoops.
2007. But even then it would cost a good deal of money to make drainage effective when there is so slight a fall in the ground? I would point out that the main creek runs through the Bland country, and every mile or half a mile there are little natural waterways running into it. The country could be easily drained into

into these waterways. I do not think draining would be of service without the application of some light manure to open the soil. If you apply straw to clayey ground, it becomes so light that you can draw your foot through it after a period of about five years.

2008. Is it not a fact that a drought affects the black-soil country more quickly than it does the red-soil country? Yes.

2009. Is the rainfall out towards the Bland less than it is around Grenfell? Yes.

2010. You have stated that an outlet for coal might be found in Wyalong? Yes.

2011. Mr. Pittman, the Government Geologist, has expressed the opinion that the ores there will not require smelting? I could not speak on that subject, of course.

2012. I believe that at one time the people on the Bland ran cattle solely? Yes.

2013. They gave up cattle, because they found that sheep would pay better? The reason they gave up cattle was because of the 1877 drought.

2014. If a man goes in for dairying, must he not have a reasonable prospect of obtaining feed all the year round? Yes; dairying cannot be profitably carried on, unless you grow sufficient green fodder to provide for the winter, and even for the summer as well.

2015. Should you care to embark in dairying on the Bland country? No; I could not say that I should. I may state that the proposed line will go through 7 or 8 miles of my land, and I should be willing to give what is required to the Crown.

W.  
Richardson.  
21 Aug., 1899.

Patrick Alfred Madden, farmer and grazier, near Piney Range, sworn, and examined:—

2016. *Mr. Dick.*] Where is Piney Range? Nearly 20 miles from Grenfell.

2017. How many acres of land do you hold? 2,500.

2018. Have you gone in much for wheat cultivation? Yes; for nearly 300 acres.

2019. How long will land in this district stand cropping? I took up land in 1885, and cultivated it, and it has had a spell of two years. It is being cropped at present, and there is a prospect of it giving 2 tons of hay to the acre, or 20 bushels of wheat.

2020. In other words, you have cropped it for twelve out of fourteen years? Yes.

2021. What is the carrying capacity of the holding which you devote to sheep-raising? I have shorn 4,600 sheep there, and sold them all as fats.

2022. That means about two sheep to the acre? Yes.

2023. Is there much land between Grenfell and Wyalong of a similar character to yours? Yes; for 35 miles from Grenfell.

2024. Have you had experience in agricultural and pastoral pursuits in any other part of the country? Yes; at Albury and in Victoria.

2025. Given railway communication to Wyalong, how would you compare the prospects of this district with those of the Albury district? A man can do better here; we have just as good land for cultivation, and it is a great deal better for fattening stock. For the last six years I have sent over 1,200 fat sheep to Sydney, yearly.

2026. Has the prospect of the construction of the Koorawatha to Grenfell railway induced you to put a large area of land under cultivation? Yes.

2027. Would the construction of a line from Grenfell to Wyalong lead you to still further increase your cultivated area? Yes; I intend to continue until I get 1,000 acres ready.

2028. In spite of the fact that you have sold 1,200 fat sheep yearly? Yes.

2029. Are we to conclude from what you say, that, given railway communication, the profits from wheat-farming are greater than those from sheep-grazing? Yes; I do not think that I get an average of more than 4s. 6d. for my sheep, although I have to go to the expense of driving them from here to Cowra or Young.

2030. Do you agree with Mr. Richardson as to the profits from sheep-farming and wheat-raising, namely, 10s. an acre from wheat, and 5s. an acre from sheep? I think I should have estimated 6s. or 7s. an acre from sheep. Still a man cultivating wheat would have the advantage.

2031. Do you think the district between Wyalong and Hillston would be a market for the Grenfell producers? In a dry season it would be a good market for this district.

P. A.  
Madden.  
21 Aug., 1899.

John Cleary, farmer and grazier, Piney Range, sworn, and examined:—

2032. *Mr. Shepherd.*] What is the extent of your holding? 2,560 acres.

2033. How much land have you under cultivation? 170 acres.

2034. Is the whole of your holding ringbarked and scrubbed? Yes.

2035. How many sheep have you? 1,200.

2036. Do you consider your holding fully stocked? No.

2037. In the event of a railway from Grenfell to Wyalong being constructed, would you be likely to increase your holding under agriculture? Yes; up to 1,000 acres.

2038. What does it cost you to prepare land for agriculture? Fourteen shillings to 15s. per acre. The highest we have paid has been 16s. Of course I am not referring to country in its natural condition; it has to be ringbarked and scrubbed for eight or ten years.

2039. What distance do you consider it would pay a man to carry wheat to a railway station? With the present prices ruling for wheat, I consider a man should be within 15 miles of a railway to enable him to make wheat-farming pay. He should be so situated that he would be able to get to and from the railway station in a day.

2040. What is your average yield per acre in an ordinary season? About 16 bushels.

2041. What do you consider is the cost per acre of ploughing, sowing, and harvesting your land? About 15s.

2042. So that if you have 16 bushels to the acre you would make a clear profit of 17s. or 18s. per acre? Yes.

2043. You can do nothing like that in sheep-farming? No.

2044. Do you keep any fat cattle? Not many.

J. Cleary.  
21 Aug., 1899.

- J. Cleary. 2045. Have you fairly good pasture all the year round? Yes; in an ordinary year we should have fairly good pasture all the year round. The pasture is of a very fattening nature in the spring of the year.  
 21 Aug., 1899. 2046. What sort of grass have you? The natural grass—that is the Bland grass—will grow if the country gets a spell, and it will eventually take the place of all other grasses. It grows 6 or 7 feet high, and is the natural grass of that part of the country.  
 2047. Are you well acquainted with the route of the proposed railway? I know 30 miles of it.  
 2048. Which route do you think would be the better for the public, irrespective of individual interest? The northern route; it would benefit more people. If the population is not there at present, it will come there; but I think that even at the present time it will benefit more people than will the Bimbi route. It would give a great impetus to agriculture.  
 2049. How long will the land stand cropping without manuring or resting? At least ten years.  
 2050. Does it become completely worn out in that time? No. I may mention that the same class of country exists for a distance of 30 miles.  
 2051. Do you think that at the end of ten years the land will cease to pay for growing crop? Without manure.  
 2052. Do you think it is wise to cultivate the land to the last point? No; I think it is wise to spell it, or to rotate the crops. For instance, it might grow oats and barley.  
 2053. Have you had any experience of manuring with green manure? Yes.  
 2054. How have you found it answer? More satisfactory than any other manure we have applied. Field peas have suited the purposes of manuring, and have given a good return as well. On worn out land at Albury I have sown peas, and then wheat, and I had as good a crop of wheat as any I ever produced.  
 2055. Did you find the field peas to answer well? Yes, it cleans the land and makes it suitable for growing any crop.  
 2056. *Chairman.*] It has been stated that a return of 2s. 9d. per bushel for wheat-growing would make that industry pay? I think that, with facilities for getting to market, wheat at 2s. 9d. per bushel will pay better than sheep-farming.

Steele Caldwell, farmer and grazier, sworn, and examined:—

- S. Caldwell. 2057. *Mr. Trickett.*] Where is your holding? Thirty miles to the south-west of Grenfell.  
 21 Aug., 1899. 2058. What holding have you? 20,000 acres, including 11,000 acres of freehold. I have 5,200 sheep, sixty cattle, and twenty horses. The area under crop is 220 acres, and I intend to increase it yearly.  
 2059. Have you any statement to make? Yes. I wish to state that I advocate the construction of a line of railway from Grenfell to Wyalong across the Bland country. The prosperity of the whole of the Bland district has been diminishing yearly for a considerable time. The disadvantage of its being out of touch with a railway during periods of drought has caused untold loss. I contend that the construction of a line of railway would be the means of assisting this district to regain its normal condition. As far as my experience goes, grazing alone does not pay. I have had the advantage of being within the district during some of the best of seasons, and my position to-day is very little better than it was twenty years since, or at the time I came into possession of the property I now hold. I take it that necessity will compel landholders within the Bland and Wyalong districts to cultivate their holdings, or part thereof, to combine grazing with farming, as the only possible means of making the land pay. The two industries worked together assist each other. South and south-west of the Weddin many are farming on a fairly large scale, but the area intended to be cropped has been greatly restricted this last two or three years by drought. I understand they are all increasing the area of cultivation, and intend continuing to do so, in the event of a line of railway being constructed within a suitable distance. I consider, with suitable roads, farmers are fairly well served if within 16 miles of a railway. Many contend that beyond that distance farming does not pay. I am in favour of the line south of the Weddin. It is more central and will serve a much larger population. It passes through the village of Bimbi, which has a population of 150, and a school roll of fifty-four children. There is a great demand west of this district for produce. This line would enable this district to get a market there. This line would bring into touch some of the finest farming land in the Colony; embracing the lands that once comprised the pastoral holdings of Kikiama, Upper Balabla, and the southern part of Bribaree Creek. The country that once comprised these holdings now embraces numerous farms. A siding at Bimbi and one near Arramagong would bring all this land within 16 miles of a railway, and the roads leading thereto would descend, which would be an advantage in the hauling of produce to the line. Further along this line, for a distance of 25 miles, there would be a plentiful supply of water, which, I understand, is not so easily obtainable along the northern line.  
 2060. When you get past the 25 miles to which you have referred, the water supply on either route will be the same? Yes.  
 2061. What is that water supply to which you have referred? It is underground water, within 20 feet of the surface, along the banks of the Burrangong Creek.  
 2062. You seem to have a small number of sheep on your holding? It is small, but it is about the average carried during the last two or three years. I do not think any of the land in the Bland district has carried more than one sheep to 3 or 4 acres during the last two years. Before that, on improved lands, we generally carried one sheep to the acre.  
 2063. Is there any special reason why you have not got on too well in the district? It is on account of losses caused by the recent drought.  
 2064. Would better means of railway communication improve the present state of things? Yes; it would enable graziers in droughty seasons to cultivate portions of their holdings.  
 2065. Is the country in the locality in which you live suitable for cultivation? Portions of it are. The red soil is especially good.  
 2066. Has it been a success where you have gone in for it? Yes.  
 2067. What is a fair average yield to the acre? About 12 bushels.  
 2068. Do you think 16 bushels per acre would be an excessive return? It might not be nearer to Grenfell.  
 2069. As you go more to the west, the rainfall diminishes? Yes.  
 2070. Would 12 bushels of wheat to the acre be a payable crop? I think so. Of course, the use of modern machinery means less expense in cultivation.  
 2071.



2071. Mr. Richardson has told us that he thinks the mallee land about Wyalong could be put to some use;—do you agree with that statement? Yes. West and south of Wyalong it is splendid land. It has a light rainfall; but it is quick-growing soil. S: Caldwell.  
21 Aug., 1899.
2072. Then Wyalong would not be a market for Grenfell if that land were cultivated? Perhaps not.
2073. Under those circumstances you would have to export your produce? Yes.
2074. What is your opinion of the character of the country on the northern route as compared with the Bimbi route? I think the balance of the productive country would be on the southern route.
2075. Do you base that statement upon the fact of the mountain taking up a lot of land not suitable for agriculture? I do.
2076. What is your nearest distance to a railway station? Young is the nearest point of access at present, and that is 37 miles away.
2077. Is the road a bad one? It is an indifferent road. Only a portion of it has been attended to. Some of it has not even been cleared.
2078. Is that one of the disadvantages, to which you refer in your statement, in keeping the country back? Yes.
2079. Have you lost much stock during the last few drougthy years? Yes. I have had to sacrifice large quantities of stock at a low price.
2080. Would you have been able to get some of them away to market with a railway? Yes.
2081. Would you, as a large holder, go in for agriculture to any extent if you were within 16 miles of a railway? Yes; it is my intention to do so, even at my present distance from Grenfell—30 miles.
2082. Do you consider that the estimated loss on the proposed line would soon diminish? I think the population would increase rapidly. There are about 74,000 acres of Crown lands west of Bimbi, which will be thrown open during the next twelve months. I refer to the Euroka holding, Wentworth Gully holding, West Bland, and Worangora.
2083. Is the bulk of that land suitable for agriculture? It is suitable for mixed settlement. There is a good deal of red soil in it, and it is the best of grazing country in moderate seasons.
2084. Do you go as far as some of the witnesses by saying that every acre of it is good? I do not.
2085. Do you think a man could live on 200 acres of land? I know of one who lives on that amount.
2086. What does he do? He farms wholly and solely, and shears during the off seasons. He does very well. He has had two or three failures lately on account of the drougthy seasons.
2087. Is the 74,000 acres to which you have referred slightly improved? It is ringbarked.
2088. After it has been ringbarked a year or two is it easily cleared? Yes.
2089. Do you think the value of the Crown lands would be largely increased with railway communication? I do.
2090. Could you say to what extent? To a quarter, or nearly double the present rental.
2091. Other witnesses have stated that the northern route has advantages over the southern route, from a natural point of view? I think the southern route would serve the larger population. It would be a less difficult line to construct, from an engineering point of view, although it would be longer.
2092. Are either of the routes on what you would call flooded country? No. The country is low, crossing the Bland Creek, but I do not think there would be any engineering difficulties.
2093. Could you say that one would be more likely to be damaged by heavy rainfalls than the other? The further up the creek you go the less liability is there to flood. If there is any difference at all, I should say the southern route has the advantage. The banks are higher there, and the country less liable to floods.
2094. *Mr. Watson.*] How many miles is Bimbi from Grenfell by road? Twenty-one and a half.
2095. Supposing the line is constructed by the northern route, would the Bimbi people make towards the railway at Bolingerai? I believe so.
2096. Do you think the Bimbi people would make towards the Wyalong extension with their trade, or go towards Grenfell by the existing road? I believe the traffic would divide itself. Some would prefer the road, and others the line.
2097. Would the northern route be of any advantage to the people of Bimbi? Very little. Most of them would prefer to go towards Grenfell by the existing road.
2098. Generally speaking, you prefer to go with your produce to a centre? Of course, a good deal would depend on the conditions under which the produce would have to be conveyed.
2099. Do you think the people of Bimbi are so far from the proposed line that they will be materially handicapped in their cultivation? Yes; the people at Bimbi and east of Bimbi.
2100. If the proposed line were taken near Bimbi, would the Piney Range people be handicapped? They would have a railway station at Grenfell.
2101. Do you think that is sufficient to reasonably serve them? Yes; it is only 15 or 16 miles away.
2102. You consider, then, that the people at Bimbi would be inconvenienced to a greater extent by the line not being taken in their direction than would the people of Piney Range? Considerably more so.

James Simpson, farmer and grazier, Emu Creek, sworn, and examined:—

2103. *Mr. Watson.*] Where is Emu Creek? Eight miles from Grenfell, on the Bimbi road. J. Simpson.  
21 Aug., 1899.
2104. What is the extent of your holding? 1,200 acres. 642 acres are under crop.
2105. What has been your experience with regard to production? It has varied according to the seasons. I have had from 24 bushels down to 5 or 6 bushels of wheat per acre. The average for a number of years has been about 12 bushels.
2106. Do you favour the construction of a railway from Grenfell to Wyalong *via* Bimbi? I do.
2107. For what reason? There is more agricultural land on that route, and it will be more suitable for a larger population. On the northern route the land is not suitable for cultivation. It is hilly country. Between Mr. Richardson's station and Emu Creek the land is suitable for cultivation, but when you go to the right it is hilly country. As you advance towards Piney Range there is a lot of country between the Marsden and the Forbes roads, which, in my opinion, is not very suitable for cultivation. It is not what I call first-class agricultural land. It is not to be compared with the land on the southern route.
2108. Have you been far out from Grenfell, on the Marsden road? Yes, about 18 miles.
2109. Do you consider there is less land for cultivation on that route than there is on the southern route? When you get out about 8 or 10 miles the land improves; but for the first few miles from Grenfell,

- J. Simpson. Grenfell, except on the left hand side of the road, it is of an inferior quality. I travelled over that land before I settled down.
- 21 Aug., 1899. 2110. And eventually you settled down at Overdale in preference to land to the north? Yes.
2111. Had you an opportunity of obtaining land to the north? Yes; when I came here all the land was open.
2112. You could have taken land on the north or south, as you wished? Yes.
2113. And you preferred, on account of your knowledge of the country, to go where you now are? Yes.
2114. Was there any other reason which influenced you in making your choice? No. I may mention that at that time there was no railway nearer than Goulburn. I took up the land, because it was good, and better-watered country, and there were better means of conserving water. I wanted to get as close to Grenfell as I could, as I thought I could do something in the way of dairying.
2115. Would you not have been as close to Grenfell on the northern route? I could not get as good land on that route.
2116. But you could easily have conserved water? But the land is not so good.
2117. You say you know the land for 18 miles round? Yes; for the first 10 miles it is not so good as the land on the Bimbi route.
2118. What about the next 8 miles? It is fairly good; but I consider there is too much sand in it. I do not think it will stand cultivation in dry seasons as well as land with more body in it.
2119. You say that the land for the next 8 miles is more sandy than is the land around Bimbi? It is sandy; but it approaches to the land about Bimbi very much. I think, however, a greater extent of country would be served by the line going by way of Bimbi. Going out towards Forbes you get into black-soil country, which I do not consider suitable for cultivation.
2120. Have you been on the Bland country? Yes.
2121. What is your opinion of it? I do not think it is suitable for cultivation except in regard to portions of it.
2122. Do you think it could be drained at a moderate cost? No; most of the Bland country is small-gilgai country, and the water lies in it. You would require underground draining to bring it into a condition for cultivation.
2123. And that would cost more than wheat-land would be worth? Yes.
2124. Do you think a line constructed in a northerly direction would help the Bimbi people? I do not think it would suit them at all.
2125. Would they take advantage of it? I do not think so, unless they were sending their produce west. I may say that I would rather draw my produce 20 miles if I were going towards a market, than I would draw it 10 miles to a railway station, taking me away from my market, which going to Bimbi would entail.
2126. Do you consider that it is only in occasional dry seasons that you would find a market to the west? For a few years to come. I believe we should have a market to the west until such time as the land about Wyalong were brought under cultivation.
2127. Do you look for any permanent market to the west? We might have one for ten or twelve years, but we should have to depend on exporting.
2128. I do not suppose you consider yourself interested, to any extent, in the proposed railway, seeing that you are situated only 8 miles from Grenfell? The proposed line passes through my property, and I take it that if the Bimbi route is followed, there will be a siding to which I shall have the opportunity of conveying my produce.
2129. But you are not so far from the proposed line that its non-extension in your direction will do you any material injury? That is so. I only wish to see the line constructed, so that it will benefit the greatest number. There is a lot of land in the neighbourhood of the Bimbi route which will be thrown open in a year or so, and a large population will settle upon it. There are 2,000 acres of Crown lands on the Arramagong East holding, which I hope to see thrown open on the expiration of the lease.
2130. Has there been any increase in cultivation in the district in which you reside, on account of the proposed construction of the line from Koorawatha to Grenfell? Every one round about has increased his area of late years, and I attribute that partly to the prospect of getting the line to Grenfell.
2131. Then it is reasonable to suppose that, with the construction of a line from Grenfell to Wyalong, there would be a further material increase in cultivation? Yes.
2132. How far on the Bimbi route does the land fit for agriculture extend before you reach the black soil? There is land fit for cultivation 30 miles out, although not continuously. It extends past Euroka.
2133. That is a similar distance to that which, we are informed, is available on the northern route? You might extend it to more than 30 miles, because it will go within 4 miles of Williams' Crossing, and still find good land.
2134. Do you say that you could cultivate to within 4 miles of Williams' Crossing? Yes.
2135. How far is that from Grenfell? About 37 miles.
2136. Have you been to Wyalong? Yes.
2137. What do you think of the land towards Wyalong? There is some good land for farming purposes in the neighbourhood of Wyalong. If I were now looking for a home I would be inclined to take up land near Wyalong.
2138. Is it possible to do anything with the gilgai country near Wyalong? Only for grazing. The mallee would be good farming land, but it would be expensive to bring it under crop.
2139. On the whole you think that the construction of a line from Grenfell to Wyalong is justifiable, and that it should go by way of Bimbi, in order to serve the largest population? Yes. There is water at convenient distances on the route. It follows the bank of the Emu Creek for 10 miles. Water can also be got at Sandy Creek, within 8 or 10 feet of the surface.
2140. Have you any further information to supply to the Committee? I may say that in the immediate neighbourhood of my holding there are on the Arramagong estate twelve selectors who would be served by a railway *via* Bimbi. The northern route would not serve them at all, and they would have to rely on getting to Grenfell.
2141. Have you had any experience of working the black soil country? No; but from what I have seen of it I would not take it up for farming purposes.
2142. *Mr. Trickett.*] What length of line would there be through your property? About half a mile.
2143. Should you be willing to give your land, if required, for railway purposes. Yes. I think others are willing to do the same. Some are also willing to exchange for land adjoining.

Hugh Gault, farmer, grazier, and sawmill proprietor, Bimbi, sworn, and examined :—

2144. *Mr. Dick.*] Have you heard the evidence of the previous witnesses with regard to the Bimbi route? Yes. I am in favour of that route, because I think it will be advantageous to the largest number of people and it would lead to a greater increase of closer settlement than would the construction of the line *via* the northern route. H. Gault.  
21 Aug., 1899.
2145. Do you know the Bland country? Yes.
2146. One of the witnesses in Sydney has told us that the flooded area along the Bimbi route is wider than it is along the northern route? I differ from that opinion altogether.
2147. Does the flooded area widen as the Bland Creek goes north? Yes.
2148. What is the area of your holding? About 5,000 acres of selections and leasehold area. I have about 150 acres of it under crop.
2149. Did the prospect of railway extension from Koorawatha to Grenfell lead to an increase in cultivation in your district? Yes; but not with me personally, because the seasons have been too dry for ploughing.
2150. If the line were constructed along the northern route, whence would the people of the district take their produce? Personally, I would go to Young with some of it, in preference to going to Grenfell. In wet weather it is almost impossible to get out to Caragabal.
2151. Then, if the line were constructed on the northern route, the people of the Bimbi district would continue to haul their produce to Grenfell or Young? Yes.
2152. Is Bimbi a progressive district? Yes; it was only formed a few years ago. A village was surveyed there, and a number of suburban blocks of from 4 to 6 acres were put up for auction. Two years ago none of them were available. The township blocks are nearly all occupied. There is not much more room for settlement in the village. There is a permanent population there.
2153. Do you think the Bimbi route affords superior facilities for the trucking of stock? At the village of Bimbi there are five travelling stock routes intersecting each other. There is one through Caragabal, Williams' Crossing, Old Balabla, Young, and Grenfell.
2154. Are they used much? Yes.
2155. Would the construction of the southern route offer any advantages in regard to the supply of timber for the line? Yes; there is a good deal of ironbark close to the line. The Weddin Forest reserve is getting cleared now. Sixty men have been sent from Sydney to clear and thin it out. There is a fine lot of ironbark there.
2156. Is it the real ironbark, or mugga? It is not the really good ironbark; but there are some large trees there.
2157. The Weddin Forest would be available for either route? Yes.
2158. Would you have any new markets by the construction of the line *via* Bimbi? Yes. Young consumes the principal portion of our timber. Harden also takes some of it.
2159. Would the construction of the railway affect those markets? It would give us cheaper carriage. There are 32 miles of very bad carriage. It is almost impossible to travel in wet seasons on the black country, for the first 14 miles from Bimbi. My opinion is, that whenever a line is constructed there should be an adequate water supply for the use of the engine. I have been working an engine for the last twenty years, and the water, for which I have had to sink 90 feet, is corrosive. The water in the surface drift at Bimbi is as good as any to be found, and there seems to be a never-ending supply. During the last three or four years the stock of the district have had to be conveyed to it to get water.

Thomas Goonan, farmer and grazier, near Bimbi, sworn, and examined :—

2160. *Chairman.*] Where is your holding? Six or 7 miles south-west of Bimbi, and about 27 miles from Grenfell. T. Goonan.  
21 Aug., 1899.
2161. How many acres have you? I have 1,800 acres.
2162. Have you any reasonable prospect of making more than a living off your ground without a railway? Without a railway it is a very hard job. With a railway I hope to make a comfortable living off it.
2163. What proportion of your holding is fit for agriculture? About one-half.
2164. Is the quality of the soil on your holding similar to that on other holdings in the locality? I think so.
2165. What percentage of the land in the district is fit for cultivation? About 50 per cent.
2166. Would it be cultivated if railway communication were given? Yes.
2167. Have you grown wheat? Yes; for ten years. With the exception of the last two years, I have had fair crops.
2168. What do you consider to be a fair average crop? Twelve to 13 bushels to the acre, although for six or seven years I have got more than that. For six or seven years I have had as much as 20 bushels.
2169. Has wheat-growing in this district proved remunerative in average years? Yes.
2170. Where do you carry your produce to? Young.
2171. When the Koorawatha-Grenfell railway is constructed, where will you take it to? Most likely to Grenfell. It all depends on the price a man can get or the market he can find.
2172. Supposing there were not a fair price for it, what would you do with it? I would send it to the best market, where I could get the most for it.
2173. We are approaching the time when the surplus wheat of New South Wales will have to find a market outside the Colony;—when that time arrives, do you think you can successfully grow wheat for shipment to other countries? I think so.
2174. Have you carefully watched the prices for wheat outside New South Wales? Yes.
2175. Do you think that if the average price is maintained, you can successfully compete? Yes.
2176. What is a fair average price for wheat at the barn? 2s. 6d. a bushel.
2177. Would 2s. per bushel pay you? No doubt it would; but it is rather a low price.
2178. Supposing 2s. per bushel becomes the rule, and not the exception, what then? I think a man would have to grow it all the same.
2179. Do you think improved methods of cultivation would enable you to produce more cheaply? Yes. Improved machinery makes the land more easy to cultivate, and enables us to get a return from a lower price.
2180. Do you think that, as the price comes down improved machinery will be employed? No doubt.
2181. Have you any further statement to make? The Piney Ridge people object to the southern route, but I myself prefer it.
2182. Supposing you were a resident of Piney Ridge, what would you do? The people on the Bimbi side

T. Goonan. side have to go in a westerly direction to get to Piney Ridge. If they want to get anything from Sydney they have to go there; whereas people on the Piney Ridge side are within a fair distance of Grenfell, and if they want to send produce to the Western district, they would have a station on the route. They can make for a market either way.

21 Aug., 1899.

2183. If you were living on the Piney Ridge side, would not your evidence on that point be somewhat modified? No doubt it might.

2184. *Mr. Shepherd.*] Is all the land you have fit for cultivation of black-red soil? No; I have some black soil.

2185. Do you find that there are two kinds of black soil, some of a clay, and some of a granular character? Yes; I am cultivating the clayey soil.

2186. Do you think it would be much improved by drainage? No doubt it would. I have no artificial drainage on my land.

2187. Land is sometimes so situated as to be naturally drained? Yes; there is a gradual fall on my land.

2188. Do you get as good a crop from the black soil as from the red soil? I have got better.

2189. How long have you been cultivating it? For ten years, and it was cultivated before I went there.

2190. Do you think it is likely to last longer than the red soil? I think it is. I do not think the red soil will stand so well as will the black soil.

2191. *Mr. Watson.*] Is the black soil which you have been cultivating similar to that which is on the Bland plains, or is it similar to that which you sometimes get on the banks of creeks? It is a mixture.

2192. Is it as bad as the black soil on the Bland? I do not think it is.

2193. Is it liable to floods? When the creek becomes flooded, the water runs over it.

2194. Does it run off? Yes.

2195. Then it is not the same class of soil as that on the Bland plains? No.\*

John Quayle Wood, farmer and grazier, Brundah, sworn, and examined:—

J. Q. Wood.

21 Aug., 1899.

2196. *Chairman.*] Where is Brundah? Between Grenfell and Koorawatha.

2197. Did you give evidence on the proposal to construct a railway line between Grenfell and Koorawatha? Yes.

2198. When that proposal was being considered, it was stated that if the line were constructed, a large quantity of land would be put under cultivation;—can you tell us whether that has been done? It has. The returns show that in 1897 the area under cultivation was 43,069 acres. Twelve months afterwards—in 1898—that return was increased by 21,601 acres, the total area under cultivation in that year being 64,670 acres.

2199. I think you stated on a former occasion that the landowners were prepared to clear a further 70,000 acres? Yes, and that 21,601 acres is an instalment of it. I estimate that for the present year—1899—the area under cultivation will be not less than 80,000 acres, in spite of the excessively bad seasons.

2200. Do you know the country towards Wyalong? Yes.

2201. Speaking generally, what proportion of country west of Grenfell is equal in character to that east of Grenfell? I should hardly like to commit myself to a statement as to the proportion.

2202. How far is Grenfell from Koorawatha? Thirty miles. For 30 miles west from Grenfell, towards Wyalong, the country is almost similar in character to that between Koorawatha and Grenfell.

2203. So that if the land in the vicinity of the line from Koorawatha to Grenfell is being got ready for cultivation, there will be a similar result in connection with a line from Grenfell to Wyalong? I think so.

2204. Are you the President of the Railway League at Grenfell? Yes.

2205. Have you prepared any statement with reference to the progress of the district? Nothing beyond what appears in the evidence I gave on the proposed railway from Koorawatha to Grenfell.

2206. I understand that you hold 16,000 acres? Yes.

2207. How much is cultivated? 10,000 acres are under actual crop. I am cultivating entirely on the "halves" system.

2208. Are both parties to the agreement reasonably satisfied? Yes, beyond expectations.

2209. Do you think the working of the land in that way will be permanent? Yes, I am sure of it. I look upon it as being past the experimental stage. The system is now extending to small selectors. The smaller men themselves are subletting. The system is carried out on the principle of a division of risks, and a division of profit; and each side can, under those conditions, carry on much longer than they otherwise could do.

2210. Do you think the system will extend? It will extend indefinitely.

2211. I suppose the land is not likely to go back into grass? No; the profits from working the land for agriculture are so much greater than working it for pasture.

2212. Have you any doubt as to whether the system will extend wherever the line goes westerly? I have no doubt of it.

2213. Then, if a line between Koorawatha and Grenfell is justifiable, its extension from Grenfell would in your opinion, be equally justifiable? Yes.

2214. It has been stated that the land, by being put under wheat, would maintain a larger population than it will by being put under grass? Considerably.

2215. What is the proportion? I will give you some particulars. Under pastoral occupation on our own property we incurred expenses, other than purely domestic expenses, of about £150 per year, plus about £400 shearing expenses in connection with 20,000 sheep. That represents an aggregate of about £550 per year. During the four years we have been engaged in cultivation our books show an expenditure of £1,500 a year in improvements alone—that is, in clearing and other improvements necessary in connection with farming. Those expenses, however, are not of a permanent character, because the time will come when the clearing expenses will be ended. At present we have twenty-four share-farmers on our property, and they employ, besides themselves, fifty-one hands in putting in the crop, and 156 hands in harvesting.

2216. How many acres have they? 10,000.

2217. What are the relative profits from agriculture and grazing? I may say that I have allowed very liberally for pastoral occupation. I put that down at 4s. an acre net. The estimate of the Land Boards, in

\* NOTE (on revision):—I should like to add that if you take 12 miles south of the Bimbi route, and the same distance on the northern side of the Piney Range route, I think you will see that we have a much larger population to serve than the Piney Range people. The Bimbi people are much further away from a railway than those at Piney Range. The former will have to make Young their railway station if the Piney Range route is adopted, and some of those people are between 30 and 40 miles from Young. I myself cannot reach Young under 38 miles.

in assessing the carrying capacity of the land, is about 3s. an acre. The returns in regard to wheat for a 12-bushel crop show, with wheat at 2s. per bushel, 24s. an acre; the cost of bags is 1s. 3d.; cost of ploughing, 6s. an acre; harvesting, 6s. an acre; seed, 1s.; and interest at 6 per cent. on 10s. an acre for clearing, or an aggregate of 14s. 11d., which, deducted from the 24s., leaves 9s. 1d., or more than double the profit on what could be obtained from purely pastoral occupation. J. Q. Wood.  
21 Aug., 1899.

2218. So that the owner gets twice as much net profit per acre, and in addition to that he is enabled to find employment for more people? Yes. I should like to state, in view of some evidence given on Saturday night by a witness who spoke more from a theoretical point of view than from actual experience as to the position of share-farmers, that during the season 1897-8, to quite a large number of my farmers I paid over £2 an acre for their crop.

2219. You informed a previous Committee that you have seen good crops growing on the black soil of the Bland country? Yes.

2220. Can you give us an account of what you saw at that time, and of the character of the season? I mentioned that, at the time, I took very little interest in agriculture—in fact I looked upon the agriculturist as my natural enemy. I saw cultivation however being carried on in black soil at Oakhurst, and I thought the owner—Mr. French—was wasting his time by putting in his seed. I saw the crop at harvest-time, and I was astounded at its character. I asked Mr. French to keep an account, when he cut it into chaff, of the yield, and I ascertained that it gave a trifle over 4 tons to the acre. I am quite satisfied from what I saw of the crop, that the return was correct. The soil was a stiff, black clay, but I have no recollection of the season. I am inclined to think it must have been a good season. It was sometime back in the eighties, but I forget the exact year. I was astounded to see such a result from ground which I thought was literally incapable of being put to agricultural use.

2221. Have you any land on the route of the proposed line? No. My interests will be entirely served by a railway from Koorawatha to Grenfell.

2222. Do you care to give an opinion as to which of the routes would be the better one to construct—*via* Piney Range or *via* Bimbi? I could not give any opinion, because there is a good deal to be said in favour of each route. Personally, I look upon the routes as being about equal.

2223. What could be said in favour of one could be said in favour of the other? Yes.

2224. Have you any further information to supply? I should like to qualify what I said a moment ago, to the effect that I was perfectly served by the proposed line from Koorawatha to Grenfell. I think that the obtaining of access to the western market will be a great advantage, not only to myself, but to every producer in the district. We have had applications for produce, from the neighbourhood of Wyalong, for horsefeed, during the last three years, which we could not entertain; but if there had been railway communication the market would have been available to us.

2225. One witness has stated that wheat at 2s. a bushel would be a payable crop;—when you were examined by a previous Committee you were asked a question as to the price at which you could afford to sell wheat profitably, and your answer was, “1s. 6d., with a railway close at hand”;—what do you mean by the remark “close at hand”? I meant a siding close to the paddock, so that no expense in hauling would be incurred. I reckon that 2s. a bushel would be a fair paying price under ordinary circumstances. When I gave the estimate of 1s. 6d. per bushel, I did not mean that it was to be looked upon as a remunerative return, but that agriculture would still continue if that price ruled, if the crops were adjacent to the line.

2226. Would 1s. 6d. per bushel be a minimum price? Yes.

2227. *Mr. Shepherd.*] Could a man live with wheat at that price? Yes, with good management, including the use of the six-furrow ploughs.

2228. *Chairman.*] If wheat comes down to 1s. 6d. a bushel, will there not have to be a remarkably heavy crop in the Colony? Yes; and with a big crop at that price, you would, perhaps, be better off than you would with a medium crop, and the price of 2s. per bushel. With regard to the possibilities of the returns in a good season, I may mention that we have taken off as many as 42 bushels to the acre.

2229. What was your return during your worst year? The worst year during which we got any returns at all gave us 8 bushels to the acre.

2230. *Mr. Trickett.*] I understand that you have 10,000 acres under cultivation? Yes.

2231. What did you pay in freight last year? Last year the crops were a total failure. The year before that, with 6,500 acres under cultivation, we had to pay about £800 for carriage to Koorawatha. I could not tell you the railway freight, because we sold delivered on the trucks at Koorawatha.

2232. You stated on a former occasion that the returns which you gave in connection with the proposed Koorawatha to Grenfell railway included the district 15 miles to the west of Grenfell? Yes; the object was to show the area under agriculture and the freight statistics.

2233. So that, in considering the proposed railway from Grenfell to Wyalong, we must start 15 miles west of Grenfell? Yes, so far as those statistics are concerned.

2234. And so far as the revenue to the proposed railway is concerned? Yes.

2235. Do you think people 15 miles to the north and south-west of Grenfell would bring their produce straight to Grenfell instead of taking it on to the Grenfell-Wyalong line? I do not think so, because if there were trucking stations 15 miles west of Grenfell the people would truck at them instead of bringing their produce to Grenfell. Mr. Richardson is the only one who would use the train inside a distance of 7 miles. I think you would have to exempt about 10 miles. There would still be a large amount trucked at a distance of 15 miles from Grenfell.

2236. Would nothing between Grenfell, and 10 miles to the west, be carried to Grenfell? I would not say that. If there were a station, say, at Bogolong, the people would be close upon it.

2237. You think they would go to the nearest trucking place? Yes.

2238. The extra freight for railway carriage would not be so high as the road carriage? No. I think, that with the extension of agriculture, the team haulage will become greater, because there are more applicants for teams than there are teams available. Whenever that state of things occurs the teamsters can dictate their own terms.

2239. On a former occasion, you stated that out of your 16,000 acres of land you intended to put 14,000 acres under crop;—have you gone on extending since then? Yes; we hope to get 14,000 acres under crop within two years from now.

2240. Only retaining sufficient unplanted land for the purposes of your horses? Yes. We expect to have recourse to manures. We do not think the ground in its present state will grow crops for an indefinite period without manure. A more scientific cultivation will pay better.

- J. Q. Wood. 2241. Has the development of your wheat-bearing ground been largely to your advantage? I would not say that, because we have had to contend with some of the worst of which we have had experience, but compared with pastoral pursuits it has paid better.
- 21 Aug., 1899. 2242. And if you had had a succession of reasonable years instead of drought it would have paid you better still? Yes; everybody would have been practically independent. The best proof of that is the fact that we are still going on clearing.
2243. *Chairman.*] It has been estimated that the loss upon the Koorawatha-Grenfell line will be about £2,000 per annum;—do you think, in view of the fact that people have gone in so largely for cultivation, that loss will be reduced? I am sure of it. When an officer of the Railway Department came to Grenfell to select statistics he struck out nearly one-third of our returns. He thought they were exaggerated. He did not examine the individual returns. He examined the total, and struck out about one-third. That, of course, accounts for a big difference in regard to the amount of loss. The railway league is quite clear that, with the increased development of agriculture, the estimated loss will be made up. We are looking forward confidently to the result of the first twelve months' running. If the line does not pay it will be so near to it that there will be no room for concern on the part of the Railway Commissioners.
2244. *Mr. Watson.*] You do not anticipate being called upon to make up the deficiency? No; we do not think that is within the limit of probability.
2245. Do you think the estimated loss of £3,249 per annum on the proposed railway from Grenfell to Wyalong might be reduced? I think so. I may mention that I had ample opportunity of talking to Mr. Usher, of the Railway Department, about the matter of statistics. He stated that his instructions were to keep on the safe side, and, of course, no one can find fault with him. Of course, the Railway Commissioners are in a responsible position, and it is better to err on the safe side than on the other.
2246. Are you of opinion that, not only will the line pay in the near future, but that it will add to the earning powers of lines already constructed? That is my opinion.
2247. *Mr. Trickett.*] Your holding is to the east of Grenfell;—you have no personal interest in the extension from Grenfell to Wyalong? Only this, that as a producer I realise the advantage of having access to the western market. In the ordinary course of things the western districts will have more bad seasons than will this district, and their necessity will be our opportunity.
2248. *Mr. Dick.*] You stated that the "halves" system involves a division of profits and a division of risks? Yes.
2249. Will you show in what way the division of risks is likely to operate? The system helps both parties; but I think, it helps the farmer to a larger extent than it helps the landowner—that is, where they are working under agreements similar to those in vogue at Iandra and Brundah. In order to encourage high-class farming we recognise the expediency of giving to the successful farmers what is practically a bonus. We have, therefore, made this arrangement: that whatever they produce over 18 bushels to the acre is to be awarded to them as a bonus. Until that arrangement was made I never got any 26-bushel crops. Those who produced the 26-bushel crops got over two-thirds, and the landowner had rather less than one-third. Still it paid better than halving with a man who only raised a 12-bushel crop.
2250. How does the tenant-farmer suffer in the case of a loss? In the case of a loss the tenant loses his labour and his horse feed. If it had not been for the share system almost all the farmers who were working for us would have been entirely ruined during the recent bad seasons. What they made on the share system enabled them to keep their homes going on their own land.
2251. You know that there is a general desire in favour of closer settlement;—could you fairly describe the half system as a modified form of closer settlement, involving certain advantages in the case of loss to the tenant-farmers? I think the arrangement is the best for the tenant-farmer. Under closer settlement he would have to bear all the risk. The cost of seed, the floating capital necessary for preparing the land for cultivation, amounts to more than double the cost of the plant for working the ground.
2252. If the "halves" system were likely to prove permanent all the best effects of closer settlement would be gained? Yes.
2253. Which industry would involve the greater disaster to the producer, say during a drought like that of last year—sheep farming or agriculture? Agriculture. Of course, it would only be right to take that into consideration.
2254. Taking all things into consideration, do you think it would be fair to say that agriculture is quite as profitable as sheep raising? Yes; more than twice as profitable.
2255. Which will provide the larger revenue for a railway—sheep farming or agriculture? Agriculture will provide immensely more revenue than sheep farming.
2256. *Mr. Watson.*] Admitting that the share system is an improvement on the older style of keeping large properties confined to pastoral pursuits, would you say that it is better than having men settled on their own land in smaller areas? Not if you could give an assurance that you would keep them there. Nearly all my farmers are men who were settled on the land, and they went "bung" upon it.
2257. Do not many men get rid of their small blocks, not because they cannot make a profit out of them, but because they are tempted by a cash sale? No. I know of an instance in which one man was simply driven off his land on account of the exorbitant rate of interest he was charged. That instance is typical of a large number. As a matter of fact, I know that a good many of my own tenant-farmers are now practically clear of the banks—an experience to which they were strangers before they started share-farming.
2258. Have not those men farms of their own some distance away which they work when not engaged on your estate? They work both together.
2259. What do the majority of them do after the crop is in, and after they have left your estate? Some go in for carrying, and others for contract work.
2260. Then they do not rely wholly on what they get out of the land under the halves system? Not up to a certain stage. The matter is one which requires explanation. One of my farmers, who is working up to 1,500 acres, has employment in fallowing ground, which occupies him the greater portion of the year. His efforts are not confined to the ground which is producing during a particular year. We look upon that as a step in the right direction, and are giving it encouragement. He finds work for three or four months in dealing with ground for the following year's crop.

John Flynn, farmer, Piney Range, sworn, and examined:—

2261. *Mr. Watson.*] How far is your holding from Grenfell? Twenty to 21 miles.
2262. What is the size of your holding? 3,710 acres.
2263. Is any of it under wheat? About 200 acres on the share system.
2264. Have you more land cleared with a view to putting it under cultivation? Yes.
2265. Are you offering to farm that on the share system? Yes.
2266. Do you think the construction of a railway from Grenfell to Wyalong is justifiable? Yes.
2267. Which of the routes do you prefer? I can scarcely say; I cannot say which route has the more suitable land.
2268. Would the Piney Range route suit you best? Yes.
2269. But you cannot say which would be the better in the interests of the country? No.
2270. Have you had any experience of the southern route *via* Bimbi? Yes; I have been out that way.
2271. What is your opinion of the land between Grenfell and Piney Range? It is good when you get a few miles out of town, and thence to the Piney Range you cannot beat it. I do not know much about the land beyond Piney Range.
2272. Irrespective of the benefit which will accrue to you through getting your wheat to Sydney by means of a railway, what other advantages will there be by carrying a railway line to Wyalong;—will it help you by giving you further markets westerly? Yes; I often think that the western markets will, in bad seasons, be better than the Sydney markets.
2273. If it is a fact that towards Wyalong there is a fair area of agricultural land which would be opened up by railway communication, is it not possible that they may supply themselves? Yes.
2274. In the event of there being a shortage there, however, it would be an advantage to the people of this district to supply it? Yes.
2275. Have you any other information with which to supply the Committee? There are fat stock in the district which we cannot get to a railway, on account of the want of water and feed.
2276. Were you a delegate to the farmers' conference at Orange? Yes.
2277. Was any motion relating to railway extension adopted? Yes; as applying to the central and western parts of the Colony, asking that railways should be undertaken.
2278. With a view to opening up Crown lands and helping settlement? Yes.
2279. I suppose the members of the conference were practical farmers, many of whom came from the Western and Central Divisions? That is so.
2280. *Chairman.*] I believe your holding is on the northern survey? Yes.
2281. We have it in evidence that if the line were constructed along that route, the Bimbi people would not be likely to take their produce to it, but would come to Grenfell. Supposing the Bimbi route were agreed to, would you be likely to carry your produce to it? I should have to bring it to Grenfell.
2282. Then if it would not pay them to go on the northern route it would not pay you to go on the southern route? No.
2283. *Mr. Trickett.*] What are the advantages of the "halves" system? It is only in its infancy at present.
2284. Do you look upon the "halves" system as a fair deal between the owner and tenant? Yes.
2285. Have those who have worked under that arrangement been satisfied? Yes. I have letters from old share-men who worked with me asking me as to the conditions of share-farming in this district.
2286. What do you think ought to be the nearest distance of a farmer to a railway? They do not like to travel more than from 10 to 12 miles unless you can give them great concessions.

J. Flynn.  
21 Aug., 1899.

John Michael Nowlan, farmer and grazier, Bimbi, sworn, and examined:—

2287. *Chairman.*] What is the extent of your holding? 1,800 acres. I have 30 acres under cultivation. J. M. Nowlan.
2288. How far are you from Grenfell? About 21 miles.
2289. What has led you to undertake the cultivation of your land? The prospect of the construction of a railway. Previously I did not give the matter a thought. 21 Aug., 1899.
2290. You have seen the experiment tried by others? Yes.
2291. And, seeing what other people have done, you have been led into cultivation? Yes.
2292. Do you corroborate the evidence which has been given by other witnesses? Yes.
2293. Do you corroborate that portion of the evidence to the effect that if the proposed line must not go by way of Bimbi, you cannot profitably go in for cultivation? If the line comes *via* Bimbi, it will be more profitable to it.
2294. If it does not go by way of Bimbi, will you still go on cultivating land? Yes; we should continue if possible.
2295. Where would you carry your produce to under those circumstances? To Grenfell.

John Francis Clode, station manager, sworn, and examined:—

2296. *Chairman.*] What is the extent of your holding? 12,500 acres of secured land and conditional lease. In addition to that, the Belabla and Bribaree estates are under my management, and consist of 10,000 acres. J. F. Clode.  
21 Aug., 1899.
2297. Do you manage for the Bank of New South Wales? Yes.
2298. How many acres are fit for cultivation? 12,000, or more than 50 per cent.
2299. What is the distance of the estates from Grenfell? The distance varies from 14 to 26 miles.
2300. How far are you from Young? Twenty-three miles; Belabla is 26 miles from Young.
2301. Which is the best road? To Young.
2302. From what portion of your estate is the produce taken to Young? From Kikiama and from the other estate as well. It has always gone through Young, and will do so unless there is a railway here.
2303. How many acres have you under cultivation on the estates? 800 acres under wheat now; there is other cleared land which we have not put in.
2304. Given greater railway facilities, would those 800 acres be increased to any great extent? Yes; probably to 8,000 acres in a short time. I may mention that at present we have to pay 1s. per bag for the carriage of wheat from Kikiama to Young—a distance of 23 miles. The carriage is so high that with wheat at a low price the production does not pay.

2305.

- J. F. Clode. 2305. How long have you been harvesting wheat and sending it away? Only for two seasons. The last season was altogether a failure. The first season, which was not a good one, we got 11 bushels to the acre.
- 21 Aug., 1899. 2306. How did the 11 bushels per acre pay in comparison with sheep-raising? The net profit is greater than it was from sheep.
2307. Do you think you would have the same results, if there were a good season, from sheep? Yes; in a reasonable season the profit is greater from the agricultural land.
2308. What is your experience in regard to fat sheep;—would they be driven any distance, or would they be trucked at the nearest point to the railway? I should truck at the nearest point. It does not pay to travel sheep when they are fat.
2309. Supposing the proposed line is constructed, will more sheep pass through the owner's hands than would pass through them if it is not constructed? I think so. There will be greater facilities for buying and selling. You could send a few fat sheep away at any time if a railway were available, whereas if you were 20 or 30 miles away from it, you could not do it as profitably.
2310. You would have to wait until you got enough together to pay for travelling them? Yes.
2311. Do you think you would use the proposed line if it were constructed along the northern route? No.
2312. You would prefer to come to Grenfell, or to Young? Yes; the northern line would be of no use to me. The line south of the Weddin Mountain would be the line to suit these properties.
2313. Do you think it would be of any value to the people of Bimbi? I could not give an opinion.
2314. What price did you get for the eleven bushels per acre of wheat which you say paid you better than the fattening of sheep? 2s. 3d. a bushel.
2315. Can you generally reckon on getting 2s. or 2s. 6d. a bushel? Yes.
2316. Was that at the railway station? At Young I have to pay 3d. a bushel for carriage, so that I only got 2s. per bushel net.
2317. *Mr. Shepherd.*] Are you cultivating anything besides wheat? I recently put in 80 acres of lucerne.
2318. Have you any stock in addition to sheep? Only two or three milch cows.
2319. Do they do pretty well? Yes.
2320. What is the nature of the pasture you have on your holding? Barley grass, crow's foot, and a little Mitchell grass.
2321. Have you no salt-bush? No.
2322. You say that one-half the holding is fit for agriculture? More than one-half.
2323. What is the character of the remainder? On the Kikiama holding there are about 8,000 acres fit for cultivation, and on Belabla about 4,000 acres.
2324. What is the character of the soil? It is deep red soil.
2325. What is the character of the country which is fit for grazing? It is mixed country; there are some gilgais about it. It is somewhat like the Bland country.
2326. It seems to be generally understood that the black soil is fit for grazing, whilst the red soil is fit for agriculture? I think that has to be proved. The black soil has not been tested. A lot of land not yet tried will be found equally as good as that already cultivated.
2327. You have not cultivated any black soil yet? No; but within the last two years I have seen a paddock situated to the south-west of the southern route cultivated by Mr. Leahyne. That land is of the same nature as the land of which we are speaking. The crop was as good as, if not better than, some of the crops on the high ground about Grenfell.
2328. *Mr. Watson.*] Is not Mr. Leahyne's holding timbered country? It is.
2329. It is not what you have described as plain, black-soil country? No, but the land itself is identical with a good deal of the Bland country.
2330. Is there not a great distinction between the plain and the timbered country? Yes; we have none of the plain country.\*

Jacob Hoad, farmer and grazier, near Grenfell, sworn, and examined:—

- J. Hoad. 2331. *Mr. Shepherd.*] How far is your holding from Grenfell? About 28 miles.
- 21 Aug., 1899. 2332. In which direction? South-west—on Belabla.
2333. I believe you were appointed by your neighbours to give evidence on their behalf? Yes.
2334. Will you state your views on the proposed railway? We have come to the conclusion that, as we are too far away from Young, and the roads are very hilly, it would suit us much better if the line went by way of Bimbi.
2335. You favour the Bimbi route? Yes.
2336. Why do you favour that route in preference to the northern route? The northern route would be of no service to us; it is too far away.
2337. What sort of country have you on your holding? All sorts; I have sandy country, black or pug soil, gilgais, and hills.
2338. How much land have you under cultivation? 150 acres.
2339. What kind of soil are you cultivating? Principally the black pug, except in one paddock, and that is sandy.
2340. There seems to be some confusion in regard to the black and red soils, will you explain the difference? The red soil has not so much slush in it. It is of a more sandy nature than the black soil.
2341. Do you find the black soil equally as good as the red soil? Yes; and in dry seasons it is better.
2342. Have you cultivated it for any length of time? Yes; for the last thirteen years.
2343. Does it still produce good crops? Yes; I have had as much as eight bags, or 32 bushels, to the acre from it.
2344. Have you much stock on your holdings? I generally run about 2,500 sheep.
2345. What do you get from your sheep on an average? It depends greatly on the price of wool. As a rule, I average between the wool and the fats about 4s. each.
2346. What number of acres do you require for a sheep? About a sheep to an acre in a fair season.
2347. What is your average yield per acre? About 12 to 13 bushels.
2348. What does it cost you to send it to the railway station? About 4½d. per bushel.
2349. What do you get for it per bushel? It varies; the year before last I got 4s. per bushel.
2350. Do you think the construction of the proposed railway would induce you to cultivate more land? Yes.
- 2351.

\* NOTE (on revision):—Cartage on wheat: Belabla to Young, 1s. 3d.; Belabla to Bimbi could be done for 6d., and from Kikiama, 8d.



2351. Is that the general feeling of those whom you represent? Yes; personally, I should put another 200 acres under crop, and my neighbours will put more under crop. J. Hoad.  
 2352. Are you satisfied with the result of your farming? Yes; I have done very well, and so have some of my men. 21 Aug., 1899.
2353. According to your statement, the construction of the railway will reduce your sheep areas, and increase your agricultural areas? It will not reduce the number of sheep to any extent, because the stubble is good feed for them.
2354. Have you a fairly regular rainfall? Yes.
2355. At what part of the year do you generally get the rain? October and June. The last year or two, however, have been exceptional.
2356. Is not the gap between June and October a large one? Yes; but the sun is not very hot, and we could do with less rain if we only got some about October. We get occasional showers.
2357. How are you off for water? We get a supply from the tanks.
2358. *Mr. Watson.*] Is the black soil which you have cultivated similar to the Bland plains black soil? It is pretty much the same.
2359. Is it what is known as pug soil? Yes.
2360. Has it been growing timber? Yes.
2361. Then it is different from the Bland country? It is; but I think it is the same sort of soil, excepting that one has the timber and the other has not.
2362. Perhaps that makes a great difference? It has not been tried.
2363. *Chairman.*] Is the subsoil the same? Yes.
2364. *Mr. Watson.*] Have you ever tried to cultivate any of the black plain country? No; but in my opinion the soil is similar.

William Bristowe, farmer and grazier, Piney Range, sworn, and examined:—

2365. *Chairman.*] How far is your holding from Grenfell? Fifteen miles. W. Bristowe.  
 2366. What is the extent of it? 433 acres. 21 Aug., 1899.
2367. Are you engaged in any other occupation than that of farming? I keep an hotel as well.
2368. How much land have you cultivated? Seventy acres.
2369. Is the whole of your lands fit for cultivation? Yes.
2370. Have you had considerable experience in farming? I have done a little farming.
2371. Do you think you would be able to make a living from farming alone off 433 acres? I dare say I could.
2372. Would it be a hard pinch? It would depend on the access to market and the character of the seasons.
2373. What distance do you require to be from a railway in order to make a small holding like yours pay? Not more than 15 to 20 miles.
2374. May we take it that if a man is able to take his produce to a railway station and return in one day he will be able to cultivate wheat profitably? I think so.
2375. How far are you from the Bimbi route? Eighteen miles in a direct line.
2376. If a line were constructed *via* Bimbi, to which point would you convey your produce? Grenfell.
2377. How long have you had possession of your holding? Eight years.
2378. Was it cultivated before you got it? A portion of it—30 acres.
2379. How long has the land been under cultivation? About fifteen years.
2380. When was your last decent season? It is four years since we have had anything like a decent season.
2381. Did the land four years ago show signs of exhaustion? No.
2382. Will the land stand continuous cropping for several years? Yes.
2383. For how many? I cannot specify any time.
2384. Has anybody been cropping continuously for sixteen years? Yes.
2385. Does the land which they are cropping show signs of exhaustion? No.
2386. Has it been manured? No. The sheep have camped upon it now and again.
2387. Have you a general knowledge of the country along both routes? I have a fair knowledge of it.
2388. What, in your opinion, would be the best route to follow? The northern route; it would equally divide the country between Forbes and Young. I think there are more farmers on both sides of the northern route than there are on the southern.
2389. What sort of country is there for 20 miles north on the northern route? It is all good agricultural country. Many of the farmers there are now taking their produce to Forbes.
2390. Is it better country than that on the Bimbi route? I think the country is about equal in quality on both routes.
2391. Have you ever seen any of the plains on the Bland country cultivated? Yes, at times.
2392. What was the result? Some people seem to think that the plains produce better wheat crops than the other country—that is if there is anything like a decent season.
2393. How many decent seasons out of ten can you reasonably expect in connection with the black soil country? We ought to get eight out of ten.
2394. Do you think it likely, if a line were constructed through the Bland country, that the farmers would experiment with the black soil? I think they would. They have done so already.
2395. Do you think the experiments which have been made justify the planting of wheat in that country? I think so.
2396. Therefore the Committee would not be justified in altogether discarding the black soil country from their calculation as to what would be a fair agricultural area to be served by the proposed line? I do not think they would.
2397. Is it quite possible that the black soil will grow as heavy crops as the red soil? I think it will grow better crops, and will last longer.
2398. Does it not scald badly? Some parts of it, where the water lies, do, but the fact of it being open plains causes the soil to dry up quickly.
2399. What is the name of the farmer who has been trying to cultivate it? Mr. Hutchinson, on the Caragabal boundary.

- W. Bristowe. 2400. Is it not very good fattening country? Yes. I think that after it has been cropped it is better country for grazing.
- 21 Aug., 1899. 2401. Then the Railway Commissioners may anticipate carrying a good many stock in that part of the country? I think so.
2402. I suppose that even on the red-soil country the farmers hold a few sheep in order to spell their land? Yes.
2403. Do you think farming has come to stay in this district? Yes; the population is increasing, and the greater the population the greater the demand for farming produce. A lot of country in the district to which I have been referring will be opened up for selection, and I think it will all be taken up.
2404. What is the extent of the Crown lands out there? About 70,000 acres.
2405. What is the character of it? It is all fairly good agricultural land.
2406. Would there be any difficulty in the Crown getting rid of it? No. I know of lots of people who are waiting for it now.
2407. Do you know of any other holdings in that direction where cultivation has been indulged in for a number of years? A good many farms out there have been cultivated during the last ten years.
2408. Have the people expressed any opinion as to their success? Yes; they are all satisfied with the results. My neighbour has 700 acres, and he is going to put the whole under crop. He makes twice the profit out of agriculture that he makes out of sheep.
2409. Then the cultivation of wheat has gone considerably beyond the experimental stage, and will be a permanent industry, and will find work for a line, if one is constructed, for years to come? I think so. I do not see anything to stop it; it is the anticipation of everyone out there. There are many farmers within 7 or 8 miles of the northern route who intend to do it.
2410. *Mr. Shepherd.*] Has rust made its appearance in the district? No.
2411. Have you had any smut? Sometimes; but I think it could be remedied.
2412. What is the average extent of the holdings? Between 2,000 acres and 4,000 acres.
2413. What do you consider is a fair-sized holding for a family to live upon? It depends on the distance from the market. I think 1,280 acres out there is sufficient.
2414. Do the farmers as a rule start with much capital? I think they generally begin with pretty small amounts.
2415. Are they in the habit of accepting contracts for fencing and clearing? Not where I am living.
2416. Do they all appear to be fairly satisfied? Yes.
2417. *Mr. Watson.*] Have you yourself ever had any experience of the plains black soil? No.
2418. Would you like to say that the black soil would stand growth like the red soil? I would not like to say it would; it may not. But I do not think the red soil will stand it very much better.

Peter Cram, farmer and grazier, near Bimbi, sworn, and examined:—

- P. Cram. 2419. *Chairman.*] Where is your holding? Eight miles from Grenfell, on the Bimbi road.
- 21 Aug., 1899. 2420. Have you resided long in the district? For twenty-three years.
2421. How much land do you cultivate? Two hundred acres out of 1,450 acres.
2422. Are you preparing any fresh land? Yes, I have over 800 acres cleared.
2423. I suppose you will increase your cultivation area, whether the line follows the Bimbi or the northern route? Yes. If the Bimbi route were followed I think there would be a platform 2 miles from where I am situated.
2424. Do you corroborate the evidence that has been given by previous witnesses? Yes; I think their evidence on the whole is very fair.
2425. Have you anything to add to it? The opening of a market at Wyalong would help us a great deal. It would be a good opening for produce.

John Quayle Wood, farmer and grazier, sworn, and further examined:—

- J. Q. Wood. 2426. *Chairman.*] I understand that you have some further information to supply to the Committee? Yes. I wish to point out that, so far as the land on either route up to the Bland Creek is concerned, the people owning the land would be prepared to surrender to the Government what might be required for railway purposes in exchange for such fair equivalent in land or money as may be decided by the Secretary for Public Works. The people to whom I refer are: Thomas Casey, Piney Range; E. H. Lloyd, Piney Range; Thomas Armstrong, Allandale; A. McAllum, Ravensleigh; Patrick John Cleary, Piney Range; W. Richardson, Bogolong; John Leonard, Piney Range; D. C. Burge, Little Caragabal; Joseph Handcock, Barbingal; and James Casey, Weddin View, Piney Range. These people have signed an agreement which will allow the question of taking the land required for railway purposes to be settled by the Minister on the terms I have mentioned.

John Quigley, vigneron and farmer, Grenfell, sworn, and examined:—

- J. Quigley. 2427. *Mr. Shepherd.*] What is the extent of your holding? Nearly 200 acres of leasehold, freehold, and selection.
- 21 Aug., 1899. 2428. How far are you from Grenfell? Two miles.
2429. What is the extent of vineyard? Twenty-five acres.
2430. Have you been cultivating it long? For nearly seventeen years.
2431. What kind of grapes do you find do best? The kinds I have are the Hermitage and Muscatelle, both of which seem to do well. The Black Prince grapes also do very well.
2432. In making wine, do you press the different classes of grapes together? No; separately.
2433. Is the quality of your wine pretty good? It is considered to be pretty good. I have taken the first prize for it fourteen times at Grenfell.
2434. At what age do you dispose of it? Two to five years.
2435. What is the character of the country upon which your vineyard is situated? It has a beautiful aspect to the east. The soil is red, and the subsoil is slate and clay.
2436. Have you averaged the yield of wine per acre? I have kept no returns; but I reckon that I obtained 3,000 gallons, or ninety-seven casks in one year. It was a good year; dry seasons are not half so good.
2437. Have you a ready sale for the wine? Yes. 2438.

2438. What market have you for your table grapes? Grenfell, Wyalong, and Forbes.
2439. What other kinds of fruit do you grow? I have 4 acres of mixed fruit, including cherries, apples, pears, plums, and quinces. J. Quigley.  
21 Aug., 1899.
2440. Do they all give you a satisfactory return? Yes; I have fair average crops. The cherries and apricots are very plentiful.
2441. Do you think that the construction of a railway from Grenfell to Wyalong would give a great impetus to grape-growing? I think it would.
2442. Do apples grow well in the district? Yes; some of them are very choice. Pears also seem to do nicely.
2443. What agricultural produce do you grow? I have 40 acres under wheaten hay.
2444. What is your return in ordinary seasons? About a ton to the acre.
2445. Do you intend to largely increase your area of vines? Yes, if the proposed railway is constructed. I should plant an extra block of from 14 to 15 acres.
2446. *Chairman.*] Do you, as a rule, obtain your fruit in good marketable condition? Yes. We are at times subject to some of the pests, but the fruit seems to ripen well enough.
2447. When the railway is constructed from Grenfell to Koorawatha are you likely to use it for the purpose of conveying your fruit to Sydney? I should prefer to send it to Wyalong and out to the west.
2448. Do you think you would help to find some work for the proposed railway? Yes.

William Roberts, sergeant of police, Grenfell, sworn, and examined:—

2449. *Mr. Watson.*] Do you collect the statistics relating to the crop yields in this district? Not for the whole district. W. Roberts.  
21 Aug., 1899.
2450. What portion of the district comes under your notice? The Grenfell Police District has three police stations in it, and each station collects a portion of the statistics.
2451. What are the boundaries of the portion of the district which comes under your notice? It goes west about 15 miles, 16 miles south, 20 miles east, and 10 miles north.
2452. Have you any figures bearing on the area and yield of that district? Yes. The area under cultivation in the district for the year 1895 was 21,597 acres, of which 16,932 acres were under wheat, and yielded 216,001 bushels. For the year 1898 the area under cultivation was 54,849 acres, of which 46,310 acres were under wheat, and yielded 287,298 bushels.
2453. *Chairman.*] Has there been much activity in farming operations about Grenfell since it has been decided to construct a line from Koorawatha? I think so. When I came here in 1896 there were between 30,000 and 40,000 acres under cultivation, and now I should say there are between 50,000 and 60,000 acres under cultivation.

WEDNESDAY, 23 AUGUST, 1899.

[The Committee met at the Court-house, Wyalong, at 2 p.m.]

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

Frederick Neeld, mine-owner, Wyalong, sworn, and examined:—

2454. *Chairman.*] How long have you been in this district? Since 2nd August, 1893. F. Neeld.  
23 Aug., 1899.
2455. Have you had every opportunity of knowing what is going on in connection with the field? Yes.
2456. Do you think it is a permanent field? It depends upon what you mean by the term permanent.
2457. Is the field likely to peter out in a year or two? Not for a good many years.
2458. Can you give the Committee any idea as to the progress of the district? It is more permanent now than ever it was. It has proved its permanency. At one time many experts said the field would not be permanent; but I think they are now fairly satisfied that it is permanent.
2459. It has been stated that the field would not be a permanent one, and that the leads would not go down? No; it was stated that they would cut out when we got to the hard granite.
2460. Have they been showing any signs of cutting out? No; they are strengthening as we go down.
2461. What is the nature of the ore when you get down to any depth? Sulphide.
2462. How do you expect to treat the ore when the oxidized material has given out? By smelting.
2463. Have you thought over the question whether you would erect smelters here, or send the ore away? The general tendency is, I think, to take the ore to the fuel and fluxes.
2464. Have you any idea as to the quantity of fuel and flux which would be required to treat the ore at Wyalong? No.
2465. If a railway were constructed, which route would suit the field the better—from Grenfell to Wyalong, or from Temora to Wyalong? As far as the mines are concerned, I should say that the Grenfell route would be the best, so that we might get to Lithgow.
2466. Can you give an idea as to the amount of ore which would be sent away? Our claim would send away at least 100 tons of ore a week. Last year we produced one-seventh of the ore on the field. The total production was 700 tons a week. I think, however, there ought to be more than that, and that the total production will now be about 1,000 tons a week.

2467.

F. Neeld. 2467. Have you prepared any statistics? Yes. I hand in a return showing our expenses in certain directions in connection with material to work the mine, and road carriage, for the year 1898, and a portion of the present year. It is as follows:—

## NEELD'S NO. 1 CLAIM, WYALONG.

*Expenses for the year 1898.*

	£	s.	d.
Rough and sawn timber for mine ... ..	312	15	0
Sawn timber for chlorination works ... ..	27	2	0
Firewood ... ..	266	17	1
Firewood for mine " " " " ... ..	45	6	1
Rail freight and road carriage ... ..	521	12	10
	£1,173 13 0		

*Expenses from 1st January, 1899, to date, 22nd August, 1899.*

Rough and sawn timber for mine ... ..	107	17	0
Firewood for mine ... ..	33	5	0
Firewood for chlorination works ... ..	182	0	8
Rail freight and road carriage ... ..	526	8	2
Sawn timber for battery ... ..	114	10	0
	£964 0 10		

We anticipate that the quantity of firewood will be doubled when battery is at work.

We are now paying 1s. 6d. to 2s. a cord more for wood than we were paying two years ago. We have to go further for it now. In the course of time we shall have to fetch it in by rail.

2468. Have you any idea of the amount of wages earned in the district from the mines? In connection with our own mine, up to the time we had to stop for want of water, we were paying £300 a fortnight. After we get the battery, which we are erecting, fairly going, it will be nearly double that. We have reduced our hands from sixty to forty and fifty. As soon as the battery is going we shall put on more hands.

2469. Will the other claim-holders do the same? I think so. I think our mine is a fair sample of the rest.

2470. Had you a knowledge of mining before you came here? Yes; I was at Ballarat in 1851, and I followed mining up to 1870.

2471. Have you had any knowledge of mining in this Colony, except at Wyalong? No.

2472. How do the mines at Wyalong compare with those of which you have had previous knowledge? I do not think that the mine-owners here know as much about mining as do the Victorian mine-owners.

2473. What do you mean by that? They do not go into it properly. The New South Wales people are not a mining community like the Victorians.

2474. I suppose they do not manage it so well? And they do not understand it so well.

2475. Do you consider that the Wyalong field will compare favourably with some of the Victorian fields? Yes. Of course, we do not really know what it may be yet.

2476. *Mr. Trickett.*] What is the population of Wyalong? It is supposed to be about 4,000.

2477. How does that compare with the population in previous years? In 1894 the population was about 10,000. There was a boom and a rush at that time. I believe that all the loafers from Sydney were here.

2478. Were they not miners? No. They had never seen a mine before, and did not want to see one.

2479. Has the mining population increased or decreased? There is a far better class of men here now.

2480. Has the number of miners increased? Yes, the number of actual miners has increased.

2481. Do you regard Wyalong as a poor man's field? No.

2482. So that any mining developments here will depend largely on the advance of capital for that purpose? We cannot do without it. When I was in England I was talking to a gentleman who holds the position of chief clerk in the office of one of the large merchant princes in London. I was giving him my ideas of the field. He opened a drawer and pulled out a New South Wales mining report, and pointing to it, said, "Your opinion of the Wyalong field is very different from what is contained in that report." Having looked at it, I replied, "Yes, my opinion is very different from that." The report distinctly stated that Wyalong was essentially a working-man's field, and did not require any capital for its development. I remarked, "I hold a very different opinion. For instance, it has cost us from £6 to £7 a foot to sink our main shaft. Independently of that, it has cost us £80 every 100 feet for timber for the shaft. Do you not call that capital?" "Certainly I do," he remarked. "Apart from that," I stated, "we have laid out about £3,000 in machinery." "In the face of that report?" he remarked. "Yes," I replied. He thereupon said, "Excuse me, I think you are very foolish. Do you think your opinion is better than the opinion expressed in that report?" I replied that I did. It only shows what injury a report of that kind may do. I hold that a field of this kind cannot be developed without capital.

2483. How many plants similar to yours are in operation on the field? Six or seven, possibly eight.

2484. How many hands would each of those plants employ? Some of them employ as many as we do. We employ about fifty hands.

2485. That means 400 hands altogether? Yes. If the claim-holders would amalgamate, and let the capital come in, so that they might be enabled to take up a larger area, it would pay them.

2486. Are there many mines shut down at present? There are many held under suspension, waiting for capital to come in. They spent their money which they got out of the surface from comparatively easy work, and they are now blocked. The claims are too small. We should not be justified in going to great expense without a larger area of ground.

2487. What area have you? 960 feet, or two "eight-men's grounds." We are the only ones who have it.

2488. Can you name any claims on the field which have had a fair trial and have turned out failures? No. Take the case of the White Reef. The original owners could do nothing with it. A good strong company has it now, and has erected machinery upon it, and it will probably turn out to be a better claim than our own. At any rate, according to all appearances it is going to pay quite as well.

2489. You think that all the claims which have been tried would, with the expenditure of capital upon them, turn out to be permanent and paying? I think that if they were in Victoria they would get more trial than they have had.

2490. In connection with a former inquiry Father Curran, who is looked upon as a scientific expert in gold-mining, gave evidence to the effect that the gold was not apparent, and was not likely to be developed

as you went down to a greater depth;—has that opinion been realised? As far as we have gone, Father Curran is wrong. We only know that there is a strong reef underfoot carrying gold; but how far it is going to carry the gold we cannot tell. F. Neeld.  
23 Aug., 1899.

2491. Father Curran was asked:—

Do you find the reefs growing in richness as you get to greater depths? On the contrary, quite the other way. In addition to what we might conclude from examining the rocks, we know for a fact that the gold is not getting richer. More than that, in eighteen months' time very different methods will have to be resorted to to get the gold, provided work goes on continuously.

To extract the gold? Yes.

What is the general character of the quartz reef? Up to a depth of 150 to 190 feet the gold occurs as what we call free gold mixed with sulphides. Below that depth there is very little free gold, as far as our knowledge up to date goes; but there is gold combined with pyrites, both iron and arsenical.

Take the greatest depth of claim at Wyalong;—what would be the width of the reef, and what would it be likely to yield per ton? I do not think I could answer both sides of the question with one reply. So far, the stone crushed has to my own knowledge yielded on an average 2 oz. to the ton.

That is taking the whole field? Yes; that is naturally the richer ore. In a certain sense there is what we might call surface concentration there. Some thousands of feet of country have been removed, and as the country has been removed a good deal of the gold has dropped back into the reefs, because wherever water will go gold will go.

As the claims follow the reef down, they become troubled with water? It is a fortunate trouble. They have struck water on every deep shaft on the field, which I consider a fortunate thing.

And they will not be able to work the claims without some appliances for pumping? Certainly not. That is one of the reasons why I have said I do not consider it a poor man's field. Below 200 feet it will require capital to develop it. Certainly there was never a field so easily worked up to the present time, and, I may add, so badly worked. They have taken out the reef simply with a pick and shovel. The surrounding rock is so decomposed that it can be dug out.

Has it been your experience that up to a certain depth the field has only been scratched over, and that when you get down you obtain stuff more difficult to treat? Yes; and more difficult to work. Instead of the pick you have to use the hammer and drill.

2492. Notwithstanding the increasing depth, do you find the venture a paying one? Yes.

2493. What depth are you down to now? 300 feet.

2494. Have you lots of gold-bearing stone in view for a number of years? If we only employed the regulation labour (sixteen men) it would last very many years. What we have in sight would, I think, last for another twenty years.

2495. That is pretty good? We are satisfied.

2496. When you gave evidence on a previous occasion you stated that the largest plant in any of the colonies was going to be erected by a person named Climo? That was in 1895. Climo's works were erected, but they now belong to a man named Sully.

2497. Are they extensive, and are they paying? Yes. From £22,000 to £25,000 was laid out on them.

2498. Is the want of water a great drawback to the advancement of the district? Yes. We were idle for two months for want of water. Whilst the drought prevailed we took advantage of it and increased the size of our tanks.

2499. Do you think that the want of a proper water supply is likely to keep the field back? Yes.

2500. How do you think the difficulty should be met? I think we should have a large reservoir made to the west of West Wyalong. We should certainly want a very wet winter to fill it, but once it was filled water could be brought down by means of pipes. It would be necessary for a surveyor to go over the ground to take the levels. I may state that about 8 miles west of Wyalong you come to the "divide," and, of course, it would be no use the reservoir being constructed beyond that point. It would have to be constructed on the Wyalong side, and have a good catchment.

2501. Do you think water could be conserved to a greater extent? Yes; that is the opinion I expressed four years ago, and it is the only means of getting water. The idea of getting water from the Murrumbidgee is all moonshine; it would cost too much money.

2502. Is the ground good water-holding ground? It could not be better.

2503. Why is no effort made by the townspeople to get such a scheme as that to which you have referred carried out? The battery-owners do make provision for water. We would make our tanks larger, but we have not the room. Of course, we cannot go upon another man's ground.

2504. That seems to show the necessity for combined effort? You cannot get a number of people to join together.

2505. In looking at a report of a former Committee on a proposed railway from Temora to Wyalong, I notice that one of the strong grounds against that project was that you would never get a big population here until you obtained a permanent water supply? I have seen Bendigo, Maryborough, and other places without water, but they are not without water now. Bendigo is supplied from Malmesbury, a distance of 50 miles.

2506. Would you expect to get a larger population with a better supply of water? I think so; but there will always be a large population here. I think it will increase.

2507. What fuel do you use for the mines? Firewood.

2508. Is it getting dearer? Yes, by reason of having to go further away for it.

2509. Do you see a prospect of that becoming a difficulty, so far as smelting is concerned? I do. We are paying 1s. 6d. to 2s. a cord more for it than we did two years ago.

2510. If a railway were constructed, I suppose you would be inclined to get fuel from the Western mines? Yes, from the nearest and cheapest place.

2511. Do you know anything, apart from the mining industry, which should induce the Government to build a railway to Wyalong? I think there will be more settlers here.

2512. For what purpose? For agriculture. We have had very bad seasons during the last four years; but they are not going to continue. The average rainfall is quite equal to that of the Goulburn Valley, and that is a large agricultural country.

2513. I believe the soil here is good for wheat-growing? I had not been here more than a month when one of my former neighbours from the Goulburn Valley came over, and we showed him round. He said, "Yalcha, a parish in the Goulburn Valley, is considered to be the cream of the Goulburn Valley; and there is not a selection in Yalcha equal to your selection here at Wyalong." Of course, he was referring to the character of the soil. He was an old farmer, and knew what he was talking about.

2514. What do you think is the greater incentive towards the construction of the railway—a large agricultural population or a mining population? I think there would be both here. I think this place is teeming with minerals.

2515.

- F. Neeld.  
23 Aug., 1899.
2515. Which would you sooner have—a first-class water supply or a railway? We want both.
2516. Which do you think is the first necessity? I think water is our first necessity.
2517. You are not very strong on the question of railway construction yourself? I know it would be a great saving to us if we had one.
2518. Have you any strong opinion as to the route the railway should take? No; although speaking as a miner, I should like to get to Lithgow. I am satisfied that we shall have to send ore away, and we do not want to have to send it double the distance necessary.
2519. Then, if a railway were constructed, your ore would go to the fuel? I think so. If it were only a matter of a few shillings a ton difference we would sooner have the smelter here; but if it is a matter of doubling the cost we would sooner send it away.
2520. Is there a large area within 15 miles of Wyalong suitable for agriculture? I think so.
2521. *Mr. Watson.*] Do you know whether there is any flux to be obtained about Lithgow? I do not know, but I believe they are smelting material from Cobar.
2522. Are you aware that all the material now sent from Cobar to Lithgow is matte, which is only to be refined? I do not.
2523. Have you ever heard that they have to bring flux from the Southern line to Lithgow? It is very possible. I was talking with an expert on one occasion, and he told me that he was positive that if we could send our ore to Lithgow they would give us the full gold contents of it, and charge us nothing for it.
2524. So as to get the by-products? Yes; and it is the very material they want for fluxing.
2525. What was that gentleman an expert in? It was Mr. Roberts, the mining editor of the *Daily Telegraph*; and I take him to be an authority.
2526. Supposing you wished to go to Lithgow, what extra distance would you have to travel if, instead of constructing a line from Wyalong to Grenfell, one were constructed from Wyalong to Temora? I believe it makes a difference of 60 miles.
2527. Are you aware that at Mittagong they have both coal and flux suitable for fluxing? No.
2528. Is not Mittagong almost as near to Wyalong, *via* Temora, as is Lithgow *via* Grenfell? I do not know.
2529. Do you obtain all your machinery from Melbourne? Yes.
2530. Are you likely to continue to do that for some time? I think that when Federation is fully established we shall get most of the Melbourne manufacturers to come to New South Wales, and the machinery will be made in this Colony.
2531. Will it be worth their while, seeing that they will have the free run of the colonies, to set up two establishments? I think it would pay them to come to the coal.
2532. Is it not almost as cheap to take coal from Newcastle to Melbourne, as it is to take it from Newcastle to Sydney? I should not think so; it is a much further distance.
2533. But a few hundred miles of water carriage does not make much difference? I should think it would.
2534. In any case, you have been getting your machinery from Melbourne, because it suited you better to do so? Yes; we can get exactly what we want in Melbourne, and in case of breakages we have only to send word and obtain what we require in about a week. If we buy in Sydney we get European or American machinery, and if we have a breakdown we have to wait for months before we can get it repaired. I know of an instance in which a delay of five or six months occurred in waiting for duplicate parts.
2535. Do you bring your machinery from Melbourne, *via* Temora? Yes.
2536. If it is conveyed from Melbourne by way of Grenfell, will it not mean an extra 83 miles carriage? It means, of course, extra carriage.
2537. Might it not prove cheaper to smelt near the flux, if you also have coal, than it would to take the flux and the ore to the coal? I cannot give any opinion about smelting, because I have never had any experience.
2538. If it is a fact that at Lithgow there is coal but no flux, and that, as a consequence, you would have to carry both ore and flux to that place in order to engage in smelting operations, is it not probable that it would be cheaper to take the ore to where the coal and flux exist, even though you had to carry it a little extra distance? I think so. We may have flux near to us for anything I know to the contrary.
2539. Have you seen any limestone about the place? No.
2540. I suppose you know that so soon as a line begins to pay, local rates, which are always imposed in connection with branch lines, are done away with in favor of through rates. As a line from Grenfell to Wyalong will involve a capital expenditure of between £40,000 and £50,000 more than a line from Temora to Wyalong, do you think it is as likely to be beneficial to the country? I do not know. That is really a matter for the railway engineers.
2541. Do you think the advantages of the Grenfell route are so much greater than those of the Temora route as to make up the difference in the annual interest on an extra £50,000? I could not express an opinion on that point.
2542. If you found the carriage of flux was an important matter, would you be prepared to modify your opinion in regard to the proposed railway? It is a matter of £ s. d. I only hope we shall be able to treat the ore locally.
2543. I suppose that when the field was first rushed a large number of claims which have since proved duffers were opened up? Yes; I may state that I was in Sydney over three years ago, and had a conversation with Mr. Sydney Smith, the then Secretary for Mines. I complained about the leases not being granted, and he said, "You must allow that owing to the leases not being granted the place has been better prospected." I replied, "I will not allow that. I will allow that there have been more holes sunk; but whom have they been sunk by? By persons who, if they went through a reef formation which was not quartz, would not know that they were in one."
2544. Is it not the experience on every new field that a great number of claims are opened up which afterwards proved valueless? Yes.
2545. Consequently, any falling-off in population is not to be taken as indicating anything wrong in connection with the field? The large population to which I have referred did not remain here for more than five months. When they found that they could not pick up nuggets of gold in the street they came to the conclusion that the place was not what they thought it was.
2546. Has there been any falling off in population since the field got upon its feet, so to speak? No; and there is certainly a better class of buildings going up.

2547. I believe you have backed up your opinion of the field by the erection of a large amount of machinery and plant? Yes; about £9,000 worth.
2548. Do you think there is any probability of the present population of Wyalong diminishing? No; I feel sure that it will increase.
2549. Can you say how the men are employed in and about the mines at Wyalong? No; I believe, however, that 300 miners are connected with the Miners' Association. The whole of the miners on the field are not connected with the Association.
2550. Are the whole of the 300 underground men? No; the number includes top men.
2551. I suppose the 300 would not be the whole of the men employed in mining? No; we ourselves will be able to employ one-third of that number within a few months, and, perhaps, double within another twelve months.
2552. Do you not think that there would be a greater probability of Wyalong obtaining assistance from the Government in the matter of water supply if it were formed into a municipality? But we cannot get Wyalong formed into a municipality. We have tried to do so for the last four years.
2553. What is the difficulty? Opposition.
2554. Why is the opposition shown? Some parties are not satisfied.
2555. Do they give any reason why the town should not be formed into a municipality? They say the town is not forward enough. Again, we wanted the west township to join with the township proper, but they were not satisfied to do so. They wanted a show of their own.
2556. Is not water a great necessity, so far as the field is concerned? I think water is our first necessity.
2557. I have read that a movement is on foot to test the country for artesian water? I have always been opposed to it, and the Government Geologist says it is an impossibility. The movement in that direction has dropped.
2558. *Chairman.*] Do you think the field would be better prospected if men with capital could get to it more easily? Yes.
2559. Do you think there would be a better chance of the field being tested if a railway were constructed to it? Yes. The journey from Temora to Wyalong, a distance of 40 miles, frightens a lot of people.
2560. Then you are convinced that further prospecting would reveal the existence of more minerals, and, therefore, give the railway a chance of paying in the near future? I am.
2561. We are told that you and others send your gold to Melbourne in preference to the Sydney Mint? That is so.
2562. What are your reasons for doing that? In the first place, the Sydney Mint charges are considerably higher than those of the Melbourne Mint. For 500 oz. of gold the Melbourne Mint only charges 2d. an oz., whilst the Sydney Mint charges 6d. an oz. We find also that it is better to take the gold to the Mint ourselves, as by so doing we save escort fees of 4d. an oz. On those two items alone we save 8d. an oz.
2563. I believe there are other advantages in connection with the Melbourne Mint? Yes; there is this advantage: When you arrive in Melbourne, no matter on what day or at what time, you can go straight to the Mint, and the gold will be taken charge of. They accept all responsibility from the moment it is taken there.
2564. What is the course followed at the Sydney Mint? The train gets to Sydney at 6 o'clock in the morning. We go to the Mint, say at 7 o'clock, and the sergeant of police who is on duty there will take the gold; but he will tell you that he is not responsible for its safe custody. I have corresponded with the authorities in Sydney on the matter. We have tried to treat with them; but we have been unable to get any satisfaction. On one occasion I suggested that some arrangement should be made for receiving gold after and before the ordinary office hours, and I received this reply:—

Gentlemen,

Chief Secretary's Office, Sydney, 29 June, 1898.

In reply to your letter of 18th instant in continuation of previous correspondence, with respect to your request that increased facilities be afforded persons who may wish to deposit gold at the Sydney Mint after the ordinary office hours, I am directed by the Chief Secretary to append for your perusal copy of a further minute addressed to this Department by the Deputy-Master on the subject.

I have, &c.,

CRITCHETT WALKER,  
Principal Under Secretary.

The minute referred to is as follows:—

THE Mint Regulations provide only for the receipt of gold between the hours of 11 a.m. and 3 p.m. daily, except on Saturdays and holidays. The safe in the guard-room was intended for the custody of gold arriving at the Mint by Government escort in sealed boxes out of office hours. To meet the convenience of our customers and the general public, the practice has grown for the sergeant of police to receive gold for safe keeping at all hours; but it cannot be expected that he should be authorised to give formal receipts for the amount and value of the gold he has received, and he simply gives a memo. of the number of packages. In addition to our own customers, there are several shipping companies who store bullion here in large quantities to await the sailing of their vessels. They pay nothing for this service, and I presume that the strong-room of the Safe Deposit Company is at the disposal of those who may have valuables on their hands.

The police safe here is hardly large enough. They have only one constable on duty at a time, and he has to patrol the whole enclosure at intervals of half an hour all night.

It is impossible to report further on this individual case, as your correspondent has furnished no date. The senior-sergeant of police reports that he knows nothing of this matter.

E. H. VON ARNHEIM,

Deputy Master, Royal Mint, Sydney.

Principal Under Secretary.

2565. In consequence of that I suppose you send the whole of your gold to Melbourne? Yes.
2566. What do the other mine-owners do? At least 10,000 oz. of Wyalong gold go to Melbourne every year. I saw in a newspaper, at the commencement of the year, that about 15,000 oz. of gold were received at the Melbourne Mint during the previous twelve months which had not been reported as crossing the border. That gold came from New South Wales. If you start from here with 500 to 600 oz. of gold, and get to Sydney with it early in the morning, you do not feel inclined to carry it about the streets with you for four hours.
2567. If the Sydney Mint had followed the same course as the Melbourne Mint, would you take your gold to Sydney? More than likely. I may state that two of my sons go down with the gold and they are allowed £10 each for expenses. We find that that pays us better than sending it by escort.
2568. Do you suggest that, in order to attract the New South Wales gold to the Sydney Mint, the authorities should adopt the same methods as those which are adopted at the Melbourne Mint? Yes, and the same charges.

2569.

F. Neeld.

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- F. Neeld. 2569. Do you know anything about the question of titles to the land in West Wyalong? No; but I have always been opposed to West Wyalong altogether, because I consider the township is right on the top of the gold. From the very first I objected to that portion, from the corner of Mallee-street to the White Tank, being occupied, except for mining. I argue that if it had not been for the gold there would have been no storekeepers here. Therefore, the storekeepers have no right to interfere with the mining. The main road, for a distance of half a mile, is right on the top of mines. If what has occurred at West Wyalong occurred on our ground it would have ruined the mine, and we could not have put up machinery.
2570. Does the ore pay better from the deeper than from the top levels? Yes, it does; although it is harder to work. There is a better yield, and the reefs are wider. In addition to that, it takes 15 to 16 cubic feet of oxidised ore to make a ton, whereas of the sulphide ore it only takes 10 to 11 cubic feet. That ton will produce more than the ton above.
2571. Your experience shows you that the deeper you have gone the better the mine has paid? Yes.

Edward Ernest Tyler, mine-owner, Wyalong, sworn, and examined:—

- E. E. Tyler. 2572. *Mr. Trickett.*] How long have you been in Wyalong? Since the field opened.
2573. I believe you own the largest mine in Wyalong? I have collectively the largest interests in Wyalong.
2574. Do you agree with the evidence of Mr. Neeld as to the prospects of the field? Yes. I would, however, be inclined to emphasise more strongly what he has said about the permanence of the field. The deeper you go the channels get larger, and the ore gets richer. There is an instance of that on Boultee's mine. It barely paid until they got down 150 feet, and since then it has produced 20 to 30 oz. to the ton. At present we have developed to 500 feet, and a little deeper, and there is every evidence of the channels widening, and showing great permanence. I am interested in five different mines, and they are all at work.
2575. Have you a large sulphide plant? I have no plant at all. We go to Custom's works to get the ore treated, or else we send to Dapto.
2576. Do you contemplate erecting works of your own? It depends on the development of the mine. I think it is more important to develop them first, and then to put up what works the development justifies. The treatment is very cheap so far, and it pays us better to accept what treatment we can get.
2577. Do you find it expensive to send the ore to Dapto to be treated? The main part of the expense is the carriage by road to Temora. That costs £2 per ton. From Temora to Dapto the charge is only 14s. per ton.
2578. Is £2 the ordinary road freight? It goes as back loading, which is £1 a ton. Of course in wet weather the charge would be higher.
2579. As you do not treat your own material you are not inconvenienced by the want of water? Not at present. We have been inconvenienced on account of the batteries stopping. We have had to suspend the raising of stone on account of not being able to treat it.
2580. Has that been a frequent occurrence? No.
2581. Do you agree with Mr. Neeld, that a water supply is an absolute necessity in order to enable the place to become a large mining centre? There is no doubt that the demand for water will be greater than it is at present, but I have no doubt that tanks will be put down as the requirements grow.
2582. Has the health of the town suffered from want of proper water? There has been a good deal of typhoid, which, I suppose, is partly due to that.
2583. At what depth are you working? 500 feet.
2584. With what result? We are prospecting at that depth in two mines.
2585. Then you have not come across rich stuff at that depth? We have come across permanent-looking channels, and we are developing them.
2586. Which do you consider is the better route for a railway to Wyalong—from Grenfell or from Temora? I think there is better agricultural country on the Grenfell route than there is on the Temora route; at the same time there is good country between Temora and Wyalong. We want a railway, and the question as to which way it comes is not of great importance, so far as the field is concerned. As Mr. Neeld has remarked, I think the construction of a railway would lead to the introduction of capital. There has been absolutely no capital put into the field. It has had to develop itself. The field has been labouring under every disadvantage.
2587. Do you think surface developments are likely to occur as time goes on, or has the surface been thoroughly prospected? I think there is room for further prospecting, although most of the developments will be from working at greater depth.
2588. Do you think that with the construction of a railway, extensive plants would be erected here? I feel certain of it. It would give a great impetus to the field. If the field had been in Victoria, we should have had a railway long ago, and a lot of other assistance from the Government.
2589. Is the tendency now-a-days in the direction of treating the ores locally, rather than sending them away, if there is no difference in the outlay? I think that the mine-owners will be glad to see the stuff stop on the field. Of course, however, it is hard to say what refractory ores we may get hold of which will require to be sent away for smelting. Otherwise we should be inclined to patronise local treatment.
2590. Is the ore you found so far capable of local treatment? Some of it was considered refractory. Local men are now getting over the difficulty of treating it, and are ready to take it on the terms upon which it can be treated elsewhere.
2591. *Mr. Shepherd.*] What quantity of stone have you sent from Wyalong to Dapto? We have sent some hundreds of tons. We used to send the stone to Victoria before the Dapto works started.
2592. Do you send the stone to Dapto because you cannot get it treated satisfactorily on the spot? Yes.
2593. Is the machinery at Wyalong incapable of dealing with all the ore raised? I think certain gentlemen on the field are prepared to treat any ores you like to offer them unless there is a lot of copper, and that would probably necessitate smelting.
2594. Then the sending of stone to Dapto or elsewhere is likely before long to be discontinued? It is all a matter of terms. If they find they can treat it satisfactorily, and offer fair terms, the necessity of sending it away will be obviated. Again, if Dapto reduced its tariff it might pay us better to continue to send the ore there. As I have stated, it is purely a matter of £ s. d. If the railway were constructed,
- the



- the cost of sending away the material would be reduced, and the local men would consequently have to treat it at a cheaper rate in order to keep it on the field. E. E. Tyler.
2595. Did the carriage of £2 a ton pay the whole of the expenses to Dapto? I might explain that it cost us £1 a ton by road to Temora, and 14s. a ton by rail to Dapto. Then, of course, there are the charges for treatment. 23 Aug., 1899.
2596. In the event of a railway coming to Wyalong, would you expect the carriage to be much reduced? Yes.
2597. I believe your mine, which is 500 feet deep, is the deepest on the field? No; the Bantam is deeper—namely, 600 feet.
2598. Have either of you struck the reef at that depth? Yes; but we have not got upon payable gold. In our case, however, we have had the misfortune for the time being to lose the channel. We are doing what might be called prospecting work. In the case of the Bantam, they went down in the channel. As far as indications go, the channels improve with depth.
2599. Have you sunk a vertical shaft, or are you following the underlay? In the case of the Lighthouse we are sinking a vertical shaft.
2600. You are not at present in a position to say whether the reef is as likely to be as rich at or below the depth to which the Bantam and the Lighthouse claims are sunk, as they are at a shallower depth? We can only judge by the appearance of the channel, which I consider is everything.
2601. You have not yet had a crushing at 500 or 600 feet? No, because we have not had the stuff to crush. There are shoots and blanks in every mine, and as long as you are in a blank you cannot get stone. When you are in a channel you know what you are likely to get when you reach stone.
2602. Can you speak positively of the value of the reef at the depth to which you have sunk, namely, 500 and 600 feet? I cannot speak from results at present.
2603. Therefore, everything is supposition so far? I do not consider it supposition.
2604. Do you consider it a certainty? I do. I consider it a certainty that the reef is as good there as it is above, and that it is likely to be better.
2605. What is the greatest depth from which you have had a crushing? About 360 feet in the True Blue and the Shamrock.
2606. Have you stoped out a considerable quantity at that depth? Yes.
2607. What return did you get from that depth? Various returns—from rich mineral to low-grade stuff, which ran 10 dwt. to the ton.
2608. Then, in your opinion, the material 500 and 600 feet deep is quite equal to that at 350 feet deep? Yes.
2609. *Mr. Trickett.*] Is there a large quantity of ore at grass awaiting treatment? Mr. Neeld alone has some thousands of tons; other mines have hundreds of tons in different places.
2610. Why is it not more vigorously treated? The batteries have been hung up for want of water.
2611. That brings us back to the question whether a water supply is not the first necessity here? I do not know. I think the question of the water supply will gradually work its own way.
2612. Do you know what quantity of stuff is at grass on the whole of the field? I should say about 10,000 tons.
2613. Is it usual to keep such a lot of stuff as that at grass? No.
2614. Then there must be some reason for it? Since the batteries have re-started it is gaining on the heaps. Mr. Neeld is keeping his big heaps back for his own battery which he is erecting.
2615. *Mr. Watson.*] You have stated that you pay £1 per ton for your ore as back loading from Temora? Yes.
2616. Do you know whether the freight has ever been less than that? Not to my knowledge. Of course, in wet weather it goes up to £2 per ton.
2617. It has been stated that in 1895 carriage could be obtained from Wyalong to Temora for 15s. a ton? It is possible, but men would not have a chance to make a living at it.
2618. Dapto, according to the railway time-table, is distant from Temora, *via* Sydney, 347 miles; Lithgow, from Temora, is distant 252 miles—a difference in favour of Lithgow of 95 miles; it does not appear that you send your ore to Lithgow, notwithstanding the difference of 95 miles in railway carriage;—I suppose that is because the Dapto people offer the better method of treatment? Yes; and the cheaper method.
2619. It does not seem, then, that distance is the only consideration in the question of treating ores? No. Dapto has made concessions for the sake of getting Wyalong ore.
2620. *Chairman.*] If ores were treated at Lithgow for the same charges, would you not prefer to carry the stuff the shorter distance? No doubt, other things being equal.
2621. Have you had any communication with the Lithgow people as to whether they would treat the ores? No; I do not think any stuff has gone there.
2622. *Mr. Watson.*] Have you heard that at Lithgow they have lately been turning their attention to treating ores? No; I am not aware that they are turning their attention to the matter.
2623. Do you think smelters are likely to be established at Lithgow for the sake of the trade they would get from Wyalong alone? No.
2624. There would not be sufficient trade from Wyalong to justify the establishment of works similar to those at Newcastle and Dapto? Certainly not.
2625. Then it would seem probable that a connection with Lithgow is not of such importance to Wyalong as is the easiest possible way of getting to a place like Dapto? No.
2626. The greater the variety of ores they smelt from different parts the cheaper they can do the work? No doubt.
2627. A work, such as that at Dapto would, I should imagine, be more effective for the treatment of Wyalong ore than smelting works which might be put up at any other place? Yes.

George Smith Duncan, proprietor of cyanide works, Wyalong, sworn, and examined:—

2628. *Chairman.*] Have you any statement to make to the Committee? Only that we are treating the G. S. Duncan ores raised in the Wyalong mines.

2629. Are you engaged in mining? I have an interest in two or three mines.

- G. S. Duncan. 2630. Are you in a position to corroborate the evidence which has been given by previous witnesses? Yes, generally speaking. I may mention that I am not a local resident, and I am only in Wyalong occasionally. I am a resident of Victoria, and do not possess a full knowledge of the field so far as the mines are concerned.
- 23 Aug., 1899. 2631. Have you had experience in Victorian mining? Yes.
2632. Does that experience enable you to say whether the Wyalong mines are likely to prove permanent? There is every indication of permanency, on account of the nature of the minerals. The channels are well defined.
2633. And when you strike a shoot, is it pretty rich? Yes.
2634. What processes are you using at present? The cyanide process. We treat all the various classes of ores on the field.
2635. Do you reduce the ores to tailings first? Yes.
2636. Do you get the free gold out before you put the ore through the cyanide process? No; we treat it *in globo*.
2637. Is the impression that some people possess, that cyanide will not treat rich ore, correct? It depends on the class of ore you are treating. Wyalong ores are especially adapted to cyanide treatment. The richness of the ores does not affect their treatment.
2638. Do you think the sulphide ore will be possible of treatment by cyanide? We are at present treating it successfully.
2639. Do you anticipate, from what you know of the class of ore from the deeper levels, that there will be any necessity to resort to smelting? That is the question. If there is anything deleterious to cyanide treatment we should have to resort to smelting.
2640. But you had no indications of ore which would require smelting? There is only one mine, belonging to Mr. Tyler, in which there is copper about.
2641. At what depth was that obtained? 200 feet, I think.
2642. Is it possible that any development of copper in that mine might be only incidental, and not of a general character? I should think it was incidental, because the other mines, although much deeper, have shown no trace of it.
2643. Is that the only indication you have had of a class of ore which might require treatment different from the cyanide treatment? That is all.
2644. If the ore continues to be obtained in its present character it can be treated by cyanide? Yes; it carries up to 40 per cent. of sulphur.
2645. Supposing you had ore carrying 40 per cent. of sulphur and no other ore to mix with it, could you treat it? Yes.
2646. I suppose local treatment is better for the general business of the field? Yes; and the rates paid on the field are more favourable when the cost of carriage is taken into consideration.
2647. Do you think you would be able to compete with the Dapto works if there were through-carriage from Wyalong? I could not say at present.
2648. Do you know of anything to make you doubtful whether you can deal with any ore on the field? No; we have thoroughly tested the whole of the ores.
2649. How do you purchase the ores? We pay a certain percentage on the assay value—up to 95 per cent.—and we charge so much per ton for treatment.
2650. What is your charge? It ranges from £3 downwards, according to the value of the ore.
2651. Do you charge more for the treatment of valuable ores? The more valuable the ore the higher the price of treatment.
2652. Do you know what the Dapto people charge? Their charges are on a sliding scale, according to the value of the stuff treated. I do not know what the scale is.
2653. Is it not possible that they may be in a better position to compete for ore, owing to the fact that they put through a greater variety and a greater quantity than can be put through by the local works? Yes; they get ore from all parts.
2654. Then they will always be a strong competitor with any local cyanide works? Yes. We are not afraid of competition to such an extent as would lead us to say that we do not want a railway constructed.
2655. Have you any doubt as to the prospects of the field? No; we have a very extensive plant, and are adding to it.

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Edward Janitzky, manager, Sully's Chlorination and Cyanide Works, Wyalong, sworn, and examined:—

- E. Janitzky. 2656. *Chairman.*] Have you heard the evidence of previous witnesses? I have heard the evidence of Mr. Duncan and Mr. Tyler.
- 23 Aug., 1899. 2657. One of the witnesses has stated that when the oxidised ores give out you will require to smelt the ores here, and other witnesses say that, so far, they have been able to treat any of the ores which have been raised;—will you give us your opinion on the matter? Unless things change considerably everything can be treated locally.
2658. Then, so far as the ores are concerned, there is not likely to be much traffic in them on a railway? No. I do not think there is any necessity for a railway, so far as the carriage of minerals is concerned. But there is a necessity for it so far as agriculture is concerned.
2659. Which of the two routes do you think would be the more likely to give some return to the State? The more populated route.
2660. Which is the more populated route? I could not tell you.
2661. *Mr. Shepherd.*] In carrying out your work, would not coal suit you better than wood? Yes; but it could not be obtained cheaper than wood. There is any amount of wood for years to come.
2662. Do you think you would be induced to bring coal to Wyalong for the purpose of carrying on your work if it could be got here at a cheap rate? If the timber can compete with the coal, I do not think there will be any necessity for using coal. We should use whatever is the cheaper.
2663. *Mr. Trickett.*] What is the character of the water supply at Wyalong? The want of water impedes mining.
2664. Is a water supply required more than a railway? I think it is a most important matter to get a water supply.

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Herbert

Herbert Bertram Christie, stock and station agent, Wyalong, sworn, and examined:—

2665. *Mr. Dick.*] Have you a fair knowledge of the country between Grenfell and Wyalong, and between Wyalong and Temora? Yes. H. B. Christie,  
23 Aug., 1899.

2666. Have you any statement to make? Yes. I have been in the district during the last eight years, and managed Wyalong No. 2 station for six years, from 1891. Since I have come to the district the number of stock has fallen off fully three-fourths. That is due to the growth of scrub, and to the advent of the rabbit. The district is now being wire-netted, and scrubbing is universal, consequent upon the issue of scrub and improvement leases. I consider that, in four years' time, the country will carry the same number of sheep that it carried in 1891. Moreover, the country is yearly being better watered and subdivided. In 1891, fat stock were very plentiful, and they will again become plentiful. I estimate the annual output of sheep at about 25,000—that is, for the district north, west, and south of Wyalong—or 200 trucks, which, at £6 10s. a truck, would give £1,300 worth of freight to the proposed railway. During the past year it has been impossible to send fat stock from this district owing to the distance from a railway. With regard to wheat, I may mention that I have roughly totalled the areas under crop lying to the north and south, within a radius of 25 miles. I have excluded east of Wyalong. I find that the area under crop in that extent of country amounts to over 7,000 acres. This area has been trebled during the last three years, in spite of the severe drought, and I think that, within the next three years, it will have increased to 20,000 acres or 30,000 acres. The district has proved its extraordinary suitability for wheat-growing. I estimate the average crop at 11 bushels to the acre, taking all seasons, or an output in three years time of from 200,000 to 300,000 bushels. That would give freight equal to 5,000 or 7,500 tons. I am excluding what will be used for chaff. That should amount to about 3,000 tons. If we had had a railway during the recent bad seasons we should possibly have been able to get stock away to where there was good grass. Owing to the want of a railway thousands of stock have been lost in the district within a radius of 35 miles. If we had a railway to Grenfell we should be able to send our starving stock to the Cowra district. That would be the most suitable place to which to send them, because the whole of the Upper Murrumbidgee country is snapped up by the Riverina squatters. They are able to give better terms than are the people about here.

2667. You state that in four years' time the number of sheep in the district you have mentioned will, in your opinion, be as large as it was in 1891? Yes.

2668. What was the carrying capacity per acre in 1891? I could not tell you; but I have made inquiries, and I find that at ten stations within a radius of 25 miles they were carrying 215,000 sheep.

2669. Have you any idea of the area of those stations? No.

2670. Do you think they would carry a sheep to 2 acres? I should think they would carry one sheep to 3 acres. This country, if fairly improved, will carry a sheep to 3 acres, and in many parts it will carry a sheep to 2 acres.

2671. You referred just now to a return of £1,300 per annum for freight;—what was that for? For the carriage of fat stock from this area. Prior to this no stock has gone from here. It is too far to a railway at present, and the water on the road is bad.

2672. Do you anticipate that there will be a large increase in the area under wheat? I estimate that there are at present 7,000 acres under wheat, owned as follows:—Mrs. Smith, 150 acres; W. Smith, 150 acres; P. Neilsen, 350 acres; A. Clark, 300 acres; P. Clarke, 250 acres; W. Bottrell Bros., 350 acres; J. Haub, 200 acres; C. Haub, 200 acres; Rootes (2), 300 acres; Cattle Bros., 400 acres; Lang, 250 acres; Gagie, 200 acres; Wells, 100 acres; A. Blyter, 200 acres; Maddison, 700 acres; J. Bolte, 100 acres; P. Bolte, 200 acres; Rankin, 400 acres; J. C. Moore, 300 acres; Lewington, 200 acres; Phelan, 500 acres; Thompson, 200 acres; James Jamieson, 300 acres; John Jamieson, 200 acres; Hawkins, 150 acres; Giles, 100 acres; J. Jones, 400 acres; Hildebrandt, 150 acres; Elliott, 200 acres; Goodwin, 300 acres.

2673. Have you authority from those people to put their names down for the amount stated? No; but I believe those to be the areas they have under cultivation. I know a good number of them, and I have asked them.

2674. And there may be more whose names you have not put down? Yes.

2675. Do you anticipate an almost immediate increase in the area under wheat around Wyalong? Most certainly, if we have a railway.

2676. Is that a condition of the increase? I think so.

2677. If a railway is constructed, do you think the agriculturists around Wyalong would be able to supply the Wyalong market and the district to the west? Undoubtedly.

2678. Can you give us any information as to the average number of times the following state of things occurred in ten years: That in the Western district—about Hillston and further west—there is a drought, whereas between Wyalong and Grenfell, there is a fair or tolerable season;—does it not happen that if there is a drought at Hillston, there is also one between Wyalong and Grenfell? I think we are all pretty well in the same zone. For the last two or three years, there has been a drought all over the place.

2679. Do you look upon the western market around Hillston as being of any importance to the agriculturists around Wyalong in times of drought? Not so far. We have had to get stuff to supply our own wants, without sending any away.

2680. Do you think the rainfall around this district is sufficient, year in and year out, to encourage people to go in for an increase in agriculture? I think so. They have actually been increasing during the last year, and no year could have been worse.

2681. What market do they anticipate they will supply? They will send wheat to the Sydney market. The whole of the 7,000 acres has been cultivated practically since the discovery of the Wyalong field. I do not think the land would have been put under cultivation if Wyalong had not been discovered. With regard to wool, I should have stated that with this district running 250,000 sheep, there should be a tonnage for the railway, at the lowest, of about 530 tons of wool.

2682. Where does that wool drift to now? Mostly to Temora.

2683. In the event of a line being constructed from Grenfell to Wyalong, do you think the wool would be trucked at Wyalong? Yes.

2684. Do you know enough of the two rival routes to be able to express an opinion as to their relative merits? I know the route to Grenfell.

2685. Which do you think would open up the larger area of good agricultural land? I know that the land

- H. B. Christie. land between Wyalong and Grenfell is the best; it would be more easily put under cultivation. It is not so heavily timbered. There is a lot of plain country about it. I am also given to understand that more Crown lands are available along that route.
- 23 Aug., 1899. 2686. You have mentioned the item of the carriage of starving stock? Yes; it would be better suited to this district if we had a railway to Grenfell, because of the ease with which the Cowra district could be reached. We should send our sheep to the Upper Lachlan rather than to the Murrumbidgee.
2687. Have you had any experience in the transit of starving stock? No.
2688. Do you think that in times of drought there is a sufficient area of available land in this Colony to which to send any considerable number of starving stock? Yes. The droughts are not always in the same part. Last year was an exceptional year; I do not think there was sufficient room for them.
2689. What would have happened in regard to starving stock if a railway had been built to Wyalong two years ago? I think it would have saved several thousands of sheep.
2690. *Mr. Watson.*] Do you think you would have a better chance of getting grass for starving stock at Cowra than on the Murrumbidgee? Yes.
2691. Do you know that last year there was as great a rush there as anywhere? Yes; I think the whole of the colony was rushed for grass because the drought was universal. I may state that personally I am not favouring any particular route. We want a railway whichever way you like to send it.
2692. You have stated that the country between Wyalong and Grenfell could be more easily put under cultivation owing to the fact that it is not so heavily timbered? Yes.
2693. Do you know of any instance in which successful cultivation has been tried on the plain country? Yes; at Forbes.
2694. Is that the same as the Bland country? I refer to the red portions of the country.
2695. That is more like the Myall Plains? It is not so stiff as that.
2696. Is there much plain country between Wyalong and Grenfell similar to the Forbes Plain? Not a great deal. In my opinion a great deal of these plains will be under cultivation.
2697. What makes you think that? Because it is splendid land.
2698. Do you think the rainfall is sufficiently regular to give that kind of country a fair chance of cultivation? Yes. Clayey country retains the moisture far better than does sandy loam. It is, therefore, better in times of drought than loam. The best returns I have seen from wheat are from clayey country. Of course, there are three sorts of clayey country on the plains. There is stiff black clay called gilgai country. In a wet season that would be flooded, and the water would lodge on the surface, and kill the wheat. With regard to the red clay and the lighter coloured clay the water would get through.
2699. In what direction do the farmers, to whom you have referred, live from Wyalong? Nearly the whole are to the north, west, and south.
2700. How far west do the farms extend? About 25 miles. Most of the farmers whose estimates I have given are to the north of Wyalong.
2701. Are those farmers as far from a railway as are the farmers on the Bland country? They are about the same distance.
2702. It seems then that successful cultivation is going on north of Wyalong, at a similar distance from railway communication as the land at present uncultivated on the Bland;—may we not infer from that that the land on the Bland is not so suitable for cultivation, as that which you say is under cultivation to the north of Wyalong? I do not think so, because we have a market here for our stuff.
2703. Would not the Bland people have the same chance of a market here for their stuff? No; they may both be 50 miles from a railway, but it does not follow that they are both handy to Wyalong.
2704. How far is the one who is furthest away from Wyalong? Twenty-five miles; but the majority of them are within 12 miles.
2705. How far is Back Creek station from Wyalong? The homestead is 14 miles away. The areas to which I have referred would never have been under cultivation if Wyalong had not been discovered.
2706. Have you taken any interest in mining matters? Yes.
2707. Is it likely that ores will be treated locally? I could not say. Up to the present we have treated stuff at Dapto simply because it has paid us better. If we had the same treatment here and the same terms we should give the preference to Wyalong.
2708. Do you think you are likely to get that treatment at Wyalong? Yes; we are getting it now. I am interested largely in the True Blue mine, and all our stuff is being treated locally.
2709. Do you think it will be necessary to change the present method of treatment? Not in our mine.
2710. *Mr. Trickett.*] In view of the possibility of a railway line going to the west in the direction of Hillston, which do you think would be the better line to construct—one from Temora to Wyalong, or one from Grenfell to Wyalong? I should say one from Grenfell to Wyalong. The Ariah district has splendid land, and it would be well served from Temora, and that would be a parallel line to the Hillston line. If we had a railway from Grenfell to Wyalong a good deal of the machinery which is now coming from Melbourne would, I think, be purchased in Sydney. So far, with the exception of two plants, the whole of the machinery on the field has been purchased in Melbourne.
2711. Do you know the country west of Wyalong? Yes, up to 7 miles on the other side of Yalgogrin.
2712. What is the character of the country there? There is any amount of splendid wheat land.
2713. Do you know the country 20 to 30 miles north of Wyalong? Yes.
2714. What is it like? It is tip-top agricultural land, especially on the Wyalong side of Back Creek.
2715. *Mr. Watson.*] You have stated that if a railway were constructed from Grenfell to Wyalong the machinery for the field would be brought from Sydney instead of from Melbourne? Yes.
2716. Do you think, then, that the question of saving a few miles of carriage would influence purchases of plant for mining? I understand that the difference in the carriage would be 64 miles, instead of 7 miles.
2717. Is it not a fact that people go to Melbourne for their machinery because the Victorian people having a greater interest in the field have laid themselves out to cater for the supply of machinery? Of course, they are very much ahead of New South Wales.
2718. They make more effort to meet the demands of mining investors than do the Sydney people? Yes.

Digby Noy Johns, pastoralist and farmer, Ungarie, sworn, and examined :—

2719. *Mr. Shepherd.*] How far is your holding from Wyalong? Between 30 and 40 miles north-west.  
 2720. Have you any statement to make to the Committee? Yes. I have been examining the estimate of prospective returns which have been supplied to the Committee from the Traffic Department, and I have come to the conclusion that they are based on incomplete data. Since 1890 the number of sheep in the district lying west and north-west from Wyalong has been reduced by 78 per cent. This is due partly to the rabbits, partly to the drought, but I think chiefly to the growth of scrub. I will give you the returns of sheep from eight runs, lying close to the west of Wyalong, all of which would send their wool to Wyalong if a railway were constructed to it. The figures are as follows :—

D. N. Johns.  
 23 Aug., 1899.

	Number of Sheep.				Number of Sheep.		
	1890.	1899.	Distance from Wyalong.		1890.	1899.	Distance from Wyalong.
Wyalong No. 1.....	25,000	2,000	14 miles.	Yalgogrin .....	20,000	7,000	20 miles.
Buddigower .....	50,000	4,000	20 „	Youngara .....	20,000	3,500	35 „
Wollongough .....	25,000	11,000	30 „	Ungarie .....	20,000	7,000	25 „
Bolygamy .....	15,000	6,000	20 „	Youngee Plains.....	15,000	.....	18 „
Merringreen .....	25,000	3,500	30 „	Total .....	215,000	44,000	

NOTE :—These figures do not include the selectors' flocks on those holdings.

These reductions are due to the scrub—at any rate that is the principal cause. We have dealt with the rabbits now, and nearly all the runs are netted, some of them, like our own, into sections. There is also also very much better water conservation than there was in 1890, but the scrub is the great difficulty.

2721. *Mr. Watson.*] Is it a worse difficulty than the drought? Yes.

2722. *Mr. Shepherd.*] What kind of scrub is it which is so disastrous? Box seedlings are the worst. Then there is the pine. The country west from Wyalong is almost all pastoral leasehold. It was all ringbarked when the leases were granted for ten years in 1884. When four or five years had passed away, and the time had come to go over the country and sucker it, the leases were half expired. Accordingly the lessees said they had better wait to see what would happen, because they thought that they might lose the country after they had improved it. The Government then passed the 1889 Act, which gave them power to grant a further extension not exceeding five years. In 1895 the leases were thus again running out, and the same condition of things existed. The scrub there is now fifteen years old. The Government will not give tenant right even now. If they did, the land would be ready for selection in a few years.\*

2723. Then the chief losses have been occasioned through the want of tenant right? Yes; at no time did a lessee have tenant right under a pastoral lease. The Chief Justice has laid down the common law now, not only with regard to the resumptions under the 1895 Act, but also under the 1884 Act, that there was no tenant right whatever. That is why the lessees, when they ringbarked the first time, did not go on operating later on. They discovered that they had no tenant right, and at the end of the five years to come, all that they had spent might be lost.

2724. Can you state at what period the greatest losses occurred;—was the decrease gradual, or did it occur at any particular period? The 220,000 sheep to which I have referred as having been on the runs in 1890, would have been exceeded in 1895 or 1896. There was a considerable loss in 1888, when there was a bad drought. We only had 9 inches of rain. In 1889 we had a splendid season, and the number increased again in that year and in 1890. In 1891–2–3, the numbers would have been as high as those I have quoted, or higher. For instance, Wollongough carried more sheep in 1893, the number shorn being 27,000, but in 1890 the numbers were as I have stated. In 1895 the rabbits came. Since then the country has never had a chance of recovering, for this present drought followed the rabbit invasion.

2725. Then the greatest decrease has occurred since the drought set in four and half years ago? Yes. Up to 1894 the country was carrying, not what it had been carrying when the improvements were new in 1885 and 1886, but still it was carrying an immense quantity of sheep. The Buddigower station shored 75,000 sheep as against 50,000. Wollongough in 1885 shored 46,600 sheep, and in 1890 the number was down to 25,000. Merringreen in 1885 shored 48,000 sheep; in 1890 the number was 25,000. The country was beginning to go back. The ringbarking was followed by grass, and then the work being neglected the scrub began to grow and the capacity for carrying sheep gradually decreased.

2726. The neglect has been occasioned almost entirely on account of the lessees not being certain that they would be able to secure the renewal of their leases? The country was neglected because the lessees knew they had no tenant right, and that all the money they spent would be lost to them. Of course, the expense of improving a run, per acre, is ten times more than the rent. You might not think a rent of one penny an acre dear, but to ringbark might cost you 2s. an acre, and that is twenty-four years' rent.

2727. If the work had been done at the first the cost would have been trifling? I was speaking of the first cost. The first cost of ringbarking that virgin country in those days was 2s. 6d. an acre. The runs to which I have referred will send their clips to Wyalong. Their distance from Wyalong varies from 14 to 35 miles. They lie to the west and north-west. The list I have given does not, of course, include any of the selectors' flocks. If you add them to the list we should have estimated 250,000 sheep ten years ago. The scrub leases are now being taken up in rather a half-hearted way, because there is no tenant-right for them either. Ten years is allowed for one half, and twenty years for the other half. They contain often a railway resumption clause. I know of a scrub lease for ten years which was offered the other day. It was admitted that it would cost 5s. 6d. an acre to scrub and re-scrub it fully. The Board fixed the rent of it at about two-thirds of a penny per acre per annum; in other words, the rent for ten years would amount to 7d. per acre. The improvement of scrubbing alone would cost 5s. 6d. to 5s. 9d. per acre. You will see how ridiculous it is that, if a thing is only worth 7d. for ten years, and 5s. 6d. is spent on scrubbing it, you should be expected to agree to lose this expenditure. If a railway  
 came

\* NOTE (on revision) :—No change in the present law is required to vest the tenant right, in scrubbing, in a lessee; this rests with the Minister. In the case of improvement leases the tenant right in the scrubbing is also within the discretion of the Minister to grant to the lessee; and this he nearly always does. My contention is that the Minister should not discriminate between two classes of leases which are virtually identical in their object and conditions. In both, the tenant right in water and fencing improvements vests in the lessee, but the performance of the conditions in respect to these two improvements does not cost more than a sum equivalent to about one shilling over the area of land leased.

- D. N. Johns. came along you would lose all your money. The land and the improvements would be gone, because you had not got tenant-right, and the railway clause absolutely determines the lease, without tenant-right expressly.
- 23 Aug., 1899. 2728. Then the condition of things now will greatly prejudice the taking up of the country? Yes; west of Wyalong.
2729. Do you think the old lessees would take up land again after it became re-available for selection? No one will take up scrub lands unless they get a twenty years' lease, unless tenant right is given in the scrubbing.
2730. Then the land to a certain extent has been rendered useless through neglect? Yes. Of course there are areas of land in which this has not occurred. There are considerable areas which are clear and available for selection, being country of a more open character.
2731. Is a considerable portion of it fit for agriculture? I think all the country from here westward is suitable for agriculture, when the timber and scrub are sufficiently dead and decayed to burn readily.
2732. For how far westward? All the way from Wyalong to Hillston.
2733. Do you think it is likely that it will be taken up for agricultural purposes? Yes; if a railway is built, it will be taken up. If it is not built there is not the faintest prospect of it. It would be absolute ruin for anyone to go in for it. The wool output from 250,000 sheep, at 6 lb. per head, comes to about 800 tons of wool. That is on the 1890 basis. Of course, if Parliament builds a line to Wyalong, this country will be taken up in small areas by settlers. If they know a railway is coming they will settle. In my opinion, if a railway comes here, you would in five years' time have the country in a state of improvement similar to that which existed ten years ago.
2734. The leaseholders, yourself and others, would disappear? Yes; a great many would. I do not think we should regret disappearing. We are very sorry we ever appeared.
2735. *Chairman.*] Where is the wool trucked now? Generally at Temora. You would also have a considerable amount of fat stock to carry. On an average, about 10 per cent. of a man's sheep are fattened, and that would give you out of 250,000 sheep about 20,000 fats a year, or 200 trucks. In addition to that there would be about 150 to 200 tons of salt brought out from Sydney as back traffic. You would also have between 20 and 30 tons of woolpacks as back loading. With regard to wheat, I gave evidence when a former Committee was at Wollongough, and I compared the rainfall of this district with that of Urana, not far from Berrigan, on the border of Brookong station. Taking the months of August, September, and October for the last nine years—from 1890 to 1898—I find that out of twenty-seven spring months we have had nineteen wetter months than they, and they have had eight wetter months than we. I think that for grass it has a better climate than this, but for wheat-growing this climate is equally as good as that. It is not easy to compare the two, because that country was improved in the sixties. With regard to the quality of the soil, Mr. Hassall went over the land out north-west of Wyalong, and reported that it would bear favourable comparison with some of the most productive in Riverina. Mr. Slee also gave evidence on the country between here and Lake Cudgellico, and said it was "a perfect Garden of Eden." I produced a letter from the manager of Brookong station before the former Committee, referring to the land of this district. He said he thought it was quite as good for wheat-growing, but not so good for grass as Brookong. We have grown wheat constantly, also oats, barley, potatoes, corn, fruit, and vines experimentally. With regard to the routes, I may state that I have been around the district, and the whole of the pastoralists but one prefer the Grenfell route. The reason of that is this: We believe there will be an enormous area under wheat out here; and if the line is constructed from Temora, inasmuch as our harvest comes in at the same time as the Riverina harvest, there will be a perpetual block at Cootamundra. We consider that the wheat-growing future of this district is underestimated. We have watched the extraordinary way in which the growth of wheat has increased. During bad years we do fairly well out here. The average for the Wollongough district last year was  $8\frac{1}{2}$  bushels per acre, and that compares very favourably with almost any other district in New South Wales in a bad season. Another reason is that, owing to the constant block of wheat traffic at Cootamundra, it would be almost impossible to truck fat stock in summer-time. The Lake Cudgellico secretary wired me yesterday, asking me to notify you that they were unanimously in favour of the Grenfell route. The Grenfell route is for us the cheapest route to Sydney. We used to send our wool to Melbourne, *via* Temora, and Sydney, and round by sea.
2736. *Mr. Watson.*] Why did you send it to Melbourne? In those days we got a better price in Melbourne for that particular class of wool. We do not send it round to Melbourne now, but sell it in Sydney. The main reason we are in favour of the Grenfell route is that we consider there will be a huge area under wheat between Wyalong and Hillston when the line is continued, and that there will be a lot of traffic at Cootamundra, because the southern Riverina traffic comes in at the same time as the traffic from here. With regard to starving stock, of course, it would not pay to make lines for them. I heard what Mr. Christie said about the Upper Murrumbidgee being completely overrun last year by sheep from Riverina. That is perfectly true. At Orange the other day I met Mr. Brett, the Stock Inspector, from Urana, and he told me that not only was the Upper Murrumbidgee so overrun that sheep from about Urana had actually paid 1s. a head more than their value for grass, but that they had come back "rotten as pears," suffering from fluke and ringworm. The Upper Lachlan country is the country to which Hillston sends its sheep, and it is a better place to which to truck them. The Inspector of Stock at Hillston told me that during the first six weeks of this year 160,000 sheep, most of which came up the river, had left the Hillston district. The Upper Lachlan is best reached *via* Koorawatha junction.
2737. Do you think they would be diverted to the proposed railway if it is constructed? Not unless it goes on to Hillston. I may state that if we could not get country for starving stock on the Upper Lachlan it would cost us one halfpenny per head extra at starving stock rates to send them the 60 miles between Koorawatha and Cootamundra and then on to Gundagai. They would be only two hours more in the trucks, and if the sheep are fit to climb those hills they are fit to stop two hours more in the trucks.
2738. *Chairman.*] Do you know whether this state of things has happened in New South Wales: that a railway going into a pastoral country has had the effect of increasing the carrying capacity of the runs;—would you send the stock away for fattening in small quantities? If you bring the line to Wyalong the country 30 to 40 miles west will be taken up. The result will be that the carrying capacity will be as great or greater than it was ten years ago. I consider that of the 250,000 sheep then there, at least one-tenth will be fattened annually. The principal months during which they will be fattened will be September, October, November, and December.
2739. That means that at present you send no fat stock away at all? No; no fat stock are now sent.
2740. As you sent them away would you replace them? We should be breeding. This is essentially a breeding

breeding country. It is not fattening country like the Bland, where they buy for the purpose of fattening. That is the best fattening country in New South Wales.

2741. *Mr. Trickett.*] You base your possible wool traffic on certain figures on the one hand, and on the other hand you state that the country year by year is becoming of less value by reason of the growth of scrub; if that is going on, the carrying capacity will diminish? That country is going back at present; but if you bring a railway to Wyalong the country for 40 miles out will be taken up by small holders; they will not go out into that wilderness unless it is close to a railway; any man above 30 miles from Wyalong is cooked.

2741½. Do you think that under present circumstances, with regard to the leasehold areas occupied by you and the adjacent holders whom you have named, you and most holders, unless the law is altered so as to give you a different tenure and tenant-right, will not keep on at the end of the term? We should not attempt to improve. We are all letting the land go back; that process would continue.

2742. And letting it go back, necessarily means that the carrying capacity is getting less every year? Yes.

2743. Then a railway would be of no benefit to you individually, unless there were a corresponding alteration in the land laws, excepting that you would possibly become a small holder instead of a large one? The railway would benefit us in this way: that at present we are a prey to the vermin breeding on large areas of abandoned country further westward which is going back, and that land might be selected and improved.

2744. Your estimate of the possible supply of wool to the railway is based upon the railway being extended to Wyalong, and the probability of a number of small holders taking up the scrub land and improving it? That is one basis. The other basis is to give all leases with tenant right.

2745. *Mr. Watson.*] You state that the lessees, after the 1884 Act was passed, ringbarked the country, and so on;—about five years afterwards that country was suckering and becoming scrubby? Yes; they found they had no tenant right.

2746. The Act of 1889 was passed, and that gave them a possible extension of another five years? What the Act meant was very obscure; besides one would not know till the case should be heard in 1894.

2747. They were under the impression, at any rate, that they were to have an extension by virtue of improvements? Not exceeding five years, and it might be only one, and too dear to accept, therefore.

2748. According to the extent of the improvements they made, the greater extension they would get? Yes, provided the Board thought the land would not be required for settlement.

2749. Will you explain why, when the 1889 Act was passed, they did not go on suckering, which at that time could have been done cheaper than it could have been done subsequently? I believe there were ninety-seven holdings in my district which applied, under the 1889 Act, for an extension by virtue of improvements. The applications had to be lodged in 1890, and they came before the Condobolin Board in 1894. Some of them showed improvements of about 1s. and 1s. 6d. per acre, and some showed improvements up to 4s. and 5s. per acre. The Board gave one decision in regard to the whole of the applications. The whole of the applicants except one, who withdrew, went to appeal, and the Condobolin Board gained the record for the whole of the world in having every one of their decisions upset.

2750. Do I understand you to say that it would cost 5s. 6d. an acre to scrub the country to which you have been referring? That is a cheap estimate.

2751. Do you think the land is worse than the pine scrub on the Bogan? No; the District Surveyor swore that the scrub there was about the same as on the Bogan. I do not know, myself.

2752. The average cost of scrubbing the Bogan was under 3s. an acre? Yes, for the first treatment; but there is a second treatment necessary here at the end of two or three years, and from time to time afterwards during ten to fifteen years.

2753. Then a lease for ten years would be too short? Not if you give tenant right. If a man had tenant right he would get his principal back. He can then accept a lease containing a resumption clause, without danger of losing more than interest.

THURSDAY, 24 AUGUST, 1899.

[The Committee met at the Court-house, Wyalong, at 10 a.m.]

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

George Stevenson, Police Magistrate and Mining Warden, Wyalong, sworn, and examined:—

2754. *Chairman.*] How long have you been in Wyalong? Since the middle of January last.

2755. Have you been long enough here to make yourself acquainted with the whole of the district to be served by the proposed railway? I am very well acquainted with the whole of the district.

2756. Have you prepared any statistics for the Committee? Yes. I have prepared a comparative statement of the yield of gold. In 1896 the production of the field was 31,211 oz., of the value of £124,844. In 1897 the production was 32,571 oz., of the value of £130,284. In 1898 the production was 36,839 oz., of the value of £147,356. This year I estimate that the output will be at least 40,000 oz., of the value of £160,000.

2757. The returns show a steady increase since 1896? Yes.

2758. In your opinion, is there every probability of it continuing? I think so.

2759. Then the permanency of the field seems to be assured? It seems to me to be the most paying gold-field we have in the Colony. I have seen quite a number of gold-fields in the Colony, and the reefs here are larger and more permanent. They are not lost, but can be traced from start to finish, and there is plenty of stone to work.

2760. In the immediate vicinity of Wyalong? Yes.

2761. What mining is there outside of Wyalong? There is Yalgogrin, with a population of about 300 engaged in mining.

2762. Is that being fairly well developed? It is very much at a standstill at present on account of most

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of the auriferous land being held by conditional purchasers and conditional lessees. Some of it is being worked under the Mining on Private Lands Act. The Department of Mines, on my recommendation, are about to resume 2,560 acres. It is nearly all auriferous.

2763. What is the general opinion of that field? Very favourable. It has paid all those who have worked there up to the present time; but there have not been facilities enough to induce a large population to remain there. They were short of water last summer—in fact, it ran out. The population dwindled away. It is increasing since the rain came, and they have more tanks down now. They secured more water during the last rainfall than they have ever had before.

2764. Are there any fields north of Wyalong? Hiawatha is a place where a large rush occurred some time before I came here. That is 11 miles to the north. There is not a very large population there now. They knocked off work in consequence of the drought. They could not get enough water for domestic purposes.

2765. Then we may reasonably suppose that the field for some distance around Wyalong will maintain a permanent population engaged in the mining industry? I think it will.

2766. Have you any further information with which to supply us? There are eighty-seven gold leases in operation at Wyalong, containing 373 acres, and twenty-five claims occupying 100 acres. The miners' rights issued at Wyalong during the past twelve months numbered 1,189, and the business licenses numbered 633. Those figures show an increase on previous years, but the increase is not very rapid. The value of the machinery employed in the abstraction of gold is now £110,000. In 1897, the value was £75,000. It is likely to increase still further, as we have not enough machinery here. The paddocks are full of stone, and we cannot get it treated, although the machinery is going full time.

2767. Are the appliances for the abstraction of gold considered to be up to date, or have you heard any complaints of the treatment of the ore? The public seem to be well satisfied with the public batteries, and with the cyanide and chlorination works. The private enterprise upon the field has given it a permanence, of which we are now reaping the benefit. I feel certain that it was the determined stand taken by the Needs in the first instance, and the energy they put forward to obtain the latest appliances in chlorination and other works for the purpose of extracting the gold from the refractory stone, which has shown the way to the others upon the field, and we are now reaping the benefit of it.

2768. Have you any idea as to whether smelting will have to be resorted to? I think it will, because some of the ore is getting very refractory. We shall have to bring coal here or take the ore to the coal.

2769. Is that the opinion of those who are engaged in the industry? Yes; they have expressed that opinion, and I feel certain such will be the case. We have not yet got beyond cyanide and chlorination.

2770. There is no necessity yet? The necessity is quickly arising in consequence of the depth which has been attained on the reefs. As a greater depth is obtained, the ores, in my opinion, will get a little more refractory. Such being the case, we shall require better appliances.

2771. Is the reserve of oxidised ore getting worked out? Yes. We get into the sulphide after 200 feet. I can give you the returns for the years 1894 and 1895. In 1894 the yield was 9,449 oz., of the value of £35,946. In 1895 the yield was 24,497 oz., of the value of £91,863.

2772. Have you any information to supply with regard to the population? I estimate the population to be at least 4,000 souls, and it is increasing.

2773. *Mr. Trickett.*] I believe that in 1895 the population was stated to be 4,500? Yes, I believe so.

2774. The evidence then given was that a little before that it was 6,500;—does that show the advancement of the district or otherwise? I can explain that to you. There was a great rush here when gold was first discovered, and in connection with the rush a large number of people went out looking for alluvial gold. They did not find it. A large number of people also came here who did not understand anything at all about quartz mining. The consequence was that they had to go away. A large number of people who know nothing whatever about mining go to every rush. We have passed that stage now, and are on the upward grade in regard to population.

2775. Do you think much stone will go away to be treated, or will it be treated locally? I think it will be treated locally.

2776. When they take the gold away it will not give very much traffic to a railway, especially if it is taken away in the shape of gold? The coal coming here should give a good deal of traffic. We must either bring the coal here or take the ore to the coal.

2777. Do you look upon the mineral prospects of Wyalong as the only inducement for the construction of a railway in this direction? That is the only thing in which I am interested.

2778. Is not a large quantity of gold taken away from here privately? I could not say a large quantity. The yield I should say would be 10 per cent. more than the authorities have discovered. There are some people who take away the gold, and there always will be, and we cannot trace it.

2779. We have always been told that the great drawback to this district is primarily the want of a better water supply? That is true.

2780. Do you look upon that as the first necessity? It would be the grandest thing which could happen to Wyalong.

2781. Is it not a fact that during dry seasons the plants cannot be worked? That is so.

2782. Has not the field often suffered materially, owing to the plants lying idle? They were idle last summer for two months; but I am happy to say they are now in full work, because we have had rain. The owners of the tanks took the opportunity of increasing their capacity when they were dry, and they are now full.

2783. How many plants are there on the ground capable of treating the ore which is obtained from the mine? There are different kinds of plants; we have batteries, cyanide works, and chlorination works.

2784. How many of each? I could not tell you for the moment.

2785. Do you look upon the erection of plants for dealing with the gold in this district as having been speedy or slow? I think it has been speedy.

2786. *Chairman.*] Do they meet the requirements of the field? Hardly. There are many thousands of tons at grass which cannot be treated for want of plants. We want larger plants, and more of them.

2787. Does that state of things show that this is a live district? Certainly. I would point out that this field has been developed without the aid of capital outside. The miners came here, took up their claims, and worked them themselves. I do not know of more than two companies on the field, and they are very small local companies. They have developed the ground from the proceeds of their labour, and they have also put up their plants from the proceeds of their labour. They have taken the gold out of the ground before they have expended it.



2788. Generally speaking, if a gold-field is a prosperous one, capital comes into it very rapidly? I should like to explain that matter. When this field was opened, the Government absolutely refused to grant leases, and no person would pay capital into a claim, because the holding of it was very precarious. The title is no good. The claim might be deserted any time by the parties working it, and if it is deserted it is liable to be reported and forfeited, but a lease can be held and is good security. I think I am right in saying it is only about two and a half years ago that the Government would grant a lease in Wyalong at all. That retarded the working of the field with capital which would have developed it more speedily than has been the case. That development, however, is now in rapid progress.

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2789. Plants are being erected and improved? Yes; on every hand, and they are all paying.

2790. Then you think the field is on the way to material advancement? I certainly do. The Secretary for Mines has sent the Government Geologist here to see where he thought the alluvial belonging to the field could be found. He is also going to expend a few thousand pounds in experimenting with hand-drills, and if the alluvial is found close to the town, as is expected, we shall have an enormous population here in a very short time.\*

Russell Alfred Collie, cordial manufacturer, West Wyalong, sworn, and examined:—

2791. *Mr. Watson.*] How long have you been residing in the district? Since 3rd May, 1894.

2792. Have you occupied a representative position in West Wyalong? I have taken a great deal of interest in public matters, and I am chairman of the progress committee.

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2793. Have you any information of a general character as to the necessity for railway communication? I have statistics of the tonnage of goods which have come from Temora to the principal storekeepers of West Wyalong, from June, 1898, to June, 1899. They are as follows:—Sharman Bros., 300 tons; Meagher & Co., 700 tons; Basha, 99 tons; Burnstein, 100 tons; Thom, 470 tons; Man, Sing & Co., 270 tons; Gelling, 400 tons; Souden, 98 tons. This tonnage does not include the supplies to fruit-shops, hotels, and other businesses. The hotel business is very extensive.

2794. I suppose that a number of the hotels get goods direct from Sydney? Yes. The consumption of beer alone on the field is very great. The climate is so warm that I have no doubt it is necessary to a great extent. It has been suggested by some of the witnesses that the line should be constructed by way of Grenfell. I have had a good deal of experience in stock, wool, and land, and I would like to point out that the rate of wool-carriage from Temora to Sydney, and from Koorawatha to Sydney is, strange to say, exactly the same—£3 16s. 9d. per ton. The distance from Sydney to Temora is 291 miles, and the distance from Koorawatha to Sydney is 236 miles.

2795. I suppose your contention is that it would be cheaper to send wool *via* Temora than *via* Koorawatha, because the intervening distance between the two stations mentioned is shorter *via* Temora? Yes, very much shorter. We are 38½ miles from Temora, whereas we are 59 miles from Grenfell, and another 30 miles from Koorawatha—in all 89 miles. I find from the rate-book that the charge per ton for wheat from Wyalong to Sydney would be, for 326 miles, 12s. 10d. per ton, or at the rate of 4d. per bushel. Between 326 miles and 351 miles there would be no difference in the rate.

2796. That would mean that there would really be no difference in the rate of carriage for wheat to Sydney, whichever way it went; the freights for wheat are worked on a zone system? Yes; that is rather a disadvantage, in one sense, to the Temora route; but it is only fair that it should be referred to.

2797. The people of Wyalong who wanted to send wheat away, would pay the same rate, no matter which route they took? Exactly. If the Grenfell route is adopted, there will be enormous wear and tear on the rolling-stock on the Western line. There is no doubt that the haulage is very much heavier over the mountains, and it must be enormous in comparison with the Southern line, where the haulage is very slight. With respect to passenger traffic, I would point out that from Cootamundra to Sydney, the train runs through in ten hours, the distance being 253 miles. On the Western line, from Sydney to Blayney—172 miles—the mail train time is eight hours. There is a difference only of two hours between Cootamundra to Sydney, and Blayney to Sydney, whereas Cootamundra is 253 miles from Sydney, and Blayney, on the Western line, is 172 miles from Sydney.

2798. *Chairman.*] I suppose that will be equalised in time? I should not think it possible, considering the heavy grades over the mountains.

2799. *Mr. Watson.*] As far as passenger traffic is concerned, there would be a saving in time by reaching the mail train earlier by going to Temora? Yes.

2800. You would have 80 miles travelling on a branch line, whereas on the Grenfell route you would travel 89 miles and 60 miles—in all 149 miles? About 149 miles.

2801. The branch-line trains travel much slower than the main-line trains? Considerably. When the line was constructed from Cootamundra to Temora it did not pay, and the trains only ran three times a week. Shortly after Wyalong was opened, the trains ran daily. The distance from Cootamundra to Temora is 38 miles. One staff of men is employed on the line. The run is, as nearly as possible, about two hours. The train arrives at Temora at 9:30 a.m., and it remains there until 5 p.m. The men connected with the train are idle during that time.

2802. What do you wish to draw from that? I wish to point this out: That we being 38½ miles from Temora, these men could run on to Wyalong. The train could arrive at Wyalong about 11:30 or 11:45. They could remain here for two hours, and then they could pick up the same time at Temora to catch the Southern train. The same staff of men, and the same rolling-stock, should be able to work a line from Wyalong to Cootamundra. It would only take eight or nine hours to complete the journey there and back.

2803. Would not that probably occur if a line were constructed *via* Grenfell? Probably, but the distance is very much greater. Grenfell is 59 miles from Wyalong, and if the line goes *via* Grenfell, it must necessarily follow that the Temora to Cootamundra line will drop back to what it was formerly—perhaps a train twice a week, or less. In fact I think it would almost hang that line up.

2804. You think the subtraction of the Wyalong traffic from what is at present carried on the Temora line, would make a difference in its earning power? Considerably.

2805. And that would make it a still worse-paying line than it is at present? That is so. At present, I believe, it does not quite pay. There is no doubt that one train service a week would do for Temora, if the Wyalong traffic were taken off it.

2806.

\* NOTE (*on revision*):—Since the inquiry, rich gold has been struck in the Bantam, which adjoins Neeld's in the north, at a depth of 637 feet. This is the deepest shaft on the field and its discovery has fully doubled the value of existing claims and leases, and absolutely proves the permanence and richness of the field.

- R. A. Collie. 2806. You prefer a connection with Temora? Undoubtedly.
- 24 Aug., 1899. 2807. Is that based on any personal advantage which would accrue to yourself? Unfortunately not. It would be entirely against my interests, for this reason: The business I am carrying on now would fetch another market so much nearer to me.
2808. You mean that Temora would be likely to compete with you? Undoubtedly; they have better water than we have here, consequently they could make better cordials. I am speaking entirely in the interests of the farmers. I know what land is; I have been round this part of the country, and I believe it will be equal to any wheat-growing district in the Colony. I have been in the Blayney district for twenty-five years. I was astonished when I went out towards Bena and Yalgogrin, at the nature of the soil.
2809. Do you think there will be a large agricultural population if Wyalong gets railway communication? I do.
2810. I understand you to say that it is in view of the extension of agriculture that you would sooner see a connection with Temora? Yes.
2811. Why is that? Between Wyalong and Temora you would find some of the finest land you ever saw. That land is between Wyalong and the Half-way House. I cannot say much about the other side. The land I have seen is along the road, and on Wyalong No. 2 station.
2812. You think then that the land between Wyalong and Temora is suitable for agricultural settlement generally? Some of it. I must say that I have seen poor land between Wyalong and Temora; but there is also really good land within a very short distance of Wyalong. There is a 13,000-acre scrub lease adjoining Wyalong.
2813. Which is the poor country between Wyalong and Temora? It is a bit of mallee country.
2814. Mallee is not altogether hopeless country, is it? No; there is good subsoil in it.
2815. Would you regard the gilgai country as good for agriculture? No. It is good grazing country; but there is very little of it. Then there are the sand-hills, which are considered to be the poorest land here. At the Land Board meeting at Barmedman some time ago, I took some witnesses to object to the granting of a scrub lease. One of those witnesses swore that he was prepared to pay 30s. an acre for 1,280 acres of land between Wyalong and Roberts'—towards Barmedman—and he was prepared to take the sand-hills. The man knew what he was talking about, because he was thoroughly experienced in farming.
2816. Why would the Temora connection serve the farming community of Wyalong and district better than a connection *via* Grenfell? Because it would give them an equal market in each direction. It would put them on the centre of the line between Sydney and Melbourne.
2817. It would cost them no greater amount to get to Sydney, and they would have a better chance of getting to Melbourne? Exactly.
2818. They would have the choice of markets? Yes, and they would get to Sydney very much quicker.
2819. Of course, the farmers are not so much interested in getting to Sydney as in getting a market for their produce? That is so.
2820. We were referring a moment or two ago to the question as to which line was the more desirable, from an agricultural standpoint, and your contention is that the larger choice of markets is of importance to the agriculturist? Decidedly, when our seasons are so uncertain. I think it would be of advantage, instead of sending the traffic by way of Koorawatha, to tap the main trunk line at Cootamundra.
2821. Then, you are emphatically of opinion that the Temora line is the better line with which to connect? I think so, from all standpoints. In the first place it will cost about £45,000 less than will the Grenfell route. There can be no two opinions about the fact that the engineering difficulties on the Temora route are nothing. We have the necessary belts of timber along the road for sleepers.
2822. You think that the question of saving between £40,000 and £50,000 in construction is worthy of consideration? Decidedly. It has been stated that there are 70,000 acres of land available on the Grenfell route; but it has never been stated, up to the present, what portion of that would be served by a line along the Temora route. I am given to understand that there is a great deal of land on the south-western side of the Temora road, which is included in that estimate of 70,000 acres.
2823. Whose estimate are you referring to? To Mr. C. E. Rennie's. I may point out that some evidence was given in 1894, in respect of timber at Cudgellico. It has been stated that there is a splendid lot of pine there, fit for market. There is no doubt that that is an industry which should be opened up, and I think it could not strike a better part of the main line than what I would call the central point, that is Cootamundra.
2824. Do you know anything of the general feeling of the district as to which route is preferable? I know that a large number of farmers are members of our league. We have them from Bena, Yalgogrin, and Lake Cowal. Mr. Stewart, of Lake Cowal, thinks that the line should, in the interests of the country, go *via* Temora, and he would be quite willing to send his produce to the Temora line.
2825. Has your league decided that they are in favour of the Temora connection? Yes. A meeting was called for last Monday. There was a representative attendance of farmers and business men of West Wyalong and some from Wyalong. It was unanimously agreed that we should support the Temora route.
2826. Do you think that in taking up that attitude you represent any considerable portion of the people settled around the field? Decidedly.
2827. What is the feeling in regard to the question in the district? About August last year the progress committee thought it advisable to call a meeting on the railway question, and it was decided to form a league. We had farmers present from all parts of the country. Some came from Barmedman and Temora, and one representative came from Cootamundra. It was unanimously decided at that meeting, which included miners as well, that we should support the Temora route.
2828. Was that a large meeting? Yes. It was a fairly large meeting—what you would call an ordinary public meeting. It was also fairly representative. I believe that an amendment was moved that the question of the route be left open, but there was only a proposer and a seconder, and they were eventually quite agreeable to fall in with the views of the meeting.
2829. Do you know whether any public meeting has been held with a view to supporting the Grenfell route? Not that I am aware of.
2830. Then in your opinion the majority of the people seem to be in favour of a connection with Temora? Certainly.
- 2831.

2831. As a reason why the Grenfell connection should be made, it has been stated that it would bring this district into closer touch with Lithgow;—do you think that is a consideration which should weigh with us as against other considerations? I do not think so. I may state that from Blayney to Eskbank, the charge on coal is 5s. a ton. I was interested in the Annandale copper-mine at Blayney, and we used to get the coal from Eskbank, and run it into a siding on the mine. It cost us 5s. a ton for carriage from Eskbank to the siding. If it cost us 5s. a ton for that distance, I should think the cost of carriage to Wyalong would be three times as great. I do not think it could be landed at less than 12s. 6d. a ton. For a distance of 76 miles the cost is 5s. per ton, and Wyalong is 229 miles away from Lithgow. With regard to fuel I would point out that this field has been open for five years, and at first there was a population of 10,000 people. We have been using the wood from the district ever since. Of course, an enormous quantity has been used; still I think that within a radius of 7 or 8 miles we ought to have wood sufficient to last us for the next eight or ten years. There is not the slightest doubt that a good deal of wood would be sent in by rail from either route, and I think the line would derive a good revenue from its carriage.
2832. Whatever route is adopted it is not likely that any great amount of coal will be carried? I do not think so. They appear to be treating the ore with wood now and that treatment, so I understand, is efficient. Wood here is cheap.
2833. Do you know of any smelting works dealing with general classes of ore at Lithgow? I believe they treat matte at Lithgow.
2834. Matte requires refining only? That is so.
2835. If you desire to take ore to Lithgow or to bring coal from Lithgow to Wyalong, you would require flux to work the smelters? Decidedly.
2836. Do you know if that is obtainable about Wyalong? Not that I am aware of.
2837. In any case, you think there is little likelihood of any extensive importations of coal into the district whichever line is constructed? Not for some years.
2838. *Chairman.*] You have stated that you think you would obtain an advantage by having two markets, if a line were constructed to Temora;—have you ever known crops to fail in Victoria, and to be grown here? I cannot say that I have. Still, in view of the uncertain seasons that we have, such a thing might occur.
2839. Do you know whether the seasons on the Victorian side are as uncertain as they are here? I could not say.
2840. Have you considered the question of the break of railway-gauge in getting to the Victorian market? No.
2841. *Mr. Trickett.*] With whom do the people of Wyalong deal at present? With Sydney and Victoria. The bulk of the trade is done at Sydney.
2842. The total haulage from Wyalong to Sydney *via* Temora would be 6 miles longer than by way of Grenfell? That is so.
2843. Do you not think that if a line were constructed from Grenfell the people of Wyalong would not have much to complain of in having to travel the shorter distance? So far as the passenger traffic is concerned I should say that the Southern line would be preferable on account of the time saved in travelling.
2844. But at present the Railway Commissioners are improving grades everywhere they possibly can, and it is in contemplation to alter the route of the Zigzag? I know it is in contemplation.
2845. If the Zigzag were cut out, and you could go to Sydney as quickly or more quickly than by the other route, would not a line from Wyalong to Grenfell suit you? Possibly it might, if we could go quicker than by the other route. Even if we could go as quickly, it might help us as far as passenger traffic is concerned.
2846. Supposing that the journey occupied even ten hours longer for ordinary goods, would that be a great disadvantage to you? As I have pointed out, the cost of the carriage of wheat on both routes would be equal. On the other hand, there would be a considerable advantage in regard to the carriage of wool. Judging from the evidence given yesterday, it seems likely that we shall have a large settlement of small holders in this district, and that a lot of stock will be fattened. It necessarily follows that we shall have a good deal of wool to send away. Wool is an important item, and if a person can save only a little per bale it is a great advantage. It is a matter of considerable importance if we can send the wool cheaper by the Southern line than we can by the Western line.
2847. I understand that you are looking at the question of the construction of the proposed railway from a Wyalong point of view? It is purely in the interests of the farmers that I have taken an interest in the matter at all.
2848. You are not considering the question from the point of view of the further extension of the line westward? Decidedly I am. I believe it will open up a splendid country to the west.
2849. If it were proposed to construct the line at once towards Hillston, would you still advocate the Temora route in order to get to that place? I do not see why I should not; the line might follow good country, and when we consider that there is only a difference of about 6 miles, it should not be very much out of the direct course after all. I cannot see very much difference myself.
2850. Which do you think the best agricultural country—that between Temora and Wyalong, or that between Wyalong and Grenfell? I could not say, as I have not been over the country.
2851. Where is the greater population? I should think between Wyalong and Temora.
2852. You have referred to West Wyalong;—do I understand that that is a different place altogether from Wyalong proper? No; we are all on the gold-fields.
2853. But you do not seem to be exactly in touch with each other? We shall get settled down by-and-by when we obtain our titles.
2854. Have you any idea as to what would be the total tonnage between Wyalong and Temora? The estimate I have given shows that there would be 2,437 tons of general merchandise inwards.
2855. That would come to about £1,200 in carriage? Yes.
2856. Do you think the outward tonnage would be as much as that? I could not say, but I should like to point out that all the fruiterers, small storekeepers and publicans' carriage is not included in my estimate. Neither is all the heavy machinery we have got in. We have had an enormous amount of machinery brought here. During the last twelve months Mr. Neeld has had about 50 tons of machinery. Then there are the owners of the Prince of Wales mine, the White Reef mine and several others who are bringing machinery down.

R. A. Collie.  
24 Aug., 1899.

- R. A. Collie. 2857. Has agriculture advanced very extensively between Temora and Wyalong since the line from Cootamundra to Temora has been constructed? I cannot say that it has to my knowledge.
- 24 Aug., 1899. 2858. Have not the results been rather disappointing? I could not say.
2859. Mr. Harper, of the Railway Department, in giving evidence in Sydney on the 9th August last, was asked:

Do you still think that the answer given by you in 1895 on that subject will hold good. The following is an extract from the evidence on that occasion:

"Can you tell the Committee the character of the settlement between Temora and Wyalong? There is absolutely none, except mining. There are about half a dozen selectors on the road."

What have you to say with regard to that? Yes; it is practically the same now. I fully expected that the mining development at Wyalong would have led to more farming development in that part of the country.

Seeing that from 1895 to 1899 there has been so little progress, although the line from Cootamundra to Temora has been built, it does not speak very promisingly for the extension of agriculture? I think you will agree with me that, as a rule, a mining community are the pioneers of the back country, and that the country round a mining field is generally taken up and settled upon. For instance, we have Young, Forbes, Parkes, and Temora, in this quarter of the Colony. There is every prospect of mining development between Wyalong and Temora. It is the opinion of those who ought to understand mining matters, and who have reported favourably on the appearance and nature of the country, that gold will be discovered between Wyalong and Temora.

2860. Supposing the powers that be were to decide that a railway should be constructed by way of Grenfell, would the people of Wyalong sooner do without it? I do not, for one moment, say that they would. We would sooner have a railway, but we think that in the interests of the country, and of the surrounding districts, it would be better if it were to go by way of Temora. I have overlooked one matter in respect of machinery coming from Victoria. I should like to point out that it would suit us very much better to get our machinery by way of Cootamundra, instead of having to haul it by way of Koorawatha and Grenfell. Most of our machinery has come from Victoria.

John Smethurst, architect, Wyalong, sworn, and examined:—

- J. Smethurst. 2861. *Mr. Dick.*] Have you any statement to make to the Committee? I have been going into the matter of the probable traffic of a line from Grenfell to Wyalong. I estimate that the passenger traffic in and out of Wyalong during the year is equal to 1,500 persons each way. I have made that estimate from the number of those who come and go by the coach daily during normal times, and from the additional number who go backwards and forwards during holiday seasons, when there is a tremendous traffic.

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The revenue derived from them, at the rate of 7s. 6d. each—which I think would be about an average fare—would be £562 10s. I estimate, from my experience of other towns which have been connected with a railway, that the passenger traffic to Wyalong will be doubled if we have a railway. If it were doubled, that would mean 1,500 fresh through passengers to Sydney—£3 15s. return—both ways, which would mean a revenue of £5,625 for new passenger traffic, which would be induced by the facilities for coming to the place, which at present do not exist. Personally, I have not been to Sydney for the last two years, on account of the journey by coach; but I would have gone half a dozen times at least if there had been a railway. One reason which would tend to an increase in traffic would be the saving of time on the journey, which would make people less disinclined to undertake it. There would be an absence of discomfort, and that would induce them to travel more freely. What is more, a gold-field town is a sort of show place, and when it can be easily and comfortably reached by rail, it induces an enormous amount of traffic from people who take every opportunity of seeing what a mining field is like. It also brings the place more easily into communication with those who may feel disposed to invest in mining interests, and who would assist in the development of the place. I was a resident of Broken Hill for a long time, and after the railway was opened there the number of people who came simply to see the place was enormous. As an architect, my business has brought me closely into connection with everything connected with the building trade, and one of the difficulties under which we labour in Wyalong in erecting buildings is the absence of suitable timber. The pine which grows within a reasonable distance of Wyalong, although very fair as a makeshift for temporary and inferior buildings, is very unsuitable for buildings of a substantial character, which are intended to be permanent. It is also unsuitable for many portions of any ordinary building, so that if there were a railway, and it were possible to get the timber through rapidly, I believe fully 300 tons of it would be brought from Sydney to Wyalong, per annum. I estimate that the railway, if constructed, will carry not less than 2,000 tons of mining timber per annum. A great deal of the timber at present used is carried 12 and 15 miles by team. No doubt the mills would shift their plants to the most convenient spots near the line where the timber grows. It would be cut there and brought in by the railway to the mines. I estimate that there would be 2,000 tons of timber per annum brought in for use in the mine. That, of course, would be local traffic—not new traffic extending to Sydney. It is only a question of a very short time when the firewood will be brought in by rail. I consider that there are a thousand points of consumption of firewood in Wyalong, which would average at least 10 tons per annum. Ten thousand tons of firewood per annum would be carried to supply the batteries, chlorination works, general treatment works, and the household requirements of the town.

2862. What do you think could be earned by the proposed railway? I think that passenger traffic would return £6,187 10s. per annum; ordinary timber would return £1,000, and mining timber, £200; firewood, £1,000. That gives a total of £8,387 10s. Along with other goods the total would be £8,387 10s. As the annual expenses are estimated to be £9,112, that would give a minimum railway profit of £2,094.

2863. Do you not think that your estimate in regard to passengers is a sanguine one? It means that a very large number of people who do not come from or go to Sydney would come and go, perhaps two or three times a year. Those who came on business would most certainly come three or four times as often as they do now. Those who come and go for pleasure would do so more frequently. My estimate represents four passengers to-day, exclusive of holiday traffic.

2864. Then you think the coach journey from Wyalong to Temora practically reduces the possible passenger traffic by 50 per cent.? I feel certain that it does. Both myself and many others do everything possible to avoid going away on account of the horrible discomfort of the journey and the loss of two days in travelling by coach.

2865. Do you think the construction of a line from Grenfell to Wyalong would encourage the visit of mining speculators? I do.

2866.

2866. Is it not a fact that men who put their money into mining speculations generally employ an expert? J. Smethurst. That is true, but many of them like to visit the fields themselves as well. Nearly every man who has had anything to do with mining thinks he is an expert, and he likes to have the corroboration of his own eyesight. 24 Aug., 1899.

2867. Then you think that, as a general rule, a man who puts money into a field like Wyalong makes a personal visit to it? I think a great number of people who cannot afford to employ mining experts would make a visit to the field for the purpose of seeing it, and by seeing it they would be induced to assist in its development.

2868. Do you think men who cannot pay a mining expert have sufficient capital to devote to the development of a field like Wyalong? I think that a man who has £500 to invest cannot afford to pay £10 or £20 in sending an expert on a mere speculative visit.

2869. You hope, then, that a multitude of men interested in mining in a small way will use the line? Yes. If you were to attempt at present to float a Wyalong mine on the Sydney Stock Exchange, you would have no chance of doing it, because the ordinary public buyer does not know enough about the place, and the people who have large capital are inundated with offers of all kinds from everywhere.

2870. With respect to your estimate of the timber to be conveyed to Wyalong, is it not a fact that lately there has been a great increase in brick rather than wooden buildings? Yes. That is the very thing which tends to the importation of hardwood and softwood timber. The timber around Wyalong is not suitable for building purposes. It is unsuitable. It is the worst timber of which I have ever had any experience.

2871. Is it not the best timber in the Colony for resisting the attacks of white ants? That saves it from utter condemnation. That is its one good point. It would be quite impossible to use it where it would be exposed to any strain, and where its breakage would be likely to injure anyone.

2872. Do you know that at Young, which is a somewhat similarly situated place to Wyalong, they export timber rather than import it? They may export it for the purpose for which it is useful. It is possible to make flooring boards out of it if you cut it carefully, but I am informed that timber of similar character to ours which grows in other districts is much superior in quality. I am informed by those who have had experience in other parts of New South Wales that timber of superior quality is obtainable elsewhere.

2873. The natural drift of trade at present is between Wyalong and Temora? Yes.

2874. Can you say why the people of this district do not treat with Grenfell? There is no possible means of communication with it. To get to Grenfell you could go occasionally by coach to Marsden and thence to Grenfell.

2875. Do you think the construction of a line from Koorawatha to Grenfell would make any difference in the trade from Wyalong? No. The avenue of trade would not be altered in the slightest degree by the construction of that line.

2876. Do you know what led to the alteration of the service on the Temora-Cootamundra line from a tri-weekly to a daily service? I believe it was owing to the increased trade brought about by the development of Wyalong.

2877. And that, of course, helped to make that line somewhat nearer to a paying line? Yes.

2878. If a line is built from Grenfell to Wyalong the Temora to Cootamundra line will lose the whole of that trade? I presume so.

2879. And it will go back to its old position of a very unprofitable line? That is really a matter for a financial man to consider.

2880. Presuming that the construction of a line from Grenfell to Wyalong resulted in a great loss to the trade on the Temora to Cootamundra line;—do you think the total result to the country from the construction of that line would be a satisfactory one? In the absence of knowledge as to what incidental good to the country would be done in addition to the direct good which was done to Wyalong by the connection with Koorawatha it is impossible for me to answer.

2881. *Mr. Shepherd.*] In estimating the increase in passenger traffic, you referred to Broken Hill;—are you aware that there are hundreds and thousands of shareholders interested in the Broken Hill mines, and that it is very likely that a very large number of visitors to that place are those shareholders? But they did not go there before the railway was built; that is the point which I wish to emphasise.

2882. They may have been induced to go there because they were shareholders; but I understand that there are no companies at Wyalong at all? The fact of there being shareholders existed before as well as after the line was constructed. The inducement to visit the place was not sufficient until the facilities for visiting it were increased.

2883. Is it a fact that there is really not one large public company in Wyalong? Yes. Consequently, if the mines are developed by the formation of companies, and a large army of shareholders is created, the result will be a very great increase in passenger traffic.

2884. Do you think the opening of a railway to Wyalong would really induce people to take more interest in the mining development of the place than is taken now? Yes; I believe it would induce a large number of people to come and see the place, and, of course, many of them would assist in its development.

2885. On the whole, do you think the construction of one line would be more favourable than the construction of another to induce passengers to come to the field? I do not think it would.

Lawrence Daniel Mullain, auctioneer, West Wyalong, sworn, and examined:—

2886. *Chairman.*] Have you any statement to make to the Committee? Yes. I have made a comparison as to which of the two routes—Temora to Wyalong, or Grenfell to Wyalong—would be the more profitable and beneficial to the district generally. The machinery coming to this field comes principally from Victoria. I may mention that I am interested in a number of the mines, and am employed by Messrs. Duncan, Lloyd & Co., in purchasing ores, &c. This is not a fat-stock producing district, and, excepting in a good season, I have had occasion to go to other districts to obtain stock. Gundagai is one of the principal markets to which we have to go from here to obtain fat stock for the purpose of supplying the wants of the place. The consumption here is very great, and the price of meat is, I believe, the highest in any of the colonies. It is, I believe, up to 6d. per lb. at the present moment. If the stock had to come by way of Grenfell it would make the price very much higher than it is now. L. D. Mullain.  
24 Aug., 1899.

2887.

- E. D. Mullain. 2887. If you could get fat stock between Wyalong and Grenfell would you not do so? Yes, but to my knowledge there has never been a beast which has come from the direction of Grenfell, and I have been in the commission agency business since 1894.
- 24 Aug., 1899. 2888. Do you not know that they have had fat stock in London which have come from that direction? I do not think so, within the last four or five years. With regard to the removal of stock from this part of the country to the Tumut mountains in summer time, I may mention that last Christmas I took a trip to Yarrangobilly Caves, and I was given to understand whilst at Tumut that there were 2,500,000 sheep on the mountains which had come from outside districts—principally Riverina. My idea is that a line from Grenfell to Wyalong, and on to Hillston, would be of no service for the removal of stock. Some stock came from out back to this district last summer. They were able to go no further, and they remained here for a few months. If there had been railway communication in the direction of the Tumut mountains, they would have gone straight on. Six or seven lots of stock settled in the district, not on account of the good pasturage we had, but because there was no herbage in the country, and they could not travel further. With regard to settlement I am of opinion, from my knowledge of the soil of the district for agricultural purposes and also for grazing purposes, that if the land were improved and a railway constructed, industry would be very much increased. The soil from Wyalong to Yalgogrin is equal to that of most of the Riverina district. The last witness has stated something about the haulage of timber for mining requirements. I am of opinion that his estimate is lower than what our actual requirements will be. The amount of timber required under ground for the safe working of the mines is very great, and in the course of a very short time—in fact, at present—all the good available timber for propping purposes within a radius of 15 miles of Wyalong will be used up. I am of opinion that in two years' time we shall have to travel a distance of 25 miles for it.
2889. *Mr. Watson.*] What class of timber is required for that work? It requires hardwood, with a straight grain. The timber required for the working of the mines underground will have to come from a distance, and if it has to come 25 miles to 30 miles by team the progress of the mines will be very much retarded. Another class of timber required is firewood. The cyanide works, with which I am connected, use a very large quantity of firewood. They catch their gold on charcoal and it is reduced to bullion in the furnaces. There are eight fires at Duncan Lloyd & Co.'s works, and they are kept going all day. The class of wood within a reasonable radius of the field will become very scarce in a short time. It will eventually have to come by rail. If it has to be carried any distance by team it will put a strain on the mines and on those who are running works for the treatment of ore.
2890. Where is the best place from which to get the timber? West, towards Yalgogrin.
2891. *Mr. Dick.*] If a line were only constructed to Wyalong none of that country would be connected with it? No; not until the line was extended. Of course there are good belts of timber between Wyalong and the Bland and between Wyalong and Barmedman.
2892. If a line is constructed from Grenfell to Wyalong the good timber between Wyalong and Barmedman will still be hauled by team? Yes.
2893. *Mr. Watson.*] Is there any hardwood between Wyalong and the Bland? When I refer to hardwood I refer to wood other than pine, such as box and ironbark. At present ironbark sleepers are being sent from the west of Wyalong to Temora.
2894. *Chairman.*] Then whichever way the line is extended the traffic will be common to it? Yes. I may state that I am of opinion that Mr. Collie's estimate in regard to the carriage of traffic is very much below the mark.
2895. *Mr. Watson.*] I gather from your evidence that you favour a connection with Temora? Yes.
2896. Do you know the country on both routes? Yes.
2897. How do you think they compare from the standpoint of producing revenue for a railway? I do not think there is any comparison. I think the country between Wyalong and Temora is better than that between Wyalong and Grenfell.
2898. Have you had opportunities of talking with the farmers who have settled around Wyalong? Yes.
2899. Have they expressed any opinion on the subject of railway connection? Yes; they all prefer the Temora route.
2900. Is it because it will give them a greater choice of markets than will the other route? Yes.
2901. With regard to the better methods of reaching market, and the cost of conveying produce by the different routes, do you think that with £50,000 less capital expenditure there would be a greater probability of a railway paying by way of Temora than by way of the more costly route—Grenfell? I do.
2902. The sooner a line pays, the quicker the probability of getting local rates reduced to through rates? Yes.
2903. *Mr. Trickett.*] Do you know the Bland country? Yes.
2904. Supposing a line were constructed from Temora to Wyalong, and thence to Sydney, do you think the wool and the other produce from the Bland country would be attracted to the Temora line, or would it be sent to Young and Grenfell? That would depend on the portion of the Bland to which you refer. One portion of it is in close proximity to Barmedman, and the produce from it would be sent by way of Temora.
2905. Are the Tumut mountains capable of carrying a great deal of stock? Yes.
2906. Are you aware that during the late protracted drought the proportion of stock required to be deported exceeded by millions the number which that country was able to accommodate? I am not aware of it.
2907. Of course you know that there is not country always available to which to send stock? I may mention that in former years I was in charge of stock on the mountains referred to. I have been informed that last Christmas there were 2,500,000 sheep on the mountains.
2908. Are they likely to be sent again; I ask you this question because we have been informed that they came back suffering from fluke, worms, and foot-rot? I could not uphold that statement; it depends on the country upon which they are depastured. Of course wet country is flukey and is liable to cause foot-rot; but if sheep are supplied with salt and dissolved iron, they should not be subject to fluke. Of course foot-rot is a matter of attention so far as its cure is concerned.
2909. *Mr. Watson.*] Have not stock been sent to the Tumut Mountains for years past? Yes.
2910. If it was such a bad country for stock I suppose farmers would not have continued to send them there? No.

John Boyd Donkin, civil engineer and grazier, sworn, and further examined:—

2911. *Chairman.*] Have you any information to supply to the Committee? I merely wish to hand in a statement showing the probable annual traffic on the proposed line, from Bland stations. It is as follows:—

J. B. Donkin.  
24 Aug., 1899.

Station.	Fat sheep.	Bales.
Caragabal... ..	10,000	800
Tregalana... ..	4,000	300
Lake Cowal (Donkin) ... ..	10,000	500
Hammond's selection. ... ..	1,000	100
Cowal North ... ..	1,000	200
Lake Cowal ... ..	4,000	800
Allen's selection ... ..	1,000	100
Billabong ... ..	4,000	400
Oakhurst ... ..	4,000	500
Back Creek ... ..	2,000	300
Bland ... ..	5,000	600
Various selectors... ..	4,000	400
	50,000	5,000

2912. How long is it since you had fat sheep at Lake Cowal? In October and November of last year I sent away 8,000.

2913. Have you had any this year? This year I have sent away two small lots, numbering about 1,000.

2914. You have heard the statement of the last witness, to the effect that there are no fat stock between Wyalong and Grenfell;—the witness seemed to be somewhat sceptical as to fat stock being sent to the London market from that district? Five thousand of my lambs went to London last year.

2915. Then, as a matter of fact, stock have gone from this district north of the proposed line to the London market? Yes.

2916. *Mr. Shepherd.*] Have you made any estimate as to what the freight on the sheep and wool to which you referred would be? No; but I know it costs 1s. 6d. per head for the sheep; and the cost of the trucks is £6 15s.

2917. *Mr. Watson.*] I understand that there have been no fat cattle on the Bland for some time? No, except for station use.

2918. Then the cattle for the supply of this district would probably come from the mountain country? I do not think so, because all the Bland is a cattle walk. When I first came, there was nothing but cattle, and during the last few years there have been nothing but sheep.

2919. On what is your statement respecting the probable trucking of stock based;—is it based on your present condition or upon what may be described as a fair season? Upon a fair season. In my own case, for instance, I have had 10,000 fat sheep and 500 bales of wool. Last year I had 8,000 fat sheep and 305 bales of wool. That was the worst year we have ever had.

2920. Where are the stock trucked now? Forbes or Young.

2921. Would that remark apply to most of the other stations? Most of the other stations send their produce towards Young. It is 85 miles to Young, and in the summer-time, 85 miles, without grass, and often without water, is a long drive. The result is that people have not gone in for trucking as they will do when they get a railway alongside of them. In addition, it takes a week or ten days before you can make arrangements to get sheep to Sydney, and by that time the market has gone to pot. If we could sell them more quickly it would be better for us.

2922. Supposing a branch line were constructed from the Southern line to Wyalong, how far would the majority of the sheep be from Wyalong? Thirty to 40 miles. Some of them would be closer. For instance, my own sheep would be 25 miles away, and the Back Creek sheep would be 13 miles away.

2923. Would the Caragabal station send sheep to Grenfell if there were a terminus there? Yes.

2924. Do you think a 25 to 30 miles drive would have any effect in blocking the trucking of fat sheep? It would in driving them to Wyalong, because the country through which they would have to travel is scrubby.

2925. I should imagine that if there were a railway terminus at Wyalong the roads would become more open? No doubt.

2926. Have you a cleared road to Marsden? Portion of it is cleared.

2927. Then the greater portion of the fat stock would, with railway termini at Grenfell and Wyalong, still find its way to the railway system? Yes.

2928. Although not so conveniently, if the line came right across the Bland? That is so. With regard to my former evidence, I wish to refer to the question of the railway crossing the Bland. Statements have been made respecting the flooded state of that portion of the country; but from my experience I am able to state that in 1872 that part of the Bland was not flooded to any extent. It may possibly be that the railway line will follow a dry bank. It may be flooded to the extent of a few inches, but that will go off in a day or two. I think the Engineer-in-Chief stated that a bank 3 feet high would make the line completely dry, and that I quite believe. It is the lower part of the Bland, towards Lake Cowal, a distance of 20 miles, which is low country. The surveyed line goes through dry country all the way.

Samuel Wilson, junr., station manager, Lake Cowal, sworn, and examined:—

2929. *Chairman.*] Have you heard the evidence which has been given by former witnesses? I have heard the last three witnesses.

S. Wilson,  
junr.

2930. Can you corroborate what they have stated? I can corroborate what Mr. Donkin said about the floods on the Bland. I have come over that country during one of the highest floods, and I have never seen it a foot high along the route of the proposed railway.

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2931. Have you any information with which to supply the Committee? Personally, the Grenfell route would suit me better; but I am in favour of the Temora route, from a national point of view. I heard Mr. Donkin's statement as to the number of bales of wool and fat stock which would probably come from the Bland country, and I think it is well within the mark.

- S. Wilson,  
junr.  
24 Aug., 1899.
2932. Why do you favour the Temora route? Because the country between Wyalong and Temora consists mostly of Crown lands, which could be thrown open for settlement in small blocks of 640 acres. Judging from an experience extending over fourteen years, I think that what has injured most selectors has been over-selecting. If they had had less country they would have been better off. I am a Victorian, and I think it is a mistake to take a full block, because, as a rule, the greater portion of it remains idle. I feel certain that a man could make a living upon 640 acres within 10 miles of a railway station much better than he could upon 2,560 acres without railway communication. I understand that the country between Wyalong and Grenfell is nearly all selected. I think the railway should be run through Crown lands. The country between Wyalong and Temora is better than it looks. In this district, the country which looks best is not really the best. When I first came here I considered a rich, chocolate soil was the best. I took some years to get that idea out of my head; but I have come to the conclusion that it is not the best. The grey soil is better for agriculture and grazing. I could give several instances to prove what I say.
2933. Which route do you say has the more Crown lands upon it? Judging from the map, there is not much to choose between them.
2934. *Mr. Watson.*] You know the land between Temora and Wyalong? Yes.
2935. Do you know the land between Grenfell and Wyalong? I know the land between Grenfell and the Bland, and for a few miles between Wyalong and the Bland. I also know the land from Back Creek to Grenfell.
2936. That is a distance of 40 miles;—how does that country compare with a similar distance of 40 miles between Wyalong and Temora—I mean from a railway-producing aspect? The average soil on the Temora route should be better, because there is some very rough country 10 miles on the other side of Grenfell. From a wool-producing point of view, the Bland country is a long way ahead of the other.
2937. Then you think the country from Temora to Wyalong consists of better agricultural land and is better able to carry close settlement? I do.

John Peterswald, sergeant of police, Wyalong, sworn, and examined:—

- J.  
Peterswald.  
24 Aug., 1899.
2938. *Chairman.*] Do you produce a statement showing the agricultural and other returns for the district? I have the records from 1896 to the end of 1898. In 1896 the total of alienated land was 29,140 acres, freehold; 1,560 acres, rented; 123,469 acres of Crown lands; and of that, 971 acres are cultivated, 86 acres are under wheat for grain, and the total yield of wheat is 508 bushels. Those figures apply to a radius of 12 miles around Wyalong. Portions of Yalgogrin, Barmedman, and Marsden districts come within the 12 miles radius. In 1897 not so much acreage is shown. I can only account for that by the fact that the Yalgogrin and Barmedman police have collected some of the returns. The total area under cultivation was 1,326 acres. Of that, 136 acres were under wheat, and the yield was 847 bushels. In 1898 there were 13,350 acres of freehold, and 640 acres of rented land. Of Crown lands, there were 106,549 acres, of which 3,620 acres were under cultivation. 1,870 acres of this amount were under cultivation for wheat for grain, and the yield was 5,849 bushels. I do not know what the other cultivation consists of, but the principal portion of it would be for hay. In January of this year the population within the 12 miles radius was 3,627. I have a return showing the actual gold sent from Wyalong by escort. From October, 1896, to the end of that year, the amount was 4,073 oz. 16 dwt. 6 grs. In 1897 the amount was 19,644 oz.; in 1898, 18,406 oz. During the first half of 1899 the amount was 9,881 oz.
2939. Then, roughly speaking, one-half of the gold raised here leaves by escort, and the remainder goes through private channels? Yes.
2940. Have you any idea how much is carried away by private means? No.
2941. Do you think that 3,627 is the present population of the district? It may have slightly increased during the last six months, but not to any great extent.
2942. *Mr. Watson.*] The Police Magistrate has told us that 1,199 miners' rights were issued last year;—would they all be for Wyalong itself, or would some of them be for miners working at Yalgogrin? No; miners' rights were issued also at Yalgogrin. The 1,199 would be for Wyalong itself.
2943. Might they be taken to represent miners, or would some of them be for tenement purposes? Some would be for tenement purposes.

Edward Barnes, senior-constable, Marsden, sworn, and examined:—

- E. Barnes.  
24 Aug., 1899.
2944. *Chairman.*] Will you describe the boundaries of the district under your charge? The district is about 35 miles by 35 miles. It extends northerly to within 18 miles of Forbes. There are about 138,000 acres of alienated land in that district, and 273,000 acres of Crown lands, comprising leasehold lands, and all lands held under various leases from the Crown.
2945. How much of that land is within the influence of the Forbes railway? The 122,000 acres of alienated land and 233,000 acres of Crown lands would be within the influence of a line from Grenfell to Wyalong. There are about 900 acres under crop for wheat in the portion to which I have referred. Last year and the previous year the crop was a complete failure.
2946. Does any of the produce from the 900 acres to which you have referred find its way to a railway? I think some of it would come to Wyalong. Most of it would be cut for wheat. Within a few miles of Marsden there is not a great deal cultivated, except for station purposes.
2947. Have you seen any of the Bland plain country cultivated? I do not know of any cultivated land on the Bland. There is a paddock or two at Oakhurst, on the Bland, and also at Lake Cowal, and Mr. Donkin cultivates a little.
2948. *Mr. Watson.*] What sort of a township is Marsden? There were two hotels there; but one has been burnt down lately. There are also two stores and twenty-three or twenty-four houses.
2949. *Mr. Trickett.*] Are the 233,000 acres of Crown land within the influence of the proposed railway agricultural or pastoral land? Chiefly pastoral. A great deal of it would be suitable for agriculture; but I think the larger portion is pastoral country.



2950. Do you think that tract of country is likely to be largely availed of for agricultural purposes? Several areas which have been thrown open of late have been quickly taken up by men who say they are going to cultivate. There is a lot of land to the west of Marsden which really looks very suitable for cultivation; and of late land has been taken up with that view. The selectors seem to be anxious that there should be a railway; but the people of the township itself are quite indifferent about it. E. Barnes.  
24 Aug., 1899.
2951. *Mr. Watson.*] How far is the land suitable for agriculture west of Marsden, from Wyalong? About 22 miles. The land which has been thrown open on Lake Cowal would be the same distance from Wyalong. Then, north-west from Marsden, there is a lot of land which will be about 25 miles from Wyalong—that is towards Bena way—which is suitable for cultivation.
2952. *Chairman.*] That would be nearer to Wyalong than to the railway crossing the Bland? Yes. A lot of land has been thrown open on Sandy Creek, which has been taken up and put under cultivation.
2953. Where is the best land suitable for agriculture near Marsden? There is a lot of good land towards Billy's Look-out and Sandy Creek.
2954. Where would the people of that district convey their produce? To Grenfell, I think; it would be too far to go to Forbes or Condobolin.
2955. Where would be a suitable station on the Grenfell line for them to send it to? A lot of produce would be sent in about the Bland—about 6 or 8 miles from the Bland crossing.
2956. In what direction would they take their surplus produce? There are a lot of farmers around Sandy Creek—towards Grenfell and the Marsden road—and they would be at least 35 miles from the Forbes railway. If there were a station anywhere on the Bland, that would be the nearest point to which they would convey their produce.
2957. Supposing a line were constructed from Grenfell to Wyalong, would they come to Wyalong to put their stuff on board the train? No.
2958. If, on the other hand, a line were constructed from Wyalong to Temora, would they come to Wyalong? I think not. The men about Sandy Creek would go to Grenfell. A lot of land has been thrown open about Sandy Creek. Selections have been taken up to within 20 miles of Forbes.
2959. Where is the largest quantity of land suitable for agriculture—west or east of Marsden? There is a lot of suitable agricultural land west of Marsden. Around Billy's Look-out there are a great number of settlers.
2960. Would their produce be brought to Wyalong? Yes, I think so.
2961. Do you know the country towards Forbes? Yes.
2962. Have you seen the land which has been put under cultivation about there? Yes.
2963. Do you know whether they have been successfully cultivating in the Forbes district? Those who have been farming in my district are increasing the area of land upon which they are going to cultivate.
2964. Then, judging from what you have seen, you are able to state that the farmers in that direction would go in for agriculture if they had the means of getting their produce away? Yes.

John Williams, settlement lessee, near Wyalong, sworn, and examined:—

2965. *Chairman.*] What is the size of your holding? 2,748 acres.
2966. Where is it situated? Within 8 miles of Wyalong, in an easterly direction.
2967. *Mr. Trickett.*] How long have you been there? Nearly three years.
2968. Are you engaged in grazing? Yes.
2969. What is the character of the country for grazing? Very good when we get a rainfall.
2970. Have you improved your holding? Yes.
2971. To what extent? I have ringbarked, scrubbed, fenced, and watered it.
2972. How do you find it for carrying sheep? I have had bad luck; but under favourable circumstances it ought to carry a sheep to the acre.
2973. What are your opinions of the agricultural prospects of the district? There are patches upon which you could raise sufficient feed to carry you over times of drought.
2974. Do you intend to go in for agriculture? Yes; on a small scale for my own purposes, and I intend to sell the surplus.
2975. How do you view the district so far as the exportation of wheat is concerned? It would be very uncertain, owing to the dry seasons.
2976. Has agriculture about Wyalong been followed to any great extent? No.
2977. When we were in Grenfell, one of the strong reasons urged for the construction of a railway to Wyalong was that it was thought that Wyalong would be a good outlet for the produce of the Grenfell district? I dare say it would in times of drought. It could also go further on towards Hillston.
2978. Do you think that there is a better rainfall around Grenfell than there is around Wyalong? Yes. As you go west the rainfall decreases, and the uncertainty of the crops increases.
2979. How long have you been in the district? Twenty-nine years. Before I got my present holding I was on the Bland as a selector.
2980. Why did you leave it? I took up my present holding as an additional one. Only 12 miles divide the two places.
2981. Do you use your place on the Bland for grazing? During the last three years it has carried no stock whatever.
2982. Is that cleared country? Yes; principally plain, black, clayey country.
2983. Then it has given right out in the dry seasons? Yes. The grass came there for two months in the spring, and after Christmas it gradually disappeared.
2984. Are you on any part of the Bland liable to flood? No. During the last five years there have been no floods of any consequence there. We have all suffered from want of water.
2985. If a railway were run across the Bland, would it be likely to be damaged by the overflow of water? I think that if a railway went through Caragabal holding, it might be slightly injured by water. After it crossed the Bland, on the Wyalong side, it would be quite safe.
2986. The proposal is to construct what is called a surface railway;—do you think that country would be suitable for it? The speed at which the trains would travel would have to be very slow in wet seasons. I presume there would be no ballast on the line, excepting in bad places.
2987. Do you think the Bland plain country is likely to develop into an agricultural area? No; there is no possible chance. It is purely grazing land, and it is unsuited for agriculture.

J. Williams.  
24 Aug., 1899.

- J. Williams. 2988. Has agriculture been tried? Yes; by several settlers; and it has always resulted in failure.  
 24 Aug., 1899. 2989. Then, on those plains, we are not likely to develop any close settlement? No; I think the plains are principally freehold. The land has passed away from the Crown.  
 2990. Is there any suitable area of land about there, which is not on the plain proper, and which is suitable for agriculture? Yes; from Caragabal to Grenfell a great amount of land is fit for agriculture.  
 2991. Coming further on towards Wyalong, is much agriculture likely to be developed? From Back Creek station to Wyalong we have good land. A great amount of it is suitable for agriculture.  
 2992. Do you know enough of the country along the two routes—Grenfell to Wyalong, and Temora to Wyalong—to enable you to say which would be likely to develop the more agriculture? The distance is very much greater between Wyalong and Grenfell, than it is between Wyalong and Temora. There is a great amount of good land on the Temora line—thick timbered country.  
 2993. Do you think the water supply for the purposes of a railway between Grenfell and Wyalong would be a difficult question? Plenty of water could be conserved in the Bland Creek by constructing overshoot dams. I believe there are watercourses from the Bland Creek towards Caragabal holding.  
 2994. I believe that on the route, *via* Bimbi, there is plenty of land where water is easily obtained by sinking? Yes.  
 2995. *Mr. Shepherd.*] What is the extent of your holding on the Bland? 2,200 acres.  
 2996. How long have you resided there? Since 1879.  
 2997. When you say there has not been a bit of feed there for three years, do you include the whole of the Bland country? There is feed there in the spring of the year, but after Christmas it has, during the last three years, practically disappeared, and the sheep have had to be scrub-fed.  
 2998. Is the country subject to floods? It is, in good years.  
 2999. Does the water remain on the surface? Not very long. It has very good drainage from Lake Cowal and the Bland Creek. After the rain ceases, the water goes down in a few hours.  
 3000. Does not the soil on the Bland plains vary a good deal? Not that I know of.  
 3001. Is it all of the same character? Very nearly. Caragabal, East Bland, and Oakhurst are alike.  
 3002. What is the nature of the soil there? It is purely a clayey country, I think.  
 3003. Have you ever gone down to any depth? I have seen tanks excavated for 13 or 14 feet, and it is all the same.  
 3004. Is it a bluish-black clay? It is more a greyish clay, with black soil.  
 3005. Is it not generally termed black soil? I believe it is.  
 3006. Have you attempted to cultivate any of your holding on the Bland? Yes.  
 3007. What has been the result? A failure. In good years you would get a fair crop off it, but in times of drought you would get no crop at all.  
 3008. What have you grown? Wheat only.  
 3009. Have you heard of anyone attempting to grow any of the millets? No. Lucerne has been tried in small patches, but the land is too dry for it.  
 3010. What depth have you to go for water? On the west side of the Bland Creek several shafts have been put down, and the water, when discovered, has proved of no value for stock. It is very brackish. The water was obtained at a depth of 45 feet and 50 feet, and less.  
 3011. Has the Bland Creek generally got water in it? During the last drought the waterholes were 10 and 12 miles apart. As a grazing country, with good seasons, it carries a great amount of stock.  
 3012. Are you aware that a good deal of stock was sent off it even last year? No; I do not think such a great amount was sent away last year. At Morangarell station, where they used to carry 30,000 sheep, there are none now. Chisholm, Brothers, used to shear 70,000, and they have only 9,000 or 10,000 at present. All this has occurred during the last four or five years.  
 3013. I believe that prior to that you were pretty successful with sheep? Yes, fairly successful.  
 3014. *Mr. Watson.*] Can you express any opinion as to which would be the more desirable route from Grenfell to Wyalong,—north of the Weddin, by way of Piney Range, or south, by way of Bimbi? I do not think there is a great deal of difference. I suppose there are a great number of settlers towards Forbes, on the holding known as Sandy Creek, and I have no doubt they would benefit more by the construction of a line by way of Piney Range.  
 3015. You have stated that there is some bad country between Wyalong and Temora;—which portion were you referring to? I was referring to country between Wyalong and Barmedman, on the southern side. It is mallee country. The other country is good for agriculture. I am told that the mallee country also is good country for agriculture, but the expense of clearing it, and getting it into order, is too great.  
 3016. Is the mallee country very extensive? No; it is very patchy.  
 3017. Apart from the mallee country, what is your opinion of the character of the land between Wyalong and Temora? It is more adapted for agriculture than is the land from Wyalong to Caragabal.

John Charles Holmes, farmer and grazier, Wyalong, sworn, and examined:—

- J. C. Holmes. 3018. *Mr. Shepherd.*] Where is your holding? Eight miles east of Wyalong.  
 24 Aug., 1899. 3019. What is its extent? 2,582 acres. This year I am cultivating 50 acres.  
 3020. Is that the most you have had under cultivation? Yes; but I am clearing 220 acres for next season. I have only put land under cultivation this year. I had 1 acre last year, and, although we had a drought, it grew about 15 cwt. of hay.  
 3021. How many sheep have you? 350.  
 3022. Are the trees ringbarked? Yes. I have had up to 2,000 sheep upon the holding.  
 3023. Are you quite satisfied with your prospects? Yes; provided we get a railway to send away the surplus produce.  
 3024. Irrespective of your own interests, which do you think would be the better line to construct? A line from Grenfell to Wyalong would be more suitable for me, because it would be nearer to my holding; but in the interests of the country, I think that the Temora line would be the best. That line would give us two markets. It would be cheaper to construct, and there would be less land to resume.  
 3025. Have you any further statement to make? No; excepting that the want of a railway is keeping back agriculture.

3026. Are you thoroughly acquainted with the country between Wyalong and Grenfell, and between Wyalong and Temora? I am not acquainted with the whole of the country between Wyalong and Grenfell, but I know it for a distance of 15 miles. I know the country between Wyalong and Temora thoroughly. The 15 miles of country between Wyalong and Grenfell is very good agricultural land as far as the timber extends. J. C. Holmes.  
24 Aug., 1899.
3027. You think it is equal to the same distance of country between Wyalong and Temora? Yes.
3028. What is the character of the country the whole distance between Wyalong and Temora? With the exception of a few belts of mallee, it is all suitable for agriculture.
3029. We have been told that the best country is the first half of the distance from Wyalong? I do not think that is so. I have seen good crops between Barmedman and Temora, and I have seen vines growing near Temora.
3030. Is there much cultivation between Wyalong and Temora? There is a fair amount.
3031. Are there any extensive vineyards on the route? No; but I have seen a selector growing grapes for his own use.
3032. Do they seem to do well? Yes.

Thomas Joseph Foley, farmer and grazier, Buddigower, sworn, and examined:—

3033. *Chairman.*] Where is Buddigower? Eleven miles west of Wyalong, on the Willandry Road. T. J. Foley.  
24 Aug., 1899.
3034. *Mr. Watson.*] What is the nature of your holding? It is a conditional purchase and conditional lease.
3035. What are you engaged in? Pastoral pursuits and agriculture. I have 14 acres under cultivation, and nearly 100 acres cleared.
3036. Have you seen much of the country about Buddigower? Yes; all the country from there to Temora.
3037. How would you describe the country immediately west of Wyalong? It is suitable for both agriculture and pasturage. Of course, there may be places which are not very good, but taking the country as a whole it is splendid.
3038. With railway communication, would a fair amount of country be opened up for agriculture? Yes; there is a good deal opened up at present. At the back there are a lot of selectors. On Mandamah, Buddigower and Kildary, there will be more land for selection when the leases run out.
3039. I believe there is a lot of scrub there? That is due to neglect.
3040. Do you anticipate finding a market in Wyalong if a railway is constructed? Yes, for chaff. If we had a railway I should put a great deal more land under cultivation, because there is less expense in producing wheat than hay.
3041. Do you know the country between Temora and Wyalong? Yes.
3042. Do you care to express an opinion as to its suitability for production? Yes; taken as a whole, it is good country.
3043. Is it as good as that upon which you are living? Some of it is better. I am speaking of a radius of 25 miles from the Temora road. South of the present coach road there is as good land as any in New South Wales, for agriculture or pasturage. There are some strips of mallee along the road; but if you go further in you find beautiful pine country.
3044. I believe you were station-master at Temora? Only for twelve months.
3045. Have you a fair idea of the proportion of traffic along the Cootamundra to Temora line, due to Wyalong? Certainly 50 per cent. of the merchandise, if not more. Then there was the mineral traffic going back, before the large works were established at Wyalong. That gave a great impetus to the traffic. On one occasion we had a special train of minerals, which were going to Ballarat or Footscray. Since then Wyalong has become self-supporting, and it is about the best developed mining centre in New South Wales, so far as mining and the expenditure of money are concerned.
3046. Leaving out of account the ore which was sent through Temora during the time you were station-master, would the Wyalong traffic be equal to 50 per cent. of what was received altogether at Temora? It would be more. Mr. Meagher, a great consignee of goods, received in Temora goods for both places. Consequently, of what might nominally be received for Temora, two-thirds might belong to Wyalong.
3047. Of course that traffic would have to be subtracted from the Cootamundra-Temora Railway returns if a line were constructed from Grenfell to Wyalong? Yes.
3048. Would the Cootamundra to Temora line pay so well if the Wyalong traffic were taken from it? No.
3049. How would you prefer the railway to Wyalong to run? Speaking as a railway man and as a farmer, I think it is ridiculous to talk about a railway from Grenfell to Wyalong.
3050. Then you prefer a line from Temora to Wyalong? It is not a matter of preference with me. I speak for the greatest number.
3051. A railway from Grenfell would serve you equally as well as one from Temora? It would.
3052. Still, you think the line should run from Temora? Yes. No one who has any real knowledge of the matter would advocate any other route. The greatest population to be served would be on the Temora route. Then, again, there is better country beyond. A line from Temora to Wyalong will also be cheaper to construct. I do not suppose that on the Bland country there is much ballast, but there is ballast as well as ironbark on almost every part of the road between Wyalong and Temora. At present, ironbark sleepers are being taken to Temora to be despatched to other parts of the country.
3053. We are informed that a line from Temora to Wyalong will cost £45,000 less than a line from Grenfell to Wyalong? That is so. Then there is the reduced cost of maintenance as well. If the railway passes over the Bland on an 18-inch embankment one good storm will destroy it. If you want to build a line for the convenience of the public at large, and also for the public good, you should take the most direct route from the main trunk line. Again, if we have Federation, why should not people be able to travel to Melbourne as well as to Sydney? If we have to travel by way of Grenfell and Koorawatha there will be a number of changes. We shall have to change at Koorawatha, Harden, and Albury. That means three changes in a very short distance. With regard to the congestion of traffic at Harden or Cootamundra, I would point out that it would be easy to duplicate the line from Cootamundra to Young. This duplication must be carried out in time.

- T. J. Foley.  
24 Aug., 1899.
3054. You contend that a line from Temora is more likely to pay, and that it will give the farmers a better choice of market? Yes. It will also be cheaper to maintain, and will confer the greatest benefit on the greatest number.
3055. *Chairman.*] Have you been over the country between Wyalong and Grenfell and Koorawatha? I have been by train to Koorawatha, but not over the intervening country.
3056. You have stated that one of the reasons in favour of the extension from Temora to Wyalong is that it would be bad policy to leave the railway where it is? Yes.
3057. A line from Koorawatha to Grenfell has been sanctioned, and that will be in exactly the same position if it is left at Grenfell? It will; but there is no reason why it should be brought across an expensive part of country, and a country without population.
3058. You say you do not know what the country between Koorawatha and Grenfell, and thence to Wyalong, is like? The country from Grenfell to Koorawatha is good, but the Bland country is all pastoral.
3059. How much of the country between Grenfell and Wyalong is what is known as Bland country? I could not tell you.
3060. Do you think, if you had some land in that direction, your views would be altered a little? Personal interests might make anyone alter their views, but I do not see why the country should be ruled by private influence or for personal interest.
3061. If we were to discount the opinions of the people in the Grenfell district, because of their personal motives, you would not be offended if we discounted yours for the same reason? Certainly not.
3062. Do you think if a railway were constructed to Wyalong the people of the district would go in for agriculture? Yes; to a great extent.
3063. If no railway is constructed to Wyalong it means, I suppose, that the land would be devoted to sheep? It will go back to the Banks.
3064. Will not the Banks make some use of it? Yes; but when they put out a selector, another will hardly go to them.
3065. If there is no railway, or cheap means of conveying agricultural produce, will not the land go back to pasture? Yes; into something which is not agriculture.
3066. *Mr. Trickett.*] Do you know that the line from Cootamundra to Temora is running at a loss? I do not know what you call a loss. The Commissioners might say it was running at a loss compared with the previous year.
3067. I suppose that all the produce from Wyalong is taken by way of Temora? Yes.
3068. If the Railway Commissioners have sworn that the Temora to Cootamundra line is running at a loss, do you not think that they have good reasons for doing so? I should like to know what they mean by a loss. When I was station-master at Temora there was a good revenue, and if the revenue is now lower than it was then, they regard it as a loss. That is one way of computing losses.
3069. What is going to provide the great traffic from Wyalong to Temora? The Wyalong gold-field, and the population surrounding it.
3070. We have evidence that year by year the population of the district is decreasing; it is now down to 3,600, whereas a year or two ago it was nearly 5,000? That may be on account of the want of a railway; there will be a larger population when there is a railway.
3071. What will the population do? Cultivate the land.
3072. We have evidence to the effect that the mines are frequently stuck up for want of water;—do you wish us to understand that in view of that fact people will come here to settle on the land? Yes; the cause of the want of water is the absence of water conservation. Twelve months ago there was not a tank here capable of holding a year's supply.
3073. But you do not conserve water to grow wheat? You must conserve water to enable people to cultivate—to keep the horses going, and so on. Any farmer who has not enough mutton with which to feed himself and his men is not worthy of the name of a farmer. He should at least keep enough water for the purposes of his stock. The land upon which I was living was selected in 1888, and there has never been a dearth of water there. During the five or seven years in which it was in my hands my neighbours were supplied with water from it.
3074. Was not the railway from Cootamundra to Temora intended to tap an agricultural district? Yes.
3075. Has it done so? Yes; it has exceeded the most sanguine expectations.
3076. If the Railway Commissioners say that the Temora line does not pay, are you prepared to deny it? Whilst I was station-master at Temora it paid.
3077. *Mr. Watson.*] You have stated that although you advocate the construction of a line from Wyalong to Temora, it does not matter to you from which direction the line goes; you will be within 11 miles of it, whichever way it goes? Yes; but still it would matter a great deal.
3078. Personally, one route would not benefit you more than the other? Certainly not, if I could get my goods to market at the same rate.
3079. If a line went from Temora it would be no nearer to your property than one from Grenfell? No. At the same time, if I wanted to go to Sydney I should be sorry to be taken by way of Koorawatha, and the mountains, whilst I could go to Sydney or Melbourne by way of Temora.
3080. *Chairman.*] You have stated that you thought the people would do very much better if they conserved the water? Yes.
3081. You meant that remark to apply to pastoral and not to agricultural pursuits? Yes. A man with 2,560 acres of land might be able to run 1,000 or 500 sheep and cultivate 1,000 acres of his land, if he had a good water supply. I look upon any farm which has not a good water supply as a failure. No matter what you do in this or other parts of the country, you want a good water supply.
3082. If we have seasons such as we have had during the last few years, you could not grow wheat very well? I think you could grow a fair crop of wheat if you fallowed your land at this time of year, or at any time when there is a chance of a shower of rain, which will make it fit to plough. You could then put in your crop at any time, whether you got rain or not.

James Joseph McDonnell, mine-owner, Wyalong, sworn, and examined:—

3083. *Chairman.*] Do you think the mining prospects of Wyalong are better than they were during the early days? I think there is every possibility of the field being permanent.

3084. Have you any information to supply to the Committee? Since 1870 I have been all over this country, including the Bland. Knowing the character of the country between Wyalong and Grenfell, and between Wyalong and Temora, I think it would be beneficial if a line were constructed from Temora. There is pretty good land on both routes. If I want to go to Albury, I do not care to be dictated to, and told that I must go by way of Koorawatha. The residents, and not the Railway Commissioners, are the individuals who are to be considered as to whether the line should or should not go to Temora. It has been stated in Sydney that on the Grenfell route there is a population of 7,000. I do not think that is correct. I was a resident of Barmedman prior to the Wyalong field being opened. I came to Barmedman before the Cootamundra to Temora line was opened. A line was measured to Hillston, and owing to that I came to Barmedman and bought into an hotel, in the hope of the line coming on. I am one of those who settled on the Temora route on account of the pledge of the Department that the line would come through. I do not think anyone on the Grenfell route ever expected that a line would come along that route to Wyalong. Mr. Meagher has told me that on one occasion he grew 42 bushels of wheat to the acre at Kangaroo Hill, 2 miles on the Wyalong side of Barmedman.

3085. *Mr. Shepherd.*] I believe you have shafts here at a depth of 500 and 600 feet? Yes.

3086. Have you been down any of them recently? I have been down the 300-foot shafts only—the Kurragong, Golden Fleece, and White Reef.

3087. Do the reefs appear to be thoroughly satisfactory at that depth? If you go far enough you get into a blank occasionally. Take the case of the Golden Fleece—fifteen or eighteen months ago we were down to 320 feet, and knocked off because there seemed to be nothing there. Later on they only went a few feet lower at the Tributors', and obtained splendid stuff, which went 18 oz. 15 dwt. to the ton, by assay.

3088. How long is it since you reached a depth of 320 feet? Fifteen months. We got into a bit of a blank, but if you go far enough you are bound to meet the reef again.

3089. Some reefs will continue, almost within an inch, the same width for hundreds of feet? They make larger in shoots.

3090. It seems strange that if you have been to that depth for fifteen months you have not attempted to prospect lower down? It is a matter of opinion. I might be in favour of it, and other directors might not be in favour of it.

3091. The usual thing is to test your mine to a considerable depth? Yes; but where there are ten to twenty men you have to do as the majority wills. It means calls, and so on.

3092. What is your opinion of the prospects of the mine at a greater depth? Very good.

3093. Are they equal at the 320-foot level to what they are at the 200-foot level? Better.

3094. They have kept on improving all the way down? The deeper you get—the more of the grey ore you get—it becomes richer. The same ore at 300 feet will assay half as much again as it will at 200 feet.

3095. That being so it is a wonder you have not gone deeper? We are quite satisfied. We are only 5 years old at present.

3096. *Mr. Watson.*] You have referred to the evidence you have seen published in the newspapers relative to the population on the respective route. In the evidence estimating the population between Grenfell and Wyalong, within the influence of a line from Grenfell to Wyalong, there were included the populations of Barmedman and Reefton;—do you think it would be right to assume that if a line were constructed from Grenfell to Wyalong the people from Barmedman and Reefton would come to Wyalong with their traffic? No; they would go to Temora.

3097. Being as near to Temora they would go to that place, as it is closer to Sydney? I should think so.

Robert Gagie, farmer and grazier, near Wyalong, sworn, and examined:—

3098. *Mr. Trickett.*] How long have you been in the district? About seventeen years.

3099. West of Wyalong I believe the country has gone back of late years? Yes; on account of the scrub.

3100. Have the flocks been reduced very much? Yes; on account of the runs not being improved by reason of the uncertainty of tenure, and the want of tenant right. On Buddigower in 1890 there were 50,000 to 60,000 sheep. They sent away 775 bales of wool that year, and now I do not think they could send away 20 bales.

3101. What prospect is there of things improving in that direction? Unless they get a further lease of their runs in order to improve them, they will be just the same as ever.

3102. Do you mean that, unless there is an alteration of the land law, there will be no produce to be carried to a railway from that direction? That is so. The land has been allowed to go wild, and the dry weather has reduced everything. Of course, the land is there, and it only wants throwing open for settlement, with secure tenure, to make it carry what it did in 1890.

3103. Do you think it is a class of country upon which a man with a small holding could do well? Yes.

3104. How much of the land would a man require to live upon? 2,560 acres.

3105. If the land were available, would it be largely taken up? I think so. I have grown wheat on my holding for a number of years, and I have as good crops as I had in the Southern district. I have had up to 24 bushels an acre. The last few years have been bad, but in fair seasons we get good crops.

3106. What would you call a fair average? About 16 bushels.

3107. Do you think you would get as much as that here? Yes.

3108. Do you think, in the absence of better railway communication, there is any prospect of people going in for wheat-growing to any extent? The distance to market is too great. With a railway they would have no inducement to go in for cropping. I am 42 miles from Temora, which is too far, as the road carriage is very heavy.

3109. How far west of Wyalong could wheat-growing be carried on? To Lake Cudgellico or Hillston. It is all good wheat-growing land. The soil is red loam—a mixture of pine, box, and different scrubs. It is more fit for agriculture than for grazing.

3110. What do you regard as the best class of soil for growing wheat? Red loam.

3111. One witness has told us that the grey soil is better than the red soil? But we cannot get it. In parts of Victoria the grey soil is better than the red soil; but here we have mostly red soil. 3112.

J. J.  
McDonnell.  
24 Aug., 1899.

R. Gagie.  
24 Aug., 1899.

- R. Gagie.  
24 Aug., 1899.
3112. Have you formed any opinion as to which would be the better route for a railway? No; our trouble is only to get it here.
3113. You do not care which way it comes? No; but of the two routes I prefer that by way of Temora, on account of getting stuff here from Gundagai. It would save me 80 miles of road carriage.
3114. What do you think of the Bland plain country as fattening country? In good seasons it is as good as any in New South Wales.
3115. I suppose the droughts are only temporary? They occur in places. I have seen the same at Albury.
3116. One of the great inducements put forward for building railways for this class of country is the probability of a large agricultural development;—do you think that is likely to occur here? I think so. If we had communication to Wyalong, and thence to Hillston, there would be a great number of selectors along the line. There are 150 miles of country between Wyalong and Hillston with no one upon it. You could ride all day and not see any one. If we had a railway through it, the whole of the country would be inhabited.
3117. Have you been to Grenfell lately? Yes.
3118. Have you been beyond Grenfell? Not on the Young side; but I have been on the Cowra side. From Grenfell to the edge of the Weddin Mountain there is a lot of agricultural country; but from the Weddin Mountain to within a few miles of Wyalong it is all pastoral country.
3119. What about the country between Wyalong and Temora? It is mostly agricultural land all the way.
3120. Is there much evidence of that on the road? Not between Wyalong and Barmedman.
3121. How is that? I do not think it has been open for selection long. There is a travelling stock route between Wyalong and Barmedman, and you cannot see anything from it.
3122. Are the people going in for agriculture wide of the travelling stock route? I could not say.
3123. What kind of agricultural development is there from Barmedman to Temora? Nearly all wheat-growing farms.
3124. Are there any very large tracts under wheat? The largest one is that of Mr. de Little, Temora station, and that of Mr. O'Keefe.
3125. What extent of wheat have they? About 3,000 acres.
3126. You do not see anything like 10,000 or 20,000 acres in one block, or in adjoining blocks, under wheat? No.
3127. Is the country patchy for wheat-growing? There are occasional patches. Off the road for 10 miles on each side between Barmedman and Temora there are farms growing wheat.
3128. *Mr. Shepherd.*] What do you reckon is the cost of ploughing, sowing, and harvesting your crop? Ten shillings an acre; I have known times when it has cost £1 an acre.
3129. Where do you take your wheat? To Temora; the cost of carriage is 7d. per bushel.
3130. What average price do you get for it? About 3s.
3131. Are you satisfied with that price? We have to be.
3132. Have you grown anything but wheat? Yes; wheaten hay, since Wyalong opened.
3133. Do you think the Temora route is the best in the interests of the country generally? Yes; it would not cost so much for construction. The guards on the Cootamundra to Temora line have stated that they would just as soon run out to Wyalong as be detained at Temora.
3134. *Mr. Watson.*] Have you been through Trungley? Yes; three years ago.
3135. Was cultivation going on at that time? A little.
3136. *Chairman.*] Can you say what quantity of land is under wheat within 20 miles of Temora? I could not.
3137. Do you think there are 30,000 acres under wheat? I think there are more.

Frederick Dempster, secretary, Wyalong Railway League, sworn, and examined:—

- F. Dempster.  
24 Aug., 1899.
3138. *Chairman.*] Have you anything to do with mining interests at Wyalong? Only as secretary to several companies.
3139. The Committee would like some information as to the depths of the levels? Between 400 and 500 feet is the deepest level I know of from which sulphides are coming. Eleven-ounce ore is coming from that depth—not in barrow-loads, but in large parcels. We send 50 tons away at a time to Dapto.
3140. What is the width of the reef? It varies. It pinches and bulges. It would be difficult to strike an average. Sometimes it might be 2 or 3 inches, and at other times nearly a foot.
3141. *Mr. Shepherd.*] Do you find the stone becoming more refractory as you go down? No; it can all be treated here. One of the characteristics of the reefs on this field is that they pinch down to a thread. Sometimes they absolutely cut out, and come in again.
3142. Has the reef of which you are speaking increased in richness as you have gone down? It has always averaged about 11.oz. for 300 to 400 tons.
3143. At what depth did you first commence stoping? There are four or five different levels in the mine, and I think three of them are working now. There is stone in the other levels, but it will be left until it is wanted, because it is of a poorer quality. That is nearer the surface—about 100 feet deep.
3144. I believe that one of the features of the mines here is that stone is not found very near the surface? Some very good stone has been found at different times a few feet down.
3145. There are no reefs showing on the actual surface? No.
3146. We have been told that the deeper the shafts go, the more refractory the ore becomes, and the more difficult it is to treat? There has never been any difficulty in treating the ore from the mine of which I am speaking.
3147. Are there appliances and machinery here sufficient to treat the whole of the ore raised? Yes; it is only a matter of tariff.
3148. Is ore still being sent away to be treated? It is in some instances. Of course, the rates are coming down now, and they are almost on a par with the Dapto charges.
3149. Do you think the appliances on the ground are capable of treating the ore as efficiently as the Dapto appliances? Yes.
3150. When they come down in charges the carriage of stone from here will cease? That is so.
3151. I suppose that competition will bring down the prices? It is bringing them down now.

3152. Have you heard of any more plants to be erected here for treating the stone? No; but Messrs. F. Dempster, Duncan, Noyes, & Co., are adding to their plant.
3153. If a railway is constructed is it likely that any quantity of stone will be treated elsewhere? As a matter of fact, there are not sufficient battery appliances now to treat the stone at grass. Lots of people are waiting. The claim of which I am speaking has command of twenty head of stampers at one battery, and they are likely to keep them going for eight months, and that shuts other people out. Messrs. Nicolas and Reymond have added fifteen head of stampers to their battery, and will get through a lot more stone than they did formerly; but it will take them a long time to catch up.
3154. Could you give an estimate of the quantity of stone at grass? No; but it is considerable.
3155. Do you think the opening of a railway would give much impetus to mining? Yes.
3156. Do you think it would be likely to cause more miners to be put on, and work to be carried on more energetically? Yes; I believe it would cause an influx of capital.
3157. Have you studied the question of the two routes? No. I am secretary to the railway league, and, of course, I am only voicing the opinion of the league. If I were not in favour of the Temora route I would not have kept the records of a body who are.
3158. What are your reasons for favouring that line? Because it is more central, and by connecting with Cootamundra you have a choice of three or four different services. You can go whichever way you like—north, south-east, or west—and you can go more quickly. I think, also, that that line would pay better.
3159. Do you think the Victorian element has something to do with favouring the Temora route? I suppose it has; at the same time there is a lot of machinery on the field which is American.
3160. *Mr. Trickett.*] Why is it cheaper to send stuff to Dapto to be treated? On account of the rates charged by the cyanide works.
3161. Then it is a kind of monopoly here? It was until Dapto started. You can send to Dapto, and pay freights and everything else, and then get a better cash return.
3162. The charges at Wyalong must be very high to compensate for sending ore by team to Temora and thence to Dapto? Yes; you can get it sent for £1 a ton return loading. The carriage to Dapto is 14s. That makes 34s. Ore up to a certain standard can be crushed for 32s. a ton, and you get the whole of the gold. Here you have to pay £3 15s. a ton, and you only get 90 per cent. of the gold.
3163. Could you give us any guide as to whether the stone is likely, ultimately, to be sent away or kept at Wyalong? I do not think that much ore would leave the field ultimately by train.

Digby Noy Johns, pastoralist and farmer, Ungarie, sworn, and further examined:—

3164. *Chairman.*] I believe you have some further information to supply the Committee? Yes. With regard to what I said about starving stock, I wish to point out that there is very little in sending away starving stock. At Wollongough this year we had some rough grass feed, but our sheep were beginning to die in two paddocks. We therefore fed them on wheat in addition. We gave one bag of wheat per day to 1,000 sheep. That kept them alive. They were deserting their lambs as quickly as they were born, before we started feeding them. After we started feeding them, those that had deserted their lambs commenced to sing out for them. Nearly all the lambs we marked were born subsequent to feeding. It cost 1s. per 100 sheep per day.
3165. *Mr. Watson.*] What did the wheat cost you on the station? This particular wheat cost us about 3s. a bushel on the average. We gave one-eighth part of a pennyworth a day to every sheep. If any of them died we got the skins. We had the advantage of there being no disease brought on to the run. With regard to what I stated in reference to the Murrumbidgee mountains, I may mention that I spoke on the authority of Mr. Brett, the Stock Inspector at Urana, and Mr. Culley. They told me that the sheep came back as rotten as pears, suffering from fluke and lung-worm. Of course, that may die out if they have a dry season or two, but it will not die out if the seasons are wet. I represent the Farmers' and Settlers' Association at Ungarie. We are giving our evidence exclusively in our own interests. We do not pretend to give it in the interests of the country at large, but we leave the Committee to decide between the two routes. We consider there is going to be an enormous area under grain in this district, and, that being so, the importance of a junction with the main railway system at Koorawatha cannot be over-estimated. As it is not likely that a line will be commenced to Hillston within five or six years, I think it the duty of Parliament to take steps to pave the way for its then settlement, so that the line may pay from the jump. It will take some years for the settlers to get the land into such order as to make the line pay. An enormous quantity of produce would be sent from Hillston itself. I may mention that the President of the Bena Farmers' Association and of the Lake Cudgellico Farmers' and Settlers' Association gave me to understand that they would be here to support the Grenfell route.
3166. Did you hear Mr. Collie give evidence to the effect that a large public meeting had decided in favour of the Temora route? Yes; my own brother was at the meeting, and I may mention that, on account of the way in which the business was conducted, he, too, was "bulldozed" or yarded, as it were, into supporting the Temora route.

FRIDAY, 25 AUGUST, 1899.

[The Committee met at the "Barmedman Hotel," Barmedman, at 12 noon.]

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.

WILLIAM THOMAS DICK, Esq.

The Hon. WILLIAM JOSEPH TRICKETT.

JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

Edward Butler, mining engineer, Barmedman, sworn, and examined:—

3167. *Chairman.*] How long have you been at Barmedman? About three and a half years.
3168. Have you been engaged in mining all the time? Yes.
3169. What are your views of the Barmedman gold-field? I think the permanency of the field is undoubted. The difficulty we have to contend with is that it is not a find adapted for miners, in the ordinary





E. Butler.  
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3184. Have you had any long drives? The reef has been driven on and worked at intervals for over 700 yards.
3185. With good results the whole way? With very satisfactory results the whole way.
3186. Is that at the one level? Yes; the 120-foot level—40 feet to 50 feet below the water level.
3187. What kind of holdings have you here in connection with the auriferous country? Chiefly leasehold. There are some, but not many, quartz claims.
3188. Have the leases been often suspended? Yes; for the purpose of obtaining machinery.
3189. How far are you from Temora? Twenty-two miles.
3190. Is it a very bad road? It is becoming a moderately fair road, but when I first came here it was simply villainous.
3191. Would you contend that it would be desirable to construct a line to Barmedman? No.
3192. As far as Barmedman is concerned, machinery and other stuff could be dragged along the 22 miles of road from Temora without any great disadvantage? Yes. Of course, one always prefers, in dealing with machinery, to prevent two or three handlings.
3193. Do you think that, if the mines at Barmedman increased in number, local treatment would be resorted to? I should imagine so. Of course, it would not pay here to put up chlorination or large reduction works on a big scale.
3194. Why? Because the ore is so admirably handled at Dapto and Cockle Creek that it is better to pay the freight. If you can get any reasonable reduction of freight on the railway it is almost cheaper than sending to Wyalong.
3195. Have you visited the Wyalong mines? Yes.
3196. Do you know Mr. Neeld's mine? Yes.
3197. Have you anything at Barmedman which would compare with it? This mine is on a different class of stone entirely. If you compared the area you would find that our reef is very much larger, but, of course, it is not as good in quality.
3198. What is the character of the stone here? It is soft and friable—almost a decomposed quartz. It is gradually increasing in hardness with depth. It carries gold, of a coarse, rugged nature. It is fairly free from minerals. There is no doubt, however, that the minerals are coming in with depth.
3199. Are the lodes surrounded by granite formation? No; by a soft decomposed diorite. The mother country is slate.
3200. Is it distinct from the stuff from which you get the gold? Yes.
3201. Then there is a distinct lode with the auriferous ground? Yes. At Wyalong the reefs are east and west, and, of course, it is a different country altogether to this. We have nothing in the shape of very hard country.
3202. This would really be easier country to work? Yes, if one had not to contend with the water.
3203. Are there any mines here whose progress has been sufficiently long and prosperous to indicate that they are likely to be continuous? I think you might say that all of them have had a long and prosperous career, but you have to take into consideration the fact that the water level, being at 70 feet, it is not a field upon which poor men can work. Unless there is a large capital behind the mines they cannot be worked satisfactorily or profitably.
3204. It means heavy expense for timbering, pumping, and draining? Yes.
3205. Taking all those things into consideration, you still think the mines will be payable? Yes.
3206. Has all the stuff obtained here been treated elsewhere? Some of it was treated at Grenfell in the earlier days of the field, but then they would only look at the very choice stone.
3207. What treatment does the stone from here go through? Battery and cyanide treatment.
3208. How many companies are working here? Three.
3209. Are they all live concerns? I think so.
3210. In 1897, when evidence was given here before a former Committee, it was stated as the greatest drawback to the place that the ground from which gold could be best obtained had for the past ten years been under constant suspension;—is that ground going to be kept in that state? I do not know of any ground here under suspension, except one special gold lease, and that is simply due to the repairing of certain boilers.
3211. Has the state of things to which I have referred ceased to exist? Yes.
3212. Do you think that with a railway here there would be much need for fuel to be brought here, or is there sufficient local fuel to last for many years? I should say there is an almost unlimited quantity of firewood here.
3213. Then we need not look for much revenue from the carriage of coal? Of course, if reduction works are started, and coal can be bought cheaply it will be used in preference to wood-fuel. If we could get coal here at 25s. a ton it would be better than using wood for the furnaces. There is a considerable quantity of mining going on independently of the companies.
3214. With the mines in full swing, how many people would be employed on each? There is room for sixty or seventy in each—that is by working them only on a very moderate scale.
3215. Have you been here sufficiently long to say whether you think these enterprises would increase in number? I think so. What has crushed the place is the want of capital, and the fact of ground which could not be worked otherwise than with capital being held under suspension.
3216. According to your statement, the reefs are far-reaching; therefore, I apprehend that each holding will have to be a pretty large one? The holdings, undoubtedly, require to be fairly large.
3217. What is the size of yours? Ten acres.
3218. Do you think there is scope for a number of big enterprises? I think so; the place has only been scratched so far as mining is concerned. The water has stopped us for the present. Personally, I am putting in a 12-inch pump to cope with it.
3219. Does the water come in everywhere, or only in certain streams? It comes in everywhere. For instance, I drained a shaft 800 yards away from me, on the north-east side, and I also drained shafts 400 to 500 yards away from me on the south side.
3220. Is the water mineralised, or can it be used? It cannot be used; it is heavily charged with sulphuric acid. It is absolutely useless, except for battery tables.
3221. How do you get on for water for working your machinery? It is caught in tanks.
3222. With proper tanks and good drains to them, could a sufficient supply be obtained to keep things going? Undoubtedly; there is a very fair catchment here.

- E. Butler. 3223. You state that what is keeping back the place is want of capital? Undoubtedly. If Barmedman had been anywhere else but in New South Wales, capital would have been here years ago. The water difficulty is nothing.  
25 Aug., 1899.
3224. *Chairman.*] Is it difficult to get capital on a small area like this? Yes.
3225. Is it not because the leases are small that there is difficulty in getting capital? The reason is that the field was held in small holdings, and there were so many interested in them. One party may agree to take a certain price, and then one individual would stand out for more than his share.
3226. If larger leases had been granted in the first instance, would the field have been further ahead? I would not say that, because there would still have been so many interested. If one man had been in a position to deal with the leases ten or eleven years ago, they could have been floated many times over. One or two have stood out for more than the others were getting, and thus, to use a mining expression, they "crabbed" the sale.
3227. *Mr. Trickett.*] You have stated that you think a line could be constructed along the Temora route for £1,300 a mile; the lowest estimate of the Engineer is £2,300 a mile? I do not see why, if a line is constructed on the same system as that in vogue in the United States, it should cost more than I have stated.
3228. *Mr. Watson.*] Are the indications of gold-bearing stone and gold-bearing country around the district extensive, or are they confined to the immediate neighbourhood of Barmedman? You can follow the line from Temora to Reefton right through the Phoenix and Hard-to-find reefs. Between Barmedman and Wyalong there is a fault, but you get on auriferous country again, and that continues the whole way up to Wyalong.
3229. Then, in your opinion, there is a connected line of mineral country right from Temora to Wyalong? Right from Gundagai to Wyalong, and further.
3230. There are evidences of valuable mineral deposits between Temora and Barmedman? Undoubtedly.
3231. With a slight fault between Barmedman and Wyalong? A slight fault of about 2 miles; otherwise it is practically continuous.
3232. It does not follow, of course, that you will get good payable gold all along? No; but the whole of that ground is worth prospecting.
3233. And occasionally you might get reefs carrying gold? Undoubtedly. They are getting into an entirely new class of stone at Reefton, which, under certain treatment, will give remarkably good returns; but that would not pay for treatment at the battery. At Reefton they are getting a peculiarly mineralised stone at 300 feet.
3234. How far are the Phoenix and Hard-to-find reefs from Barmedman township? One and  $1\frac{1}{4}$  of a mile.
3235. What class of stone are they on? At the Hard-to-find they are on mineralised stone at 150 feet, and at the Phoenix, at 140 feet.
3236. Are they experiencing any difficulty with water there? Not so much as we are; but there is quite sufficient water to contend with.
3237. Is the formation at the Hard-to-find and Phoenix similar to that here? No; it is a brown slate there, and might go down thousands of feet.
3238. Is that an indication of permanence? Personally I prefer to see it.
3239. *Mr. Shepherd.*] Do you find the water increase very much as you go down? Not very much. What I have had to deal with has been the fact that there has been large accumulations of water in the old workings.
3240. Do you find the reef of such a nature that the water finds its way along it? Yes; the reef is acting as a drain for the whole of this country. The stone is exceedingly soft and porous.
3241. Did you commence stoping at the 130-foot level? No; it was done before I came here.
3242. What is the lowest depth at which any stone has been stoped from the mine? From 130 feet right up to the surface. Some of the best gold was taken from the surface. The Fiery Cross reef was within 2 feet of the surface.
3243. Has the reef increased in richness as you have gone down? Yes; the distribution of gold in the stone has become more regular, and the actual tonnage has become richer.
3244. Have you tried a greater depth than 130 feet? Yes; we have sunk to 200 feet, where the stone has shown good gold.
3245. Is that the deepest shaft which has been sunk on the field? The shaft on the battery hill is at the same depth. They were on a reef, but they had the same financial misfortunes to contend with as I had, and unfortunately the thing went no further.
3246. How many distinct reefs have been discovered on the field? Two or three. There is one distinct line of reef on the Fiery Cross which has been bored into by side-boned or herring-boned reefs which are numberless. All those side-bone or herring-bone reefs have gone 2 and 3 oz. to the ton.
3247. Are they small leaders? They vary from 3 or 4 inches to 2 and 3 feet.
3248. Do they make in towards the main reef? They are east and west on the surface, and they gradually turn to north and south as they go down and join the main reef.
3249. Have they been traced any great distance from the main reef? No.
3250. Then, generally speaking, they come within the limits of the claims which are taken up? Unfortunately they do, if they do not spread over a distance of between 800 and 900 feet. In fact the side-bone reefs have not been found at any great distance from the main reef.
3251. Are the three companies to which you have referred satisfied with the results of their workings? I can only speak for my own company, and I think they are satisfied. I believe Messrs. Conway & Co. are perfectly satisfied. They have come back here after an absence of thirteen years, and they have put their own money into the field. They left here thirteen years ago, made money at Wyalong, and have returned to resume operations; they have gone to the expense of putting down machinery and plant.
3252. Are there sufficient batteries on the field to deal with all the stone which is required? I should say so. The plant is old, but there are twenty-five head here. Of course, it would pay a claim like the Phoenix to put its own battery down. I may mention that a public battery has been erected for many years.
3253. Is it able to deal with all the stone raised? Yes, in all, it has put through something like 45,000 tons of stone.

James Alexander Walker, managing director, cyanide works, Barmedman, sworn, and examined:—

3254. *Mr. Watson.*] Have you been long on the field? Nearly three years. I have been engaged on the cyanide works, and also in crushing a little stone. J. A. Walker.  
25 Aug., 1899.
3255. Can you give the Committee any information as to the prospects of mining here? As far as I can see the prospects are very good. There has not been much done. One hundred feet is the limit of development. The water difficulty has not been faced, and the consequence is that the field has hung fire.
3256. Do you think the prospects are encouraging? Yes, for capitalists; but not for working men. It is of no use coming here with a windlass and pick and shovel only. Capital is required. I will not say a large amount; but people cannot start with nothing.
3257. I understand that arrangements have lately been made in some instances to start work in opening up? Yes. The prospects at present are very encouraging. Conway's have struck gold; and the Fiery Cross people are getting ready to face the water difficulties. We are also thinking of having a cut in if we can get the money for our section.
3258. Where is your section? We join the Fiery Cross. The reef is north and south of them; and we are on the northern end.
3259. Do you think you would be able to get that work going as well? I think so. Of course, you cannot form companies at once to tackle these things. To put up the gear we have down there will cost about £5,000.
3260. Will the pumping which has been started at the Fiery Cross have the effect of draining your area? Yes. The water drains from the whole of the field into the Fiery Cross down to 130 feet, where there is a dyke which is supposed to intercept it.
3261. I believe you operate with cyanide upon the tailings? Yes; and the first of the Wyalong stone was crushed there.
3262. Had the tailings any mineral in them? There was a variety. The heap we crushed came from a radius of 2 miles round.
3263. Have you seen any of the mineralised stone which has come from the bottom of the existing workings? I have not seen any stone from the deep level. Anything we have crushed has been little shoots which have been accidentally discovered by three or four working men.
3264. What did the battery leave in the tailings? I am not authorised to give the information; except that it paid us very well.
3265. Do you know anything of the character of the stone at the Phoenix? I rather like it.
3266. Is it mineralised? Yes.
3267. Would you be able to treat it here with a battery and the cyanide process? Yes. It is not sufficiently mineralised to be sent away. When stone gets above a certain value of course it is best to send it away.
3268. Do you think it would be better for the people here, supposing they require to have stone smelted, to bring coal and flux to the field, or to send the stone to Dapto? It would be better to send the stone to Dapto.
3269. Why? I do not think the production of mineralised stone here would be sufficient to warrant the erection of smelters, and the ratio of ore in smelting is generally small compared with the fluxes. I do not think they would cart flux here, in the way of coke and limestone.
3270. Then you think that there is no doubt that any valuable, mineralised stone should go to Dapto or some other place? Yes; to central works where they make a speciality of the business.
3271. Do you think that remark would apply to Wyalong? Yes.

William Conway, miner, Barmedman, sworn, and examined:—

3272. *Mr. Dick.*] What is the name of the mine with which you are connected? The Phoenix, 2 miles and 60 chains from Barmedman. W. Conway.  
25 Aug., 1899.
3273. What is your opinion as to the prospects of Barmedman as a gold-mining field? I have been here for about fifteen years, and I worked at the Phoenix fifteen years ago. I abandoned it on account of the water difficulty. I returned to it after I got sufficient capital to enable me to cope with the water.
3274. Do you think the water difficulty has hindered the development of this field? It has. All that is required to make it progressive and prosperous is sufficient capital to enable the claim-holders to cope with the water.
3275. Do you think this is a field which poor men could work? No.
3276. Is there any other reason besides the water difficulty, which, in your opinion, has proved an obstacle to the development of the field? No.
3277. What is your experience as to the character of the ore as you go deeper;—have you found that it carries more or less gold as you go deeper? My experience is that the ore has turned out better as you go deeper.
3278. How many years practical experience have you had as a miner? Over twenty.
3279. Have you seen other fields besides Barmedman? Yes.
3280. How would this district, with the introduction of capital, compare with the Wyalong gold-field as a means of employing labour and producing revenue for a railway? The Forest King was the first claim, half-way between Barmedman and Temora, into which I put my money in this district. I spent £1,800 there. That is a gold-producing tenement, and it is gold-producing all the way from Temora to Wyalong. Afterwards I went into the Phoenix, and I have come back again. I went to Wyalong in the meantime. I might say that I opened Wyalong. I was the first man to report payable gold there, and I have come back to the Phoenix again.
3281. You evidently think that this district is a better one for the investment of capital than is Wyalong? I would not have left Wyalong if I had not thought so.
3282. What effect would the construction of a railway from Temora to Wyalong have on this district? It would open up the country a good deal from a mineral point of view.
3283. What are your reasons for that opinion? In the first place, there are thousands of tons of stone going away daily from Wyalong to Sydney, *via* Temora.
3284. You think that the gold-bearing district extends from Temora to Wyalong? Certainly.

- W. Conway. 3285. Do you think the ores are of such a character as to require furnace treatment? All the ores are, in this district.
- 25 Aug., 1899. 3286. Do you think the traffic in coal to this district is likely to be large, or will the ore require to be sent to the coal? It will be necessary to send the ore to the coal and flux.
3287. Are the claims about Barmedman sufficiently large to warrant the expenditure of capital to deal with the water difficulty? They are.

Thomas Love, stationer, and formerly Mining Registrar, Barmedman, sworn, and examined:—

- T. Love. 3288. *Mr. Trickett.*] How long have you been in the district? Fifteen or sixteen years.
- 25 Aug., 1899. 3289. Has the district advanced or gone back during that time? There is more settlement; but mining matters here been very quiet since Wyalong has gone ahead. Barmedman itself has gone back because of the water difficulty. Miners have been unable to work for want of machinery and capital to develop the mines.
3290. What do you think is wanted to advance the district? Railway extension. It would assist the farmers to make a living on the ground they occupy. I was a farmer for fifteen years in Victoria, and I know a good bit about land.
3291. What is the character of the soil in the district? I think it is as good as many parts of Victoria. During the last few years, however, the crops have been very bad, owing to the dry weather.
3292. Has agriculture increased about Barmedman during your residence here? Yes; they are putting more under crop every year.
3293. Do you call that a good tract of agricultural country between Wyalong and Barmedman? It is fairly good in places away from the road.
3294. Are there not some mallee and country difficult to work about there? Yes; the mallee country is hardly suitable for agriculture.
3295. Then people are not likely to touch it until they have dealt with the good stuff? I think not.
3296. Is there much red-soil country? Not a great deal.
3297. Do you regard red soil as the best for agriculture? The light loamy soil is the best in this district.
3298. What is the largest tract under wheat between Barmedman and Wyalong? Between 200 acres and 300 acres in one paddock is the largest I know of. Of course, people would go in more extensively for wheat-growing if they had access to market. The cartage to Temora is the great difficulty. A great deal of time is wasted in cartage, which should be devoted to preparing the land.
3299. How far should a man carry his produce to make agriculture pay? If he could get to a railway and back in one day he would be fairly well situated.
3300. What distance would he have to be from a railway station to do that? Twelve to 15 miles at the farthest—10 miles is a fair day's work.
3301. Do you remember Temora, and the district 15 miles towards Barmedman, before the Cootamundra to Temora Railway was constructed? Yes.
3302. Were there many farms about there then? It was dense scrub.—in fact, I do not think there was any settlement at all between Barmedman and Temora at that time. Nearly all the land is taken up. There is a considerable amount of farming being carried on 15 miles on the Barmedman side of Temora.
3303. What extent of agricultural country is there between Temora and 15 miles on the Barmedman side? I could hardly say that, but all the land is taken up. I have a return of the gold produced in Barmedman since 1883, with the exception of three years which are lumped together. It is as follows:—

*Barmedman Gold Returns.*

Including years 1883 to 1885—various reefs ... ..	6,335 ounces.
Steffani's Never Sweat reef, only—year 1886 ... ..	1,078 „
Various reefs—	
„ 1887 ... ..	1,542 „
„ 1888 ... ..	987 „
„ 1889 ... ..	450 „
„ 1890 ... ..	327 „
„ 1891 ... ..	54 „
„ 1892 ... ..	79 „
„ 1893 ... ..	412 „
Including crushings—Wyalong	
„ 1894 ... ..	4,176 „
„ 1895 ... ..	117 „
	15,559
Value per oz., £3 17s. 6d. to £3 18s. ... ..	4
	£62,236

With regard to the return for 1894, I may mention that it includes a lot of Wyalong stone which was brought here and was crushed. During the last two years there have been no crushings, with the exception of a few tons.

3304. That does not look very promising? No; but they have been unable to work since 1887.
3305. Then for twelve years the district has stagnated because of the water difficulty? Yes.
3306. Is it not rather a significant fact that if the field is a good one no one has attempted to develop it for twelve years because of the water difficulty? They are developing it now, and I think they are likely to go ahead with it.
3307. What would be the average yield per ton? From 15 to 20 dwt.
3308. Do you look upon that as a payable quantity? Yes; but, of course, in mining a great number of claims do not pay. The main reefs have paid.
3309. What do you look upon as the chief thing to develop the district and bring a large population? I think we could reasonably look for a development of both mining and agriculture along a line of railway. I have a report from Mr. Wilkinson showing that he examined the country right through to Temora. It is all mineral country, and a good deal of it is agricultural country. From Temora to Yalgogrin there are hills which are all mineralised.

3310. As far as one can observe, this does not seem to be a country which would induce a miner to operate upon it;—you appear to be troubled above ground by continuous droughts, and below ground by continuous water;—do you think it will always require combined effort to develop the mines here? I think it will be necessary for companies to deal with the water difficulty. T. Love.  
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3311. Are there many Victorian farmers in the district? There are a good many on the other side of Wyalong.

3312. *Mr. Watson.*] Do you know the country between Barmedman and Wyalong? Yes.

3313. Do you think the stock route fairly representative of the rest of the country on the other side? I know the country well, but I do not know which is the stock route.

3314. How far on each side of the road have you been? Seven or 8 miles.

3315. Is the stock route to be taken as representative of the land on either side of it? No; there is far better land on either side of it.

3316. Take a belt of land, between Barmedman and Wyalong, 10 miles wide, what proportion of it would be fit for agriculture? I should think about two-thirds. That is only a guess. I have not gone over it with the intention of ascertaining. I have gone over it to look for gold more than for anything else.

3317. What proportion of the country over which you went would have mallee upon it? The only mallee I know of is on the left-hand side from Wyalong. That extends to the Wyalong No. 3 station, and is about 5 or 6 miles wide. I do not know what the length of it is.

3318. Is it heavy or light mallee? It is heavy.

3319. When you were alluding to loamy soil, had you red soil in your mind? Yes. It is poor country where the mallee is. The loamy soil is of a reddish tint; but it is not what the Victorians would call the red loam.

3320. Do you consider it good soil? Yes.

3321. Would you describe it as gray or chocolate loam? It is something between gray and red. It is good land, and I have seen crops growing upon it in different places.

3322. Is not the box country in this part of the Colony supposed to be pretty fair land? Mixed box and pine is considered to be the best.

Edwin Davis Donkin, grazier, Mandamah, near Barmedman, sworn, and examined:—

3323. *Chairman.*] How long have you resided at Mandamah? Twenty years.

3324. Have you been engaged in grazing and farming all the time? In grazing, and only recently in farming. E. D.  
Donkin.  
25 Aug., 1899.

3325. Do you know the country through which the proposed line from Wyalong to Grenfell will pass? Yes, very well.

3326. Starting from Grenfell, how would you describe it? For the first 20 miles there is the ordinary bush land—pine and box country—the ordinary fair farming land. After that there is the stiff black and chocolate soil. That extends to the Bland Creek and across the Bland Creek, varying on the west side from 5 to 7 or 8 miles.

3327. Is any of that country suitable for agricultural pursuits? Not fronting the Bland Creek.

3328. I mean from where you leave the first 20 miles to the Bland Creek? That is not agricultural land, as at present worked. It is first-class pastoral land.

3329. What is its carrying capacity in ordinary seasons? About 1 to 2½ acres to the sheep, taking it right through. Lately it has carried one sheep to 4 acres. Of course, in a really good season you can put a sheep to the acre; but it is not wise or safe to do it.

3330. What is the character of the country from the Bland Creek going towards Wyalong? For the first 5 or 6 miles it is similar country—hard, level plains, of both red and black soil to Back Creek. From there to Wyalong it is the ordinary bush land—box, oak, and pine. I think there is one little stony ridge through it; but it does not extend very far.

3331. Do you know where the line is surveyed? Yes.

3332. How would you describe the country for the first 20 miles out of Grenfell, going north and south;—is it much the same in character for any distance north or south? Provided the line passes north of the Weddin Mountain it is similar country. Of course, the south is jammed by the mountain.

3333. How far north does that good land extend towards Forbes? I think the whole way, more or less.

3334. How far west of the surveyed line to Forbes would the good land extend? So far as I know it extends so far as you like to go, with very little variation. Of course, when you get near the Lachlan you get into black soil; but it is very rich land. There is rich black soil or red soil the whole way from Grenfell to Forbes.

3335. How far does it extend to Lake Cowal? All the way. It is similar country all through. It is all good country. For the whole of the distance to Lake Cowal, with the Lachlan on the north, it is good country.

3336. What is the character of the country east or west of Lake Cowal, and coming down to the proposed line south? Directly you cross the lake to the west you get into very inferior pastoral country.

3337. Do you know the country south of the line? The frontage to the Bland, pretty well all the way south, on both sides, is not agricultural land.

3338. What distance on each side of the banks of the Bland is not agricultural land? From about 5 miles on the western side.

3339. And what width on the eastern side? It varies; but as a rule on the eastern side it goes back 10 to 15 miles or more. It is not agricultural country; but it is first-class pastoral country. I dare say it could be cultivated; but it would not pay on account of the difficulty of working it.

3340. People are not likely to cultivate that land whilst there is other land more easily cultivated? No. It is, however, first-class pastoral land.

3341. From the 5 miles west of the Bland, and west of that again, how far does that country extend? The first-class pastoral land really goes from the Bland to Back Creek. After that the character of the land changes. It goes into a scrub land—box, oak, pine, wattle, and rubbish; but if it were not for the clearing—of course, the clearing is a great drawback—it is good agricultural land. A range comes down west of Back Creek; but it is not more than a mile or so in length.

3342. What is the character of the country from Wyalong to Temora going through Barmedman? The whole of the country from Wyalong to Barmedman and thence to Temora is of a somewhat similar character.

- E. D. Donkin. 3343. What is the character of the country from Wyalong to Barmedman? It is all of the same character. It is all scrubby land. It is not good pastoral land unless a lot of money is laid out upon it; but when it is cleared it is all good agricultural land—not first-class agricultural land; but good sound agricultural land, with the exception, of course, of the mallee. It is said that that can be cleared and cultivated; but it would be a big expense, and would not be utilised until all the rest had been absorbed.
- 25 Aug., 1899. 3344. Is there much of that mallee country? Nothing worth mentioning. It is a few miles long and a few miles broad.
3345. What percentage of mallee would there be? Coming to Barmedman from Wyalong it stretches to a distance of from 10 to 12 miles on the road.
3346. What is the breadth of it? It varies from 2 to 3 or 4 miles. It is merely a belt of country. I know that country, as I had the management of Wyalong station, which runs into the township, for two or three years.
3347. What is the character of the country from Barmedman to Temora? It is all one character—a sound, box country—the whole way. It is scrubby, with a great deal of undergrowth; but it is slowly coming into cultivation the whole way. It is good agricultural land. A good deal of it has been coming into cultivation during the last two or three years. The farmers are perfectly satisfied, and clearing is going on in all directions.
3348. For how many years out of the twenty years during which you have been in the district would you consider wheat-growing a failure? About one year out of ten. Last year was undoubtedly the driest year which we have had, and the crops were almost an entire failure. That was the worst year we have had during the last ten years. The worst year before that was exactly ten years before it—in 1888.
3349. Then, according to your experience, we may expect nine years out of ten to produce a paying crop of wheat? I think so.
3350. How far out from Temora are they growing wheat for market? All the way to Barmedman. They carry the produce 20 miles.
3351. Is that the outside distance it would pay to carry in fair seasons? It is a big handicap.
3352. The Committee have accepted 20 miles as an outside distance? The Committee are perfectly correct in doing so.
3353. How many bushels to the acre does that country yield? They have grown up to 30 bushels in the immediate vicinity of Barmedman. I should say that a good average would be about 12 to 15 bushels. It is only during the last four or five years that agriculture has been gone into extensively—that is, since the railway came to Temora.
3354. Going west from Wyalong, towards Yalgogrin and Rankin's Springs; is there similar country? Yes; all the way down to Hillston, with occasional patches of ridges. I have not been to Hillston; but I have been close to Euabalong.
3355. Do you think that with railway conveniences most of that country would be cultivated for wheat? I do; I feel sure of it.
3356. What percentage of good wheat country is there between Barmedman and Euabalong? At least two-thirds of the land. There is very little variation in it.
3357. Do those who have taken to farming appear to be satisfied;—are they increasing their areas? Yes; they are all increasing their areas, and certainly under great disadvantages in regard to cheap carriage.
3358. Had they better and cheaper means of carriage, no doubt they would have cultivated more than they have done? This district is only in its infancy in agriculture.
3359. You think, then, that if a railway were constructed, there being so much good agricultural land, a sufficient quantity of it would be put under cultivation to pay for it in time? I think so, to a large extent. I hold that a railway should precede agriculture. It is hard to force agriculture ahead of a railway.
3360. People are not likely to plant crops in an out-of-the-way place in the hope of a railway coming; therefore, you think a railway should precede agriculture? It is the only way to open up the country.
3361. Do you think that the farmers with a railway could compete with the markets of the world? Yes; it is their only salvation.
3362. Have you given sufficient study to the question to be able to say whether the people, with railway convenience, would be able to compete in the world's markets with their wheat? I think so. It would depend on railway carriage. A very little land carriage would equal a great deal of railway carriage.
3363. Have you any further statement to make? I have some statistics as to the traffic through Barmedman. It is tabulated, and was taken by a maintenance man by order of his superior officers. It was taken from the early months of 1896 to the end of 1897. It was taken during the summer months from 6 a.m. to 7 p.m. A great deal of traffic goes along the road on moonlight nights, especially in the summer time, so that the statement is really an under-estimate. It averaged a total in twelve months of 6,000 tons of carriage.
3364. That was when the population of Wyalong was much greater than it is now? I think it was a little. There were also nearly 9,000 passengers. There were 820 horsemen and 400 pedestrians. The rate of tonnage varied from 30s. to £2 10s.—that is, from Temora to Wyalong.
3365. What is it now? About £2 or £2 10s. It has gone up a little lately on account of the increased price of forage.
3366. We have been told that with back loading £2 a ton is the rate of carriage from Temora to Wyalong and back;—do you think that is a fair price? It is a starvation rate to haul goods 40 miles and back on a bad road.
3367. Mr. McLachlan, Secretary for Railways, was examined in July last and stated: "With regard to the road carriage I may say that an officer who was in the district in December, 1898, says, 'the lowest rate of team carriage between Wyalong and Temora is 15s. a ton, but the average rate when the roads are good is quoted at £1 2s. 6d.'";—can you explain that? I can explain it so far, that I always pay £1 a ton from Temora to my place, which is 20 miles. I know that the standing rate with my carrier to Barmedman has been £1 a ton for years past. A short time ago—perhaps at the time Mr. McLachlan gave that evidence—there were really cut-throat rates, but now there is union, and I think I am safe in saying that there is no carriage now, and there has not been for a long time, under £2 a ton outwards. Of course, inward carriage is, as a rule, back loading. The carriage of ore back again may have been 15s. a ton. I have paid 15s. a ton for wool.
3368. ,

3368. *Mr. Watson.*] I believe the worst part of the road is between Barmedman and Wyalong; there it is likely that the rate will be higher in proportion? Yes. E. D. Donkin.  
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3369. What is the usual passenger-fare from Temora to Wyalong? Ten shillings. It has varied. Occasionally it has been lower and occasionally higher. Ten shillings is the fixed rate, but I do not think the coach-proprietors are making much out of it.

3370. Have you any other information to supply to the Committee? We think a line to Temora from Wyalong would have greater advantages than one from Wyalong to Grenfell. We are at present living, and have been for some months during the drought, entirely on Victorian produce. That is one reason why we think the Temora line would have great advantage. It would save an unnecessary haulage of 100 miles to Wyalong. If a line were extended from Grenfell to Wyalong it would make a difference of 100 miles of unnecessary haulage.

3371. That is for people between Cootamundra and Wyalong? Yes.

3372. But there would be only one year out of ten in which that would occur? What has happened before may possibly happen again. Of course, if agriculture succeeds it would not be necessary. Agriculture has, practically, only been started here during the last three years.

3373. For getting your produce away from the district and for serving the district generally you think a line from Temora to Wyalong would serve you best? I do not think there is a shadow of a doubt about it.

3374. I suppose that will be the opinion of everybody along the Temora route? Undoubtedly; we have always been led to believe that the railway would come by way of Barmedman. I, and others, have gone to great expense in agriculture on the strength of the belief that the line would come.

3375. If a line is constructed from Grenfell to Wyalong, and not from Temora to Wyalong, what will be the result? Barmedman on either side would be 20 miles distant from the railway; but I have no doubt that even under those circumstances there would be a certain amount of agriculture. Nearly 100,000 acres not far from Barmedman are to be thrown open early next month.

3376. I gather from your statement that a line from Temora to Wyalong would have a much greater proportion of land which could be cultivated along it than would a line from Grenfell to Wyalong? Yes.

3377. On account of there being a wide stretch of country, which is purely pastoral, and which you call the Bland country? Yes; Mr. French, in the middle of the Bland, tried year after year to cultivate it. He changed his paddocks, and went to great expense, when it was a hard matter to get anything to grow. The ground was too stiff.

3378. *Mr. Trickett.*] What has been the effect, from an agricultural standpoint, of the extension of the railway from Cootamundra to Temora? Agriculture has very largely increased. Without exception, every selector is cultivating more or less, many of them large areas from 200 to 500 acres. It is the only use to which they can put their land.

3379. Are those places visible along the main road? To a great extent they are not.

3380. Mr. Harper, of the Railway Traffic Department, was asked the following questions on the 9th instant:—

Do you still think that the answer given by you in 1895 on that subject will hold good. The following is an extract from the evidence on that occasion:

“Can you tell the Committee the character of the settlement between Temora and Wyalong? There is absolutely none, except mining. There are about half a dozen selectors on the road.”

What have you to say with regard to that? Yes; it is, practically the same now. I fully expected that the mining development at Wyalong would have led to more farming development in that part of the country.”

Do you still say there are only half a dozen selectors on the road? I do not say that; there might be twice as many, but I expected there would be a great many more by this time.

I want to know whether in the last visit you noticed any alteration since that statement was made, four years ago? It is almost imperceptible.

? He is perfectly correct. To explain that, I may say that a great deal of the road—in fact, all the Government land from Temora to Barmedman—was placed under railway reserve in anticipation of the railway coming here. Those reserves are gradually being cancelled. It is proposed, in driving you back to Temora, to make a little deviation to take you by way of Duck Creek, where there is a little German colony. As it happens, along the road between Barmedman and Temora, there are only three or four areas under cultivation, but on either side—especially on the east side—every farmer has a certain amount of cultivation, from 200 to 500 acres; and when you get within 5 miles of Temora they run into 2,000 acres. Mr. Harper is perfectly correct in saying that very little cultivation is to be seen from the road.

3381. What do you think is the average return of wheat in this district? Fifteen bushels. The highest return in this district has been 30 bushels, and the lowest nil.

3382. Mr. Hall, from the Statistician's Office, presented a return on the tenth of this month for four years, showing an average of 3.37 bushels to the acre? I would not be surprised at that, because we have had four bad years.

3383. You have stated that a lot of hay comes from Victoria and goes to Wyalong? Yes; it is entirely from Albury.

3384. Is the explanation the same: that they have been unable to grow crops at Wyalong during the last few years? The area there was exceedingly small, and last year the supply was very soon exhausted. In fact, the supply of New South Wales was exhausted. There is no chaff in New South Wales now.

3385. Is that owing to the drought? Yes.

3386. When you were examined previously, I think you had 100 acres under crop;—have you increased that? Yes; I had 200 acres last year, and have 300 acres this year, or a little more.

3387. Do you look upon it as a more remunerative method of using the land than grazing? Certainly.

3388. Have you thought out the question as to where the produce of the country is to go? We have not overtaken our own demand yet. Whenever there is a good season in one country, there is a bad one in another. The price of wheat is so low that it is absolutely necessary to work in the most economical way to make it pay. I believe it costs 2s. a bushel to grow wheat.

3389. Which do you say is the better land—that between Grenfell and the Bland country, or that between Temora and Wyalong? I do not think there is a particle of difference—that is, of course, striking out the Bland frontage.

3390. Mr. Harper, the Railway Traffic Manager, was asked that question, and he said, “I do not think the country between here and Temora is nearly as good as the country between Grenfell and the Bland country”;—you do not agree with that? I do not; one is as good as the other. There may be a little better rainfall about Grenfell, but the land is no better on the Wyalong side of Grenfell. 3391.

- E. D. Donkin. 3391. Have you considered the question as to which would be the better route, having in view an extension to Hillston? I think it would be madness to take the line the other way.
- 25 Aug., 1899. 3392. For what reason? Because of the saving of stock.
3393. Where would you bring them to by way of Barmedman? If they are trucked from Hillston to Wyalong they will go, without shunting, straight to the hills—to Tumut.
3394. We have heard a certain amount of evidence to the effect that the shifting of stock to the Tumut mountains was attended with danger, inasmuch as they came back suffering from foot-rot, fluke, and so on? I have sent stock to the mountains myself, but still it is the lesser of the two evils.
3395. Mr. Harper gave evidence to the effect that 15,000,000 sheep were lost owing to the drought during the recent bad seasons, and that the country available for these starving stock was not capable of carrying more than 1,000,000;—if that is the case, all the argument in favour of light lines for the removal of starving stock falls to the ground? To a certain extent, Mr. Harper is quite right as regards this year. The Riverina has been starved out, and it alone would absorb all the hills; but it is the first time Riverina has ever had such a starving out. It comes to this—you may have 20,000 sheep on your ground, and you may see that the water will only last them a month. You must at all events make an effort to save your best stock.
3396. I suppose you look upon the last two or three years as exceptional, and that you cannot argue from such a period? I would not like to say that. It is a dry country. I had just as great losses in the eighties, but I have had no losses during the last two or three years. I have learnt by bitter experience that you must not overstock. That is the solution of the difficulty to a great extent.
3397. I suppose also that with railway accommodation you could bring food to your starving flock to a great extent? There is nothing like a railway. It is the most civilising thing we can possibly have. We feel safe if we have a railway.
3398. Supposing you were living somewhere in the neighbourhood of the Grenfell to Wyalong route, would you give it as your unbiassed opinion that the Temora route was still the best to follow? There is not the shadow of a doubt about it in my mind. It would be sheer madness to spend £50,000 more over a line which could not possibly serve the people so well as a line from Wyalong to Temora. The connection with the Southern line seems to me to have enormous advantages. There is also the question of the shorter distance of construction and the cheapness of the line to consider. When a former Committee were here, I suggested that if the line were constructed by way of Temora, the road should be resumed, as it will be no earthly use. The Government have spent nearly £20,000 upon the road, and we are not a whit the better for it. It is a 3-chain road, and the moment the line is built, there will not be a dray along it once a week. We have the sleepers close at hand and ballast all the way.
3399. The experiences of the Cootamundra to Temora extension so far have not been very satisfactory? No; I was surprised when Mr. Young was here to hear him make the same remark. Of course no short line of railway can possibly pay.
3400. Do you think the extension of the Cootamundra to Temora line is the only way of making it pay, and that it will not be the means of increasing the loss upon it? I do not think it would increase the loss upon it? Of course it would pay indirectly in many ways. If it increases the prosperity of the people, it pays to a certain extent. It is better than building a road. I maintain that a railway road is cheaper than an ordinary road. There is also this difference: a railway is an asset, and an ordinary road is a liability for all time.
3401. Do you look upon the extension to Wyalong as a railway which would stop there, or should it go further west? It should go further west to Hillston. It appears to me madness to encourage people to go on the land and not give them railway communication. It is a hopeless struggle without it.
3402. What place do you aim at on the seaboard from this part of the country? Sydney.
3403. Is there likely to be a better market for agricultural produce in Sydney than in Melbourne? Nothing will be sent to Melbourne for sale, except wool.
3404. *Mr. Watson.*] Would it not be an advantage to you here, and also to those further out, to have the opportunity of reaching a second market? Undoubtedly it would be an advantage to have an alternative market.
3405. Do you think it would be an advantage to those who would settle on the land west of Wyalong to be able to reach, at a minimum of expense, Sydney or Melbourne alternately? I think so. I think the Government is bound to give them the choice of the two.
3406. Although you anticipate that Sydney will be the main market, you still think an additional market is a factor which ought to be considered? Yes, especially in view of Federation.
3407. If you yourself were going to connect Wyalong with the railway system, would you think it was a wise thing to spend £50,000 additional in taking a line across the Bland to reach the same objective point, which you could reach at a less cost? It would be a most unbusiness like proceeding.
3408. A certain amount of traffic which now comes *via* Temora, and helps to make up the deficiency on the Temora line would be subtracted if a line were constructed from Wyalong to Grenfell? No doubt a certain proportion of it would go through here under any circumstances.
3409. The estimated cost of construction of the Wyalong to Grenfell line is £2,411 per mile. The estimated cost of constructing a line from Wyalong to Temora is £2,300 per mile;—do you think it would be possible to reduce that estimate? I cannot see how that amount would be spent on the Temora line. It seems to me to be an outrageous estimate. I know that when the contractor finished the line from Cootamundra to Temora he offered to extend it to Wyalong for £500 a mile. That was some years ago.
3410. That would have been essentially a lighter line than what is ordinarily constructed? It would have been a counterpart of the line from Cootamundra to Temora. I do not, of course, include the sleepers and the ballast—only the formation. I believe it could be done for very much less now.
3411. I believe that between Wyalong and Barmedman there is not much cultivation? No. There is a little for about 3 miles out; but that land is not open. It is still under lease.
3412. Do you think a man would be attracted towards that land with a railway terminus at Temora? No; except in regard to the local demand at Wyalong.
3413. Mr. Harper stated in his evidence that he did not think there was room for more than 1,000,000 extra sheep in the summer time on the mountains, because of the fact that, so far as he knew, the people of Riverina had only sent that number;—assuming that he refers to the number that went by rail, do you think it probable that they sent any by road? Yes; I understand that the bulk of the sheep went by road.



3414. Then the number that went by road would not be any guide as to the capacity of the mountains to feed starving stock or stock which wanted summer grass? I do not think so. I understand that large quantities went in different ways to the mountains from all directions. E. D. Donkin.  
25 Aug., 1899.

3415. Then if we were to test the capacity of the mountains by the number of sheep that is carried by rail we should under-estimate? I think so.

3416. Did you know the Temora country for some time before the line from Cootamundra was constructed? Yes.

3417. Do you think it looked any better before the line was constructed than does the country between Temora and Wyalong? No; except when you get close to Cootamundra. It is undulating there; but the ordinary country is precisely the same. There is country within a few miles of Temora exactly the same as that from Barmedman to Wyalong.

3418. We may assume, perhaps, that as that railway has led to the development of extensive wheat-growing about Temora, similar developments will occur between Temora and Wyalong if a line is constructed? Yes; all the settlement leases which have been taken up about here during the last two or three years are cultivating, although in many instances roughly.

3419. Knowing the whole of the country from Cootamundra to Wyalong, you say that the land between Temora and Wyalong is as good as the land about Temora whilst it was in its virgin state? I think it is precisely similar.

3420. *Chairman.*] Would you advocate running a main trunk line out west, and then constructing branch lines north and south from it, or would you prefer to run lines parallel to each other at an average distance apart—say sufficiently close together to catch the produce of all the agricultural land which could be served? I should be inclined to run cross lines as feeders; but you cannot in this country make a hard-and-fast rule.

3421. *Mr. Trickett.*] You have stated that the contractor for the Cootamundra to Temora line offered to extend the line to Wyalong for £500 a mile? Yes.

3422. Are you aware whether that estimate included carthworks, timber bridges, plate-laying, sleepers, station buildings, and so on? No; it was merely for forming the line.

Denis Byrne, farmer and grazier, and Member of the Land Board, Barmedman, sworn, and examined:—

3423. *Mr. Shepherd.*] How long have you resided in the district? Eight years.

3424. Are you thoroughly acquainted with the country between Temora and Wyalong? Yes. I have had good opportunities of seeing the whole of the district, on account of being an assessor under the Land Tax Act. D. Byrne.  
25 Aug., 1899.

3425. Have you prepared any information for the Committee? Yes; I have a statement showing the agricultural development of this part of the country. It is as follows:—

STATEMENT showing holdings and areas under cultivation around Barmedman, and their distance from that town (extending only 5 miles in a southerly direction).

Name of Landholder.	Area under cultivation or cleared ready for same.	Area of holding.	Distance from Temora.	Distance from Barmedman.	Name of Landholder.	Area under cultivation or cleared ready for same.	Area of holding.	Distance from Temora.	Distance from Barmedman.
	acres.	acres.	miles.	miles.		acres.	acres.	miles.	miles.
1. Howard, Allen .....	150	640	22	2	37. Kerr, Robt. ....	Nil.	2,560	38	16
2. Donkin, E. D. ....	300	11,000	20	4	38. Miller, Alf. ....	.....	1,296	24	12
3. Schubert, P. ....	200	228	21	4	39. Woodward, G. ...	100	1,439	24	14
4. Sam, W. F. ....	Nil.	460	20	2	40. Sellick .....	90	1,093	26	16
5. O'Keeffe, Jeremiah.	44	296	23	2	41. Howard, James ...	500	5,000	20	12
6. Emery, Wm. ....	100	160	23	2	42. Thomas, P. H. ...	220	2,560	32	12
7. Pawsey, Samuel ...	30	160	24	3	43. Rowston, Thos. ...	160	192	32	12
8. Butter, M. ....	70	640	23	1	44. O'Brien, Thos. ...	230	640	30	14
9. Regan, E. ....	10	320	24	1	45. O'Gorman, John...	22	2,560	40	25
10. Willitts, Thomas ...	10	80	25	2	46. Kerr, James .....	300	2,560	40	25
11. Robertson, L. ....	700	21,000	27	4	47. Whyte, J. J. ....	470	2,560	40	27
12. Beasley, J. ....	.....	640	25	2	48. Furner .....	400	2,560	40	27
13. Herriott, W. ....	130	2,056	27	4	49. Goodwin, John ...	200	2,560	45	20
14. Marshall, F. ....	.....	320	24	1	50. Goodwin, Wm. ...	90	1,000	45	20
15. Hutchieson, Wm. ...	30	1,166	30	7	51. McCormack, M. ...	50	2,258	47	18
16. Irvine, Robt. ....	Nil.	2,657	28	5	52. Campbell, Wm. ...	100	2,560	50	22
17. Maloney .....	60	800	26	3	53. Goodwin, M. ....	100	1,000	50	22
18. Cruickshank, D. ...	Nil.	924	24	2	54. Jamieson .....	250	2,560	35	15
19. Carroll .....	130	1,280	28	6	55. O'Donnell, M. ....	.....	2,053	30	9
20. Goldstraw, S. ....	Nil.	2,560	26	4	56. Hawkins, R. ....	95	2,560	34	12
21. Clements, J. P. ....	700	2,560	25	3	57. Giles .....	40	640	34	11
22. Byrne, D. ....	500	2,560	28	7	58. Aust. Joint Stock	40	1,210	20	1
23. Wyalong station	.....	30,000	28	7	Bank.				
No. 3.		(approx.)			59. Howard, James ...	Nil.	320	22	1½
24. Caldwell, Wm. ....	200	3,380	33	12	60. Nagle, David .....	60	320	22	1
25. Cronin, D. ....	75	640	28	7	61. Hanenstein, H. ...	12	320	20	1
26. Quin, Arthur .....	280	2,560	22	12	62. Williams, B. ....	12	298	20	2
27. Hansen, P. J. ....	75	960	22	12	63. Williams, O. C. ...	.....	480	20	2
28. Butler, John .....	60	1,280	22	12	64. McNamara, L. ...	12	2,560	32	10
29. Cassidy, John .....	60	1,625	22	7	65. McNamara, M. ...	40	800	32	9
30. Robbie, Norman ...	50	1,500	20	9	66. McRoberts, F. ....	140	.....	20	9
31. Garnham, H. ....	210	2,598	20	10	67. Herriott, A. ....	Nil.	2,054	29	4
32. Doyle, Alf. ....	400	1,804	20	12	68. Tucker, Thos. ....	60	360	23	2
33. Butler, Michael ...	50	1,338	22	9	69. Kippax, C. ....	Nil.	2,000	20	9
34. Howard, George ...	700	10,000	20	8	70. Greig, M. J. ....	.....	150	26	4
		(approx.)			71. Stanley, J. ....	200	1,100	40	27
35. Rodway, G. J. ....	100	1,296	26	14	Total.....	9,717			
36. Kildary station....	300	.....	.....	.....					

A great many of these people are recent arrivals, and they have taken up settlement leases during the last two or three years.

- D. Byrne. 3426. Have the whole of these people a portion of land under cultivation or in preparation? Yes. On the Kildary holding preparations are being made to put 500 or 600 acres under crop next year.
- 25 Aug., 1899. 3427. How far is the furthest of the properties to which you have referred from Temora? Forty-five miles.
3428. And Temora is the nearest railway station? Yes. Of course, it would not be if the line were extended to Wyalong. The longest distance which would have to be travelled then would be 25 or 27 miles.
3429. Will you describe the character of the country between Temora and Wyalong? I regard it as a very good agricultural and grazing country. Of course, there are small broken ridges which intercept the good country here and there; but on the whole it is a very good class of country for agriculture or grazing.
3430. Is that country included within 20 miles on either side of the surveyed route from Temora to Wyalong? No, not on the eastern side.
3431. Do you know the country between Grenfell and Wyalong? Not the whole of it. I know the land on the west of the Back Creek, and also on the east of the creek to Marsden; but I do not personally know the character of the country from the Bland Creek to Grenfell.
3432. What is the character of the country as far as you know it? It is entirely grazing country. There may be a small plot of agricultural country here and there, but it is purely a pastoral district. About 8 miles on the eastern side of Wyalong is agricultural country, but beyond the Back Creek and across the Bland, the country is, for some distance, purely pastoral.
3433. Are you acquainted with the Bland country? Yes.
3434. Do you consider it unfit for agriculture? Decidedly.
3435. Have you had any experience of country similar to that? No; but on the border I have had small patches of similar country to deal with; but no extent of it.
3436. Did you ever try draining that sort of country? No; of course, in that country there is the natural drainage of gilgais, which does not seem to make much difference.
3437. What effects will the opening of a railway from Temora to Wyalong have on the holdings which you have described? I think it would considerably more than double the area of cultivation within the next three years. Myself and neighbours cleared land in anticipation of a railway coming here. Some of those who had only 100 acres cleared when I first came have now 600 acres cleared.
3438. Do you think it is chiefly in anticipation of a line being opened that so many have gone in for agricultural areas? Yes; I know that, before there were any prospects of getting a line here, there was no cultivation. Before the line was constructed to Temora there was not a 20-acre paddock in the district.
3439. What do you consider a fair paying distance from a railway station for the cultivation of land? Twelve to 15 miles is a reasonable distance, although I expect agriculture could be carried on at a greater distance away. Of course, it would depend to some extent on the nature of the road.
3440. Have you any further information to offer? In my opinion the greater amount of settlement will be promoted by bringing the line from Temora. Most of the land on the Bland has been bought up as freehold years ago, and it consists of large grazing properties.
3441. Has most of the land taken up for agricultural purposes been ringbarked? A great proportion of it has.
3442. Are the holdings you have named in the return you have put in mostly to the west or east of Barmedman? Mostly to the west.
3443. Would any of them come within the influence of a line from Grenfell to Wyalong? No.
3444. *Mr. Watson.*] I believe that a great number of those whose names are included in the return are 40 to 50 miles from Temora? Yes.
3445. If a line were constructed through Barmedman, would they be within a fairly reasonable distance of it? Yes.
3446. If a line were constructed from Grenfell to Wyalong, would they find it possible to reach it at Wyalong any easier than they reached the line at Temora? No; I do not think that six out of the total number would be materially benefited. I have only submitted the names of those who would be benefited by a line from Barmedman to Wyalong.
3447. *Chairman.*] Are those people between Barmedman and Temora? I have only taken them 5 miles from Temora, and then out to the west. There is only one holding in the list which is 9 miles to the east of us. Most of the others which are easterly are 5 miles to the east of us.
3448. How far is Barmedman from Wyalong? About 20 miles.
3449. Do you not think that if a line were constructed from Grenfell to Wyalong, and further out, in a westerly direction afterwards, they would go to it? They would be compelled to go to the nearest railway station, whether it suited them or not.
3450. A line to Temora would suit them better? It would.
3451. You have included in the return places 50 miles from Temora? Yes; they would send to Wyalong, of course.
3452. Are most of the holdings to which you have referred nearer to Temora than to Wyalong? No; most of them are practically half way.
3453. *Mr. Watson.*] Do I understand you to say that the bulk of the people whose names are included in the list are half way from Temora to Wyalong? The bulk of them are.
3454. If a line were constructed from Grenfell to Wyalong, and the present terminus remained at Temora, they would be an equal distance from Temora and Wyalong? They would be in the same position as they are to-day.
3455. How far would the bulk of them have to travel to get to Temora or Wyalong if both points remained as the termini of a railway;—would they be within trafficable distance? The bulk of them would not be within a reasonable distance for wheat growing.
3456. What do you call a reasonable distance? From 12 to 15 miles.
3457. Would the bulk of them be within 20 miles of Wyalong? No; the average distance would be nearer 25 miles.
3458. If a line were extended from Temora to Ariah some would be within 10 to 25 miles? Yes.
3459. *Chairman.*] If a line were constructed from Temora to Gunbar, would not a number of these people take their stuff to it? Yes.

Arthur Herriott, grazier, and Member of the Land Board, Barmedman, sworn, and examined:—

3460. *Mr. Dick.*] Where is your holding? Four and a half miles from Barmedman, in a north-westerly direction.
3461. How far is your holding from Temora? Twenty-six or 27 miles.
3462. Have you cultivated any of it? No; but I intend to do so.
3463. Is the handicap of 26 miles from a railway too great to enable you to cultivate successfully? Yes. I would not think of cultivating unless I was pretty certain of the line coming near me.
3464. Would the construction of the Grenfell to Wyalong railway bring you within a fair distance of railway communication? Yes, within 8 miles. We could take what produce we had to Wyalong. The northern boundary of my holding is 8 miles from Wyalong, and the southern boundary is 10 miles from it.
3465. Can you give any general idea as to the possibilities of agriculture on the route from Temora to Wyalong? I have no doubt that if a line were constructed from Temora to Wyalong, thousands of acres within 10 miles of each side of it would be taken up for agricultural purposes alone.
3466. Do you know the route from Grenfell to Wyalong? No, not very well.
3467. Do you know it as far as the eastern edge of the Bland country? Fairly well.
3468. Which of the two routes has included within its trafficable area the larger amount of plain country? The route from Grenfell to Wyalong.
3469. Has there been a general increase in cultivation between Temora and Barmedman during the last five years? Yes; it is increasing every year, although slowly. It would increase more rapidly if there were a prospect of a railway.
3470. Do you think that the fact of the Temora to Wyalong route having been inquired into has led to an increase in cultivation? Yes. I am at present clearing 300 acres along the road. If I were certain that the line would not come this way I should not continue the work now being done.
3471. How many years' experience have you had in the district? About six years, during which the seasons have been very bad.
3472. What is your average yield of wheat? Twelve to 14 bushels to the acre.
3473. How much land 20 miles west and east of the Temora to Wyalong route would be fit for agriculture? The whole of the land west of the route is fit for agriculture. On the eastern side it is only fit for grazing.
3474. Which route offers you the more advantages? The route from Temora to Wyalong. I think the Government would get a bigger revenue from a Temora to Wyalong line than from a Grenfell to Wyalong line.
3475. Which of the two lines would offer you, as a producer, the greater advantages? A line from Temora to Wyalong.
3476. Upon what facts do you base that statement? It would give me more than two markets. I should have several markets to which I could send my wheat. If a line were constructed from Temora to Wyalong there would be a good market for firewood. There are thousands of acres of dry boree and yarran, which is the best firewood that can be got, and it would pay in times of drought to send this wood to places like Cootamundra, Murrumburrah, Goulburn, and Junee. There is another advantage from a pastoral point of view, and that is that stock could be sent to Kiandra by way of Temora. We should have to pay more to send them by way of Grenfell, and the stock would be too long in the truck.
3477. Presuming that the Government are desirous of encouraging closer settlement on the Temora route, what area would be sufficient to enable a man and his family to make a fair living if the Temora-Wyalong line were constructed? I think the betterment system should be adopted, and that the areas should start at 640 acres and increase according to the distance from the railway. The nearer you are to the railway the smaller should be your area.
3478. Then you think 640 acres close to a line is sufficient for the maintenance of a man and his family? Yes; year in and year out. It is only fair that the Crown should get a capital value of £2 for land close to the line and of £1, say, 10 miles out.
3479. Have you any further information to supply to the Committee? No. I am confident that if a line is constructed from Temora to Wyalong there will be a much larger population within 10 miles of it than there will be along a line from Grenfell to Wyalong, and the revenue will be larger. My experience tells me that an agricultural line pays better than a pastoral line.

A. Herriott,  
25 Aug., 1899.

Arthur Quinn, farmer; Barmedman, sworn, and examined:—

3480. *Chairman.*] What is the extent of your holding? 2,560 acres, 12 miles west of Barmedman.
3481. How far are you from Temora? Twenty to 30 miles.
3482. Have you any information to furnish to the Committee? I would cultivate four times as much as I am cultivating now if a line from Temora were constructed. I have 200 acres under crop and 400 acres cleared. I have last year's wheat waiting, but it costs too much at existing prices to carry it by road.
3483. I believe you came from the Corowa district? Yes.
3484. Have they gone in for wheat-growing in that district? Yes.
3485. How does this district compare with that as a wheat-growing country? During the last two years the crops were poor, but this year my son's crop is quite as good as any I have ever seen at Corowa.
3486. Is the rainfall of that district better than the rainfall of this district? It has been lately. I think there will be three times the cultivation carried on here if a railway is constructed.

A. Quinn,  
25 Aug., 1899.

Alfred Doyle, farmer, near Barmedman, sworn, and examined:—

3487. *Mr. Trickett.*] How many acres have you under cultivation? 400 acres, 300 of which are under crop.
3488. What is your experience of this district? I have only been here for two years from Hillston, but I think it is a splendid wheat-growing country.
3489. How does this country compare with Hillston? The Hillston country is equally as good as this. Most of the farmers of that district have to carry their produce a distance of 80 miles.
3490. If your holding is 8 miles south of Barmedman, you are within 14 miles of Temora? I am 20 miles from there. I am not on the direct route.

A. Doyle,  
25 Aug., 1899.

- A. Doyle. 3491. Do you think that is too far to convey your produce? Yes, to make wheat-growing pay we should not have to carry more than 15 miles.  
 25 Aug., 1899. 3492. Did you take up your land as virgin country? Yes, I have had to clear it.  
 3493. What does it cost per acre to clear it? It depends on how you clear it. I have yankee grubbed it, and have cut down 60 acres for about 7s. an acre. It had been rung when I went there; but had grown up again.  
 3494. What depth would you plough that land? An average of 4 inches.  
 3495. Do you think that the country from Wyalong towards Hillston is fit for agriculture? The country all the way from Wyalong to Hillston on the western side of the surveyed route, and on the south-east side, is more fit for wheat-growing than for grazing. It is splendid soil—as good as any you could wish to see. It is, however, given up to the wild dogs and rabbits, owing to the unsettled nature of the tenure.  
 3496. In advocating the construction of a railway to Wyalong, do you think that it should go beyond that point? Yes; it should go as far as Hillston.

George John Howard, farmer, Barmedman, sworn, and examined:—

- G. J. Howard. 3497. *Chairman.*] Where is your holding? Eight or 10 miles south-west from Barmedman.  
 25 Aug., 1899. 3498. *Mr. Watson.*] How far are you from the Temora railway? About 20 miles.  
 3499. What is the extent of your holding? 11,000 acres. I have 700 acres under crop.  
 3500. What distance do you think you should be from a railway in order to make farming pay? About 10 miles.  
 3501. Do you know the country across the Bland? No; only from Temora to Grenfell, through Morangarell.  
 3502. Have you any information to supply in addition to what has already been given? No. I am in favour of the Temora to Wyalong route. I endorse the evidence of the other witnesses in regard to that route. I think it would be a distinct advantage for us to have the choice of two markets.

Phillip Harry Thomas, farmer, Barmedman, sworn, and examined:—

- P. H. Thomas. 3503. *Chairman.*] What is the extent of your holding? 2,560 acres, 13 miles west from Barmedman.  
 25 Aug., 1899. 3504. Do you corroborate the evidence which has been already given? Yes.  
 3505. Have you anything to add to what has been stated? Only that I have to pay 1s. 5d. to 1s. 6d. a bag to draw the wheat from my place to Temora.  
 3506. How much does that leave you? About 2s. per bushel.  
 3507. *Mr. Watson.*] How far would you be from Wyalong if a line were constructed from Grenfell to that place? Twenty-five miles. It would ease me a little, but still it is a terrible draw for wheat.  
 3508. Whether a line is constructed from Grenfell to Wyalong, or from Temora to Wyalong, you will still be a fair distance away? Not from Barmedman—I should only be 13 miles from Barmedman. When the leases on Kildary and Mandamah are thrown open there will be larger settlement.  
 3509. *Mr. Dick.*] How much of your holding do you cultivate? 220 acres. If a railway were constructed from Temora I should considerably increase that area.

Jesse Boxall, farmer, Barmedman, sworn, and examined:—

- J. Boxall. 3510. *Mr. Shepherd.*] How far are you residing from Barmedman? Three miles.  
 25 Aug., 1899. 3511. Are you acquainted with the Bland country? Yes.  
 3512. Have you ever attempted to cultivate it? Yes, with very poor results; it is strictly a pastoral country. I was cultivating it for about fourteen years.  
 3513. Did it take you fourteen years to find out that it would not pay? I did not grow wheat upon it, only hay for home consumption.  
 3514. Did you ever try to drain it? No; there was natural drainage where I had my cultivation paddock.  
 3515. Did you try any other crops but hay? Only the garden crops.  
 3516. Did you persevere for fourteen years? Yes, off and on. The market was too far away to cultivate to pay. Of course I depended on the grass and the boree country for stock.  
 3517. Have you any further information? I know the Bland country where the proposed railway would cross it.  
 3518. Which of the two routes under consideration do you prefer? The Temora to Wyalong route. It is a better agricultural route. I have seen the Bland one sheet of water from creek to creek. There are 12 miles of water there in flood-time.  
 3519. How long does the water remain there? About a week after the rain ceases.  
 3520. *Chairman.*] With what results did you cultivate hay? At times I got fair crops—about 8 cwt. or 10 cwt. to the acre. Being 50 miles from the market, I never attempted to grow wheat.  
 3521. *Mr. Trickett.*] Is your objection to the Bland country on account of its distance from a market? No; I do not think it is suitable for agriculture.  
 3522. Does it not produce good crops? Medium crops, at times, but at other times the hot winds sweep them off.  
 3523. Would not the hot winds affect other country in the same way? They do, close to the edge of the plains.  
 3524. But not the sheltered land? No.  
 3525. Is the Bland country to be compared with the loamy soil which we see on the rising ground? No, it is not.  
 3526. Had you good hay crops in fair seasons? They were poor crops.  
 3527. Given fair seasons and red soil, would you have got better results? Yes.  
 3528. *Chairman.*] Have you ever grown hay where you are now? No. I have only been there for two years.  
 3529. What tonnage has been obtained here per acre? I have seen 1 and 2 tons of hay to the acre.  
 3530. What was the most you got on the Bland? Never more than 12 cwt. That was my best crop.

3531. Do you consider that a good proof that the Bland country is not suitable for agriculture? It is not suitable for it. J. Boxall.
3532. *Mr. Watson.*] I suppose you only picked out a small area on the Bland, and grew hay upon it for home consumption? Yes; I picked out the 15 acres of the rising ground. 25 Aug., 1899.
3533. Was that the pick of what you could get? Yes.

Thomas William Tucker, butcher, Barmedman, sworn, and examined:—

3534. *Chairman.*] Have you any evidence to furnish with regard to stock matters? For the last four years we have had to bring stock from Tumut and Gundagai. It was railed to Temora. T. W. Tucker.
3535. How is it that you prefer to go to those places? You cannot get what you require elsewhere on account of the drought. 25 Aug., 1899.
3536. What you have stated is evidence of the fact that there is better country to draw your fat stock from about Gundagai than there is west or north? Yes; in times of drought. We are running three shops, and it takes something to keep them going. We have one each in Temora, Barmedman, and Wyalong.
3537. If a railway is constructed from Temora, how will it help you? We truck from Gundagai to Temora, and if a line is constructed from Temora to Wyalong the stock will be dropped at our door.
3538. What amount of cattle do you require for the three shops? Not less than eighty a month, and about 400 sheep a month.
3539. *Mr. Shepherd.*] Have you to bring sheep as well as large stock a great distance? Yes.
3540. That does not say much for the district? We have some of the best fattening country about here, but the continuous drought has necessitated us going away for sheep and cattle.
3541. *Mr. Watson.*] Mr. Donkin, of Lake Cowal, has stated that he could take a contract to supply Wyalong with all the beef it requires? I think he was overstating. Last spring, and the spring before, I bought all Mr. Donkin's fat cattle. When he gets over the spring he has nothing for the butcher in the way of cattle.
3542. It is only during the best spring months that he would have fat cattle? That is all. Whilst there is stock on the Bland I can get it from there; but after the spring I have to go elsewhere.
3543. *Mr. Trickett.*] We have been told that one of the great reasons in favour of the construction of a railway in this district is to enable the surplus stock to be taken away? No doubt in times of drought people want to get starving stock away.
3544. Under those circumstances it would be only occasionally that you would require the railway to bring fat stock to Barmedman? It is coming every week to supply Barmedman and Wyalong.
3545. Is this a fattening district? It is in the spring.
3546. Prior to the last four years, had you sufficient stock here to supply the district? Yes; when Wyalong was first discovered stock was obtained from the Bland. Now we have to go to Gundagai for it.

Harry Morphy, station manager, Young Land District, sworn, and examined:—

3547. *Chairman.*] Are you a landholder? No; I manage the East Bland station.
3548. Are you able to give the Committee some idea of the number of stock in the district? Yes. H. Morphy.
3549. Where is the East Bland station? Twelve miles north of Morangarell and 18 miles south of Marsden. The Bimbi route is within 3 miles of the homestead. 25 Aug., 1899.
3550. In what direction does East Bland lie from Caragabal? A little south of west.
3551. Then you are in what is called the Bland country? Yes.
3552. If a railway were constructed would it be used for the conveyance of stock? Yes. From the Bland station, in an average season, we send between 14,000 and 16,000 stock away. I have also sent away between 600 and 800 bales of wool.
3553. Is the Bland first-class fattening country? Yes.
3554. Is it good for agriculture? Portions of it are.
3555. About what proportion? On the Bland run nearly two-thirds—that is, if it is improved.
3556. *Mr. Shepherd.*] Is that the plain country? No; I should not consider all the big plain itself good for agriculture.
3557. *Chairman.*] There is a belt of country known as the Bland plain country,—where does it commence? About 10 miles on the Bland side of Bimbi. It comes east of Barmedman from the creek about 9 or 10 miles.
3558. Does it go any further south of Barmedman? No.
3559. What is the width of it, going east from that point? About 8 or 9 miles or more; it is broken.
3560. Is it 20 miles across? I should say so, and it goes right beyond Marsden.
3561. What is the length of that? About 30 miles. There is some good country here and there.
3562. Can you give us some information with regard to the floods on the Bland? The creek overflows its banks. I have seen the Bland and Back Creeks about 7 miles wide, at a depth of 6 inches. The house on Bland station is on the bank of the creek, and it is raised 18 inches on piles. The water has never got into the house or near it.
3563. Is there much washaway after a flood,—is there much current? No; it is pretty level country, and there is no great rush of water.
3564. Supposing there were an embankment with sufficient openings, would there be any danger of it washing away? I should not think so.
3565. When you make dams in that part of the country, I believe you throw up the soil and form embankments? Yes.
3566. Has any of that washed away during floods? No.
3567. Then, if an embankment of that character would hold, I suppose a railway embankment would hold? I should think so.
3568. If a railway had been constructed, would you have been able to save any stock? Yes; we could have got fodder for them. With the heavy droughts we have been experiencing it has been almost impossible to get teams to bring fodder from the nearest railway station.
3569. Would you have availed yourself of a railway for the removal of starving stock to other districts? Yes. As it was, I could never get my sheep away, because there was no water on the roads.

- H. Morphy. 3570. Then, although the Bland country is not so suitable for agriculture, it would still contribute towards the revenue of a railway in bad seasons by stock being removed, or feed being brought to them, and in good seasons by fat stock being sent away? Yes.
- 25 Aug., 1899. 3571. Do you know the whole of the country from Grenfell to Wyalong? I do, *via* Bimbi. I have never been round the northern end of the Weddin, but I have an idea what the country is like.
3572. With the exception of the Bland country, how would you describe it? I should think it is nearly all good agricultural land.
3573. Is it similar to the country between Temora and Wyalong? I should think it is better. I cannot say, however, that I have seen much of the Wyalong to Temora country. I do not think it would cost as much to clear it.
3574. Do you mean it would cost more to clear the Temora to Wyalong country? Yes.
3575. Have you any further information to offer? I have seen very good crops growing in the Bland district. I have obtained as much as 2 tons of wheaten hay per acre off a small lot.
3576. Was it off the black soil? No; off what we call the banks or rising ground. All the rising ground is very good indeed for wheat.
3577. Where does the rising ground occur? In patches and strips throughout the country. All the box forest is adapted to the growing of wheat or oats.
3578. What percentage of rising ground would there be along that belt of country, where the black soil commences and ends, near Barmedman? About one-third. A selector out there once told me that he thought the black ground would be the best in a dry season, as it holds the moisture longer.
3579. *Mr. Watson.*] What distance is your homestead from Barmedman? About 17 miles.
3580. What distance is it from the Bimbi survey? About 3 miles.
3581. How far are you from Cameron's Crossing? About 7 miles.
3582. If a line were constructed from Grenfell to Wyalong *via* the northern route, you would be 7 or 8 miles from it? Yes.
3583. And if the line were brought from Temora to Wyalong, *via* Barmedman, you would be within 17 miles of it? Yes, in a direct line; but if I were to travel stock to Barmedman, I should have to cover 20 miles.
3584. You would not consider yourself as being outside the influence of a railway for pastoral purposes at a distance of 20 miles? No; of courses there is the Bland Creek to cross.
3585. But the creek is not regularly in flood? No.
3586. How long is it since there was a flood there? We have had no heavy flood there since 1894.
3587. How long have you been there? Six and a half years.
3588. When was it that you obtained two tons of hay to the acre? In 1893.
3589. Was that a good season? Yes. It was only off a small lot for homestead use. In a good season you could, if the land were attended to, always get that return. I have been told that there has been an infinitely better crop there.
3590. You have stated that a selector told you on one occasion that the black soil was the best? Yes, during a drought. There was a little patch on my cultivation paddock which just dips into the black country, a chain long by half a chain wide. The year before last wheat was growing on that, when on other places it had dried up. I mentioned this to the selector referred to, and he said he had known it to occur before.
3591. If a railway came within 20 miles of your homestead, would it not reasonably serve your requirements? A great deal would depend on the teams. During a bad drought the teams are not to be found in this district at all. During the last two or three years I could just as easily obtain my supplies from Temora as from Barmedman.
3592. How far are you from Temora? Forty miles.
3593. I suppose that on account of the drought there was a great demand for teams? There were none in the district. They could not travel unless they were fed.
3594. You, as a pastoralist, would not be as badly off as an agriculturist 20 miles from a railway? No.
3595. Do you know that the freight for wool on the railway is the same from Koorawatha to Sydney as it is from Temora to Sydney? I was not aware of it.
3596. Where have you generally sent your wool? To Young.
3597. *Mr. Trickett.*] Do you think there would be any probability of Messrs. Chisholm going in for agriculture on the Bland holding if they had better means of communication? One member of the firm has spoken to me about putting in lucerne to a large extent, and he asked me if I could plough a lot of ground for that purpose.
3598. What about wheat crops? I should put in wheat if I had the means of getting it away.
3599. On the route from Grenfell to Wyalong, you pass through a block in the Bland country;—do you know what is the length of it? I should think there are 16 or 17 miles of it.
3600. You mean by that that there is a continuous stretch of 16 or 17 miles of the Bland country along the route of the proposed railway from Grenfell to Wyalong, two-thirds of which are entirely unfit for agriculture? Hardly. I thought you were talking about the whole of the absolutely plain country.
3601. What is the length of the plain country along the route of the proposed railway? About 12 miles.
3602. And out of that 12 miles of country, about one-half is unfit for agriculture? Yes.
3603. That leaves 5 miles of plain country which differs from the rest? Yes; that country is higher than the other country, and is fit for agriculture.
3604. *Mr. Watson.*] You have stated that the Bimbi route comes through 12 miles of absolutely plain country? Yes.
3605. How far is it from the point at which you get upon the plain country to Williams' Crossing? About 5 miles, or a little more.
3606. *Mr. Shepherd.*] Does the Bland Creek overflow its banks sufficiently to kill the trefoil? No.
3607. I suppose the floods really do good? Yes; they leave a deposit.

SATURDAY, 26 AUGUST, 1899.

[The Committee met at the "Reefton Hotel," Reefton, at 11 a.m.]

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. WILLIAM JOSEPH TRICKETT.WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

George Williams, farmer, Duck Creek, near Reefton, sworn, and examined:—

3608. *Chairman.*] What is the size of your holding? 1,130 acres.

3609. How long have you been in the district? Eight years.

3610. Have you prepared any statistics for the Committee? Yes, as follows:—

G. Williams.

26 Aug., 1899.

Selector's Name.	Holding.	Under Crop, 1898.	Under Crop, 1899.	Number of Sheep.	Cattle.	Horses.	Distance from Reefton.
	acres.	acres.	acres.				
A. C. Waldron .....	1,103½	70	100	100	5	5	2 miles east.
Quinn Bros. ....	1,860	340	340	500	12	12	8 "
A. Baxter .....	800	100	150	150	2	4	7½ "
Quinn and Cassidy .....	800	130	180	.....	6	6	8 "
Wm. White .....	2,320	150	200	650	2	5	2 "
George Harris .....	3,867	155	200	690	2	5	3 "
D. Nixon .....	4,315	270	340	1,000	33	11	½ "
D. O'Keefe .....	5,120	.....	1,000	.....	.....	.....	8½ "
Schubert Bros. ....	228	65	100	.....	.....	.....	4 miles north.
J. Schuster .....	1,120	80	120	100	25	6	1 mile east.
P. Schubert .....	604	175	200	30	4	13	6 miles east.
A. Krause, jun. ....	302	160	220	.....	5	7	6 "
A. Krause, sen. ....	640	240	320	200	5	7	6 "
A. Semler .....	1,760	150	350	200	3	4	7 "
S. Semler .....	640	300	350	80	8	9	8 "
E. Schiels .....	320	160	200	.....	.....	9	7 "
E. Semler .....	640	180	210	.....	9	5	8 "
J. McNamara .....	640	140	140	200	15	4	8 "
George Williams .....	1,134	160	260	550	2	6	9 "
W. Field .....	604	140	220	20	2	9	6 "
C. Krause .....	960	100	170	.....	.....	4	9 "
C. Manglesdorf .....	1,300	250	300	500	.....	10	10 "
W. Ely .....	1,188	20	130	250	.....	3	3 miles north.
W. Schubert .....	900	.....	60	150	.....	5	3 "
B. Stuart .....	1,056	.....	.....	300	.....	.....	2 miles east.
W. Derrick .....	640	.....	250	.....	.....	7	2 "
W. Hanson .....	1,000	310	500	400	9	11	5 "
A. Deutscher .....	320	148	230	.....	6	6	4 "
Tiedeman Bros. ....	863	70	85	150	.....	5	4 "
C. A. Naylor .....	1,194	250	550	50	4	10	5 "
C. Soyle .....	720	80	100	250	.....	3	6 "
G. Man Sing .....	1,200	15	150	.....	.....	5	6 "
Blair and Syme .....	5,440	280	367	.....	.....	7	6 "
R. Williams .....	250	.....	20	900	.....	3	5 "
A.J.S. Bank .....	640	150	200	.....	3	9	6 "
C. Edmunds .....	80	50	60	.....	3	9	6 "
R. Rusehen .....	320	70	120	50	4	6	6 "
W. Stecher .....	2,540	180	250	500	6	9	6 "
W. Day .....	120	.....	100	.....	.....	2	6 "
J. Stewart .....	4,666	220	320	.....	.....	.....	2 "
J. Stewart, jun. ....	2,533	.....	.....	.....	.....	.....	3 "
N. Stewart .....	1,434	.....	30	3,760	12	22	4 "
Jas. Stewart .....	1,091	.....	.....	.....	.....	.....	2 "
J. Brown .....	881	.....	.....	.....	.....	.....	1 "
T. Pregam .....	200	.....	.....	.....	.....	.....	2 "
J. Stubbs .....	140*	.....	.....	.....	.....	.....	2 "
W. Little .....	1,280*	.....	40	.....	.....	.....	5 "
C. Gelling .....	1,280*	.....	.....	.....	.....	.....	6 "
W. Lysle .....	1,000*	150	240	400	.....	6	1 "
W. East .....	1,000*	70	130	.....	.....	.....	.....
A. Spulty .....	320*	.....	40	.....	.....	4	6 miles east
	65,373½	5,578	9,642	12,130	187	273	

\* Vegetable and fruit garden.

3611. Can you describe the boundaries of the holdings which you have read? They vary in distance from 1 mile to 9 miles from the "Reefton Hotel" as a centre.

3612. I believe that during the last two years the crops have been a partial failure, owing to the drought? Yes; last year in particular. The previous years could not be called a total failure, although the yield was below the average.

3613. What was the average yield to the district the year before last? About 10 bushels of wheat to the acre.

3614. What is the average in a good season? In the area I have indicated it is from 18 to 20 bushels.

3615. What did you do with your wheat? It is chiefly sold to agents in Temora for Sydney and other markets.

3616. How far is Reefton from Temora? The holdings I have enumerated are from 12 to 18 and 20 miles from Temora.

3617.

- G. Williams. 3617. Is that the maximum distance it would pay a farmer to carry wheat? Eighteen miles is a fair distance. Anything over that is too far.
- 26 Aug., 1899. 3618. Then the construction of a line from Grenfell to Wyalong would not be of any use to you? As a matter of fact it would have a very bad effect on the farming industry between Reefton and Wyalong, and in the immediate neighbourhood of Reefton.
3619. Why? On account of the distance it would permanently place producers here from a railway station. As closer settlement increases, the people who live 18 to 20 miles from a railway station are compelled to grow their produce and sell it in the same market as those who have the advantage of being within easy distance of railway communication. With the large increase in agriculture which is going on, wheat, as well as anything else, will necessarily fall to a low price, which will actually shut those people out from competition with those who have the advantage of being close to a railway. Nearly the whole of the land between Temora and Wyalong, if there were railway communication, would be opened up as farms; it is now lying waste. If it is debarred from railway communication, the people cannot possibly start farming operations. I notice that Mr. Donkin, of Lake Cowal, stated that the country about Lake Cowal, in ordinary seasons, and under ordinary circumstances, was equal to any country in Riverina. He also stated that if he had handy railway communication, he would in a short time have 1,000 cows milking for the purpose of dairying. I would like to impress upon the Committee the idea that this statement is very erroneous. Any person with a knowledge of that part of the country must know very well that it would be a mad thing for a man to go in for that number of cows to start a large dairying industry. There are times of the year when the land is very prolific, and when it will fatten stock, but they are only for a limited period. Again, in order that a man might milk 1,000 cows, it would be necessary for him to have at least 3,000 cows on his holding. I have it on good authority that in order to feed one cow in this country you require, under ordinary circumstances, 10 acres of land. If Mr. Donkin is going to feed 3,000 cows in order to milk 1,000, how, if he cannot make a living with grazing sheep, is he to make a living by grazing that number of cows. I do not think he has an area sufficiently large to graze that number of cows. It would be only during certain times of the year that they would be able to feed themselves at all, and they would have to be fed artificially. A deputation, representative of the landholders and the pastoral lessees of the Lake Cowal district, waited on the Secretary for Lands a few months ago asking for a further extension of the pastoral leases. Those people had had an extension for five years, and as it had practically expired they asked for a further extension. It was pointed out that under ordinary circumstances it would take the graziers fifteen years to recoup what they had lost during the last five years. It was pointed out that under really good circumstances it took that country all its time to pay the lessees at all. They stated that they had no encouragement to go in for improvements; in fact, the tale they told was something deplorable.
3620. You do not consider that the country to which you have been referring is suitable for dairying? I would not like to try it myself. With reference to the carriage of products on the connection of the existing Temora line with Tumut and Gundagai, I would point out that during the last few years a very large amount of the meat which is being consumed in this district has been brought from those places. Again, we do not grow corn in this district. Nearly the whole of it comes from Tumut and Gundagai. An extension of the line from Temora to Wyalong would necessarily increase the amount of stuff which would be carried on branch lines from Gundagai and Tumut.
3621. What is the average rainfall of the district? About 15·53 inches for the last four years, which have been very dry.
3622. What was the average rainfall during 1897? 18·02 inches.
3623. Is that sufficient for wheat if it falls at the right time? Yes. All the rain we can get at this particular time of the year would not be of much benefit if we had a drought during September and October.

Charles Aubrey Naylor, farmer, Gidginbung, sworn, and examined:—

- C. A. Naylor. 3624. *Chairman.*] Where is Gidginbung? Six miles south from Reefton, towards Temora.
- 26 Aug., 1899. 3625. How near are you to Temora? Ten miles, by road.
3626. Have you been cultivating? Yes; I have 500 acres under cultivation this year.
3627. Are you satisfied with your prospects? Yes.
3628. Do you think wheat-growing will be a paying industry in this district? Yes.
3629. How long have you been cultivating? About thirteen years in this district.
3630. Have you been cropping the same land year after year? Yes.
3631. Has it shown any signs of giving out? No; one paddock of 150 acres has been growing wheat for twelve seasons, and there is a crop in now, and it is looking well.
3632. Then you have no fear as to the prospects of the farming industry in this district? None whatever.
3633. What is the lowest price at which you think wheat can be grown and sold at a railway station 10 miles distant? It depends on the seasons. With average seasons it could be grown for 2s. a bushel. Of course, it could not have been grown at that price during the last two seasons.
3634. Have you heard the evidence of the last witness? Yes; I can corroborate all he has said.
3635. *Mr. Watson.*] Do you know the lands towards Wyalong? Yes.
3636. Is it agricultural land? Yes; pretty well all the way.
3637. If a railway went through that country, what area would a man require in order to make a reasonable living? 500 to 600 acres would support a family well.
3638. Have you been across the Bland country towards Grenfell? Yes.
3639. How does the land from Reefton to Wyalong compare with the land from Grenfell to Wyalong, for wheat-growing? I think this is far superior land to that on the Grenfell route.
3640. *Mr. Trickett.*] Does that remark apply to the whole of the land from Grenfell to Wyalong? No. I except 15 miles near Grenfell. That may be fair wheat-growing land; but after passing that none of it is fit for wheat-growing until you get within a few miles of Wyalong.
3641. Then the country about Bimbi is not good for wheat-growing? No.
3642. Have you been there lately? It is four years since I was there.
3643. Then, you will be surprised to hear that there are some thousands of acres there producing wheat crops at present? Yes.



3644. *Mr. Watson.*] Do you refer to the country between Bimbi and the Bland? I would not be surprised to hear that there is wheat land from Bimbi this way; but I would be surprised to hear of it being north.
3645. Do you think their rainfall in 1897 would be similar to yours? I should think it would.
3646. Therefore, if the statistics show that their return during that year was a little over 3 bushels of wheat to the acre, and that your return was a little over 9 bushels, you think that yours is the better plan? Certainly.
3647. Do you know the country north of the Weddin? Yes; it is very good land.
3648. Would you regard that as the edge of the good land towards the Bland, from Grenfell, coming north of the Weddin? Yes.
3649. *Chairman.*] Is the rain in the district local or general when it falls? It is pretty general.
3650. Do you sometimes get a good rainfall at Reefton when there is none 10 miles away? Excepting when there are thunderstorms in the summer, it is pretty general.
3651. *Mr. Shepherd.*] What does it cost you to grow your crops from the time of ploughing to harvesting? About 16s. an acre.

C. A. Naylor.  
26 Aug., 1899.

Paul Schubert, farmer, Duck Creek, sworn, and examined:—

3652. *Chairman.*] In what direction do you reside? Six miles south-east from Reefton.
3653. What is the extent of your holding? 640 acres. I have about 100 acres under crop. The whole of the land, with the exception of 40 acres, is good for agriculture.
3654. Have you heard the evidence given by former witnesses? Yes. I can corroborate every word of it.
3655. Do you think there can be no going back for agriculture in the district? I do not think there can.
3656. How long have you been in the district? Eight years—sufficiently long to know it.

P. Schubert.  
26 Aug., 1899.

David Nixon, farmer and grazier, Reefton, sworn, and examined:—

3657. *Chairman.*] What is the extent of your holding? 4,315 acres.
3658. How far are you from Temora? Between 16 and 17 miles.
3659. Would it pay you to grow wheat and cart it that distance? Yes; but you would have to put in a large area. I have 240 acres under crop this year. Last year there was an increase in this district of land for agriculture of between 4,000 and 5,000 acres, and it will be greater next year. The timber is getting dry, and the land can be cleared at less cost.
3660. I believe there is a great amount of land towards the north-east which would be taken up if a railway were constructed from Temora to Wyalong? Yes.
3661. How far does that land extend? About 15 miles. It would be taken up and planted with grain if a line from Temora were constructed. If, however, a line is constructed from Grenfell to Wyalong, it will not help that land in the least. It is outside the distance within which it would pay a man to carry to a railway station. Mr. Naylor has referred to stock coming from Tumut. I may mention that I have been doing a little butchering during the last two or three years, and I am able to state that most of the fat stock has been trucked from Tumut and Gundagai. Wyalong is supplied with fat stock from Gundagai. I do not know very much about the Grenfell to Wyalong district, but I have had experience of country similar to the Bland country. It is similar to the country about 25 miles from Deniliquin. I put in a crop there for five years running and only got seed off it. It is good land if you can get the rainfall at the right time.
3662. How many failures in wheat-growing could a farmer stand in five years? I think that if he got a failure one year he would want a good season the next year.
3663. Do you think that the failures on that class of country would be so many that it would not pay to cultivate? Certainly.

D. Nixon.  
26 Aug., 1899.

William Joseph Hanson, farmer, Reefton, sworn, and examined:—

3664. *Chairman.*] Where do you reside? Six miles south-west from Reefton.
3665. What is the extent of your holding? 1,000 acres, of which I cultivate 450 acres.
3666. Are you still getting land ready for cultivation? Yes.
3667. Then you have no fear about the agricultural industry? No; I have increased my cultivated land 200 per cent. every year during the last few years.
3668. Do you corroborate the evidence which has been given to-day? Yes; in the main it is correct, especially with reference to the quality of the land for wheat. I have had experience in South Australia in regard to wheat-growing.
3669. What was the average wheat production there for that part of the country from which you came? From 8 to 12 bushels per acre.
3670. And what has it been here? I have only had two crops here, and they have been next door to failures on account of the seasons. Last year we only had 3 bushels to the acre.
3671. What are the seasons like in South Australia? Where I came from they were more regular than they are here? I came from the south-east country.
3672. How would the prospects in this part of the country compare with the prospects of the district in which you resided in South Australia? I think they are better here. I have great faith in the land, and I think that, with a fair rainfall, we shall have excellent crops. The land is evidently good from a farmer's point of view, and a railway would be a great boon to them.

W. J. Hanson.  
26 Aug., 1899.

James Stewart, farmer and grazier, Reefton, sworn, and examined:—

3673. *Chairman.*] Where is your holding? About 2 miles west from Reefton.
3674. What area is it? 4,560 acres of my own. I and my sons have over 9,000 acres.
3675. Are you cultivating any of it? 300 acres this season.
3676. Have you any intention of getting any more ready for cultivation? I have only been cultivating this last year or two; and if the railway is constructed I intend to continue it.
3677. If the railway were constructed, would you get more out of wheat growing than sheep? Yes.

J. Stewart.  
26 Aug., 1899.

- J. Stewart. 3678. Have you ever estimated the difference in profit between wheat and sheep? Not minutely; but it pays to work the two together.
- 26 Aug., 1899. 3679. Have you heard the evidence which has been given to-day? Yes; I can corroborate it. If a railway passes through Reefton it will be a great boon to it, inasmuch as Wyalong, as well as Sydney, would be a market for it. I have been over a good deal of the Bland country, and I think this district is far superior to it from an agricultural point of view. At certain times of the year the Bland country is a better grazing country than this.

Samuel Lauder, miner, Reefton, sworn, and examined:—

- S. Lauder. 3680. *Mr. Watson.*] Have you resided long at Reefton? Since the opening of the field, five years ago.
- 26 Aug., 1899. 3681. What are the prospects of the field? I think it has very good prospects ahead of it. 12,000 tons of stone have been raised since the field was opened, worth £35,000. The reef has been proved payable to a depth of 350 feet. I am quite satisfied that it will be a permanent field, and that it will carry a large mining population.
3682. What class of stone are you getting at the lower levels? It has altered as we have gone down and has become more mineralised.
3683. Is that an indication of permanency? Yes.
3684. Is there any difference in the contents of the stone when it is found to contain minerals? I do not think so. The battery treatment will not get as much gold out of the lower levels as out of the top levels; but the assays from the lower levels are as good as those from the top. In order to get the gold we should have to send the concentrates away.
3685. Where would you send them? To Dapto.
3686. Is the net result as good from the stone at the lower levels as it is from the stone at the higher levels, of course allowing for extra cost of treatment? Not at present, because the expense is greater. We have a lot of water with which to contend at the lower levels, and we have not the proper appliances for dealing with it.
3687. What have you to pay for sending stuff to Dapto? It costs us 16s. or 17s. a ton from Temora. It costs us 10s. a ton to cart it to Temora.
3688. How much per ton would you save if the material were trucked at Reefton? Six shillings or 7s. That would be an important item.
3689. In connection with a reef which does not yield a very large return, it might mean the difference between paying and not paying? It might.
3690. From a mining point of view, you think a railway would be of benefit to you? Yes.
3691. Do you think the amount of ore of a mineralised character is likely to be expansive? I believe it is. There are not many claims down to a great depth yet; but so far as the claim with which I am connected is concerned, the deeper we go the more mineral is shown in the stone. The size of our formation is 4 feet, and the assays run from 1½ oz. to 3 oz. The reef is about 18 inches wide.
3692. Will an 18-inch reef of good stone pay? Yes.
3693. Is there more than one show in the way of reefs? There are two or three different lines which are carrying gold, and which are being worked. The only thing the field wants is capital.
3694. Have you any doubt about capital coming to the field? No. I am sure we shall get it later on. What has kept the place back is the fact that speculators have not called to look at it, owing to Wyalong being a greater attraction. Not £1 of foreign money has come to the place.

[The Committee met at the "Empire Hotel," Temora, at 4 p.m.]

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.

The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

William Miller, stock and station agent, Cootamundra, sworn, and examined:—

- W. Miller. 3695. *Chairman.*] Do you know anything of the country to be served by the proposed line of railway? I know all the country between Grenfell and Wyalong, and between Temora and Wyalong. With regard to the route between Grenfell and Wyalong, I think all practical men who have had experience in agriculture, grazing, dairying, and land matters, are of opinion that it would be a huge blunder to construct a line along it, for the following reasons:—Practically the pick of the country is all secured in comparatively large estates for grazing purposes, and very few people would be served. Any land settlement which would take place between those two points in the future would be subject to the caprice of the present landholders. Practically the Crown would derive very little advantage from the intersecting of that particular stretch of country by a railway. The land is also, practically speaking, unsuitable for agriculture. It has never been sought after. During my twenty-five years' experience in these districts it has never been the ambition of any man requiring land for a home to go into that particular part. It is good grazing land—splendid fattening country—but the soil is of a blue-clayey nature. It is very heavy in wet seasons, and it is very severe when the opposite extreme occurs.
- 26 Aug., 1899. 3696. Are you speaking of the whole of the land between Grenfell and Wyalong? Yes; I am speaking of it generally from Grenfell to Wyalong. East Bland, West Bland, Caragabal, Trigalong, Wheogo, Sandy Creek, and stations contiguous to the proposed railway are of blue-clay plains, and unsuitable for agriculture. It is practically grazing land. It is held for the main part in large estates, and as far as that particular section is concerned it does not warrant the cost of a railway. It has been contended by the advocates of that route that it intersects that piece of country between the South-west line and the Western line more equitably. That looks very well on paper. On the other hand, the country between Temora and Wyalong is practically settled. All the valuable Crown lands have been taken up by selectors.

selectors. About Barmedman, especially, there is a large population of struggling selectors, who are opening up the country and improving it. There are no large landed estates. A lot of Crown lands will be opened for settlement shortly. That route is not harassed in any way by monopolies of land in large estates. There is a large settlement there which will reap the advantage of a railway. A railway will encourage them to improve the land and go in for larger production. To support my statement, I may mention that the Lands Department made the headquarters of one of their districts right in the centre of it—Barmedman—which is sufficient to show that what I am stating is of moment. The establishment of the headquarters of the Land District in this particular part of the country goes to show that the Lands Department, at least, thought there were a great many people to be served. Speaking from twenty-five years' experience, I am able to state that the Bland watershed is subjected in some seasons to severe floods, which would necessitate lengthy viaducts—3 and 4 miles—to carry off the surplus water. If they are not constructed the result will be that large portions of the line will be washed away. Of course, floods are of rare occurrence; but they must at the same time be provided for. That is an item which does not come into the construction of a line between Temora and Wyalong, where the engineering difficulties are of greater moment. Apart from clearing the timber the line could almost be laid down without any forming whatever. I notice that one witness stated that if a line were constructed from Grenfell to Wyalong he would be prepared to start dairying with 1,000 cows. Any person of long residence in the district must know that it is absolutely absurd to think of carrying on the dairying industry in the Bland district. You might do it for two months in the year, with good seasons.

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3697. Do you know how long he has been there? I dare say he has been there as long as I have been in this district. It is a statement which I challenge.

3698. Would your business pursuits enable you to contradict his experience? Most decidedly. The Lake Cowal district and the Bland district are absolutely unsuited for dairying or agriculture. Every practical man in the southern districts will bear me out.

3699. What is your reason for thinking that those districts are not suitable for dairying? The grasses are of a light nature. The only way to keep a herd of cattle would be by intense cultivation and irrigation. The country is not naturally suitable for supporting dairy cattle. In good seasons it is good fattening country; but as the grass is very tender, it is very sensitive to the summer heat.

3700. Are the grasses milk-producing? They are; but the risk attached to the establishment of the dairying industry in the Bland district is so great that nine out of ten men would not think of incurring it. The climate, soil, and grasses are not suitable.

3701. Years back no one would have thought the Temora district would have been fit for agriculture;—what amount of agriculture was there in the Temora district twenty-five years ago? Any man would know that it would grow wheat if he tried it.

3702. How was it that at that time wheat-growing was not tried? There was no population to open up the country; the gold-fields opened up the country. People followed the gold, and came here and settled on the land as the gold began to give out.

3703. What is your opinion of the Bland district as a sheep-breeding or fattening country? Nothing could be better.

3704. Then, if Mr. Donkin goes in for dairying, you think he will come to grief? In my opinion, that is an absolute certainty. The only justification I can see for the construction of a line from Grenfell to Wyalong is the unimportant one of a more equitable bisecting of the country on paper. It looks well on paper; but every practical man would agree that it would be a great national blunder.

3705. Do you know the country from Koorawatha to Grenfell? I know the country fairly well; I have been to Iandra, but not to the junction with the main line.

3706. Do you think the construction of that line is justified? In giving evidence before a Sectional Committee on a former occasion, I said that I thought Grenfell was entitled to a line. It is a pioneer district. There is a large agricultural settlement about there, and the line is not a long one; but I think that the construction of a line from there westward would be condemned by every man of experience in these districts.

3707. On account of the Bland country? Yes, on account of the unsuitable nature of the Bland country—40 to 50 miles of it—which is held for grazing, and would serve few people.

3708. Do you mean 40 to 50 miles along the route which the railway would follow? I should say about 40 miles; including the broken range country, which is, of course, of no use for settlement.

3709. I think you will find that that statement is rather over-estimated? It may be over-estimated—it may be only 30 miles, but still, that is a big stretch of country.

3710. How long is it since the country between Temora and Wyalong has been sought after for agricultural purposes? There has been a constant stream of people coming here ever since the diggings broke out.

3711. Have they been taking up land for agriculture? There has been a constant stream of people to Barmedman, Wyalong, and Humbug Creek since 1884.

3712. If the people from Koorawatha, out west, had had railway communication to Grenfell, or further on, do you not think that they would have sought after the land for agricultural purposes? Railway communication generally follows land settlement.

3713. You have stated that people have taken up land about Barmedman in small areas for wheat-growing, and that they have not done so between Grenfell and Wyalong;—is not that due to the fact that in this district the people have railway communication within a reasonable distance, whereas in the Grenfell to Wyalong district they have not? I do not think that is the reason. Many of the people at Barmedman and on the Humbug Creek were there even before the Cootamundra to Temora line was built.

3714. Did they grow wheat then? No, except for their own use.

3715. Do you not think that if people had good wheat lands in other parts of the Colony they would grow wheat if they had a railway within a reasonable distance? Decidedly. It is the want of railways which kills all the wheat-growing industry.

3716. The reason you advocate the construction of the Temora line is the fact that people are already settled between Temora and Wyalong? That is one reason.

3717. The land between Temora and Wyalong is much the same as that between Grenfell and Wyalong, apart from the Bland? I should say the wheat land between Temora and Wyalong preponderates. The blue-clay country predominates on the Grenfell to Wyalong route. It is land with subsoil. I should like

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like to draw attention to the design of the railway system. The Federal spirit must be considered. Instead of concentrating the whole of the railways towards Sydney we should aim at obtaining a more perfect system. By making the Temora to Cootamundra line the connecting link of the system which is going to tap this large area of country to the west, we shall equalise more the traffic between Sydney and Melbourne, and give the people connection with both these large cities. It would be equally convenient to the people on the Western and South-western lines. When Federation is accomplished, and the people desire, as they assuredly will, to carry their produce to the markets of Sydney and Melbourne, a connection with the junction at Cootamundra will be far more desirable than a connection with an out-of-the-way place like Koorawatha.

3718. Do you know that there is a loss of £3,000 per annum on the Cootamundra to Temora line? I know that there was a loss.

3719. There is also an estimated loss on a line from Temora to Wyalong of £5,000 per annum, which the people of New South Wales will have to bear;—under those circumstances do you consider we shall display a federal spirit in feeding the lines of Victoria with the traffic to which you have referred, and not those lines which have to be maintained by the people of New South Wales. I certainly think that if Federation means anything, it means that the people of New South Wales should have the privilege of reaching the Melbourne market as well as that of Sydney. With regard to the loss which would be entailed by the construction of a line from Temora to Wyalong, I pointed out on a previous occasion that the carrying of a line through the Humbug Creek valley, right out to the Lachlan, would be virtually through Crown lands. I estimated that there were 20,000,000 acres of arable land locked up in pastoral leases under the Act of 1884, which, when thrown open, would be increased in value 10s. an acre, at least, by the running of a railway through it. If the construction of a railway would increase the value of 20,000,000 acres of land by 2s. 6d. an acre, and the railway only costs £500,000, you could surely afford to build it. The construction of a railway will make this land at least 2s. 6d., and in many instances 10s. an acre more valuable.

3720. Do you think it is fair to those who have pioneered, or gone into the country, to neglect them in order to run a line through Crown lands which nobody has bought;—do you not think that the men who have settled on land ought to have a railway run for their convenience? You cannot deal with everyone in that way. You must study the greatest number.

3721. The greatest number would be where people have purchased? Not necessarily. If one man held all Riverina, he would not be entitled to a railway.

3722. But one man does not hold all Riverina? About ten of them hold the bulk of it.

3723. In constructing a line from Temora to Wyalong, would it not be fairer to construct it, so that it may be convenient to those who have settled upon the land, rather than to construct it where there is Crown lands? Certainly; they are entitled to the first consideration; but those people are desirous of getting upon the land, and it is no good to them without a railway.

3724. How is the land held on the northern side of the line from Cootamundra to Temora? With the exception of one large estate, it is all held in selector's holdings. There is one estate of 64,000 acres immediately you come out of Cootamundra.

3725. Have you anything to say with regard to the removal of fat stock? The Cootamundra to Temora line has been largely availed of for the conveyance of starving stock. If the line had been extended to 40 miles, thousands of sheep would have been saved; thousands died on the way to catch the train at Temora.

3726. *Mr. Trickett.*] Have you been to Grenfell lately? Not for three or four years.

3727. Have you been between Grenfell and Bimbi? Not during the last year or two.

3728. Are you aware that there has been a considerable amount of wheat-growing going on in that direction? Yes.

3729. Supposing it were proposed to construct two lines—one from Grenfell to Wyalong and one from Temora to Wyalong—would you then have opposed the Grenfell line? That is what I am doing now.

3730. Are you opposing it in the interests of Cootamundra and Temora or on national grounds? On national grounds. I have no interests to serve. I am actuated by motives of State economy and proper practice.

3731. The line from Cootamundra to Temora was built for the purpose of opening up a large agricultural centre? Its practical object was to serve as a stepping-stone to a great trunk system extending out to Wilcannia. At the same time there were other considerations. The local considerations were that it should serve the Temora farmers.

3732. Do you think it has been a success in that direction, seeing that it has been run at a loss? It has certainly stimulated the production of wheat and production generally.

3733. If a line is constructed from Temora to Wyalong, is there any solid reason for thinking that it is likely to pay for some years to come? I do not think it would pay. I look at it from a broader standpoint. It is the stepping-stone for the opening up of a large tract of country which must be served by a railway ultimately. I mean a large tract of country between the South-western and the Western systems, extending from Cootamundra towards Wilcannia.

3734. At what points are most of the farmers of whom you speak situated, between Temora and Wyalong? There are farmers all the way from Temora to Barmedman, and there is a large nest of them.

3735. Are they not pretty well served by the present line to Temora? Barmedman is 22 miles from Temora, and the people there are fairly well served.

3736. Do the people of Temora and Cootamundra deal chiefly with Sydney at present? Yes.

3737. Do you think it is likely that wheat will be sent from this district to Victoria within a reasonable time? In a few years time, when wheat becomes an exportable commodity, it may suit a lot of people in this district to ship their wheat at Melbourne instead of at Sydney.

3738. How far is Melbourne from Cootamundra? 270 miles; Sydney is 254 miles away.

3739. Did you give evidence in favour of the Cootamundra to Temora railway? Yes.

3740. Have your expectations of it been realised? They have been fully borne out.

3741. *Mr. Watson.*] Do you know the country between Grenfell and Wyalong? Yes.

3742. You have stated that the people on the Temora side of Barmedman were fairly well served by the Temora terminus;—do you think that people 20 miles out of Grenfell, towards Wyalong, would be fairly well served by a terminus at Grenfell? Yes.

3743.

3743. Do you think that 20 miles would exhaust the good land on the west of Grenfell? The country west of Grenfell, on the northern route, is very broken, with ironbark ridges and spurs from the Weddin Mountain. It is not a tract of good agricultural country. W. Miller.  
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3744. Do you think the country within the 20 miles radius of Grenfell would reach the edge of good agricultural land? Yes.
3745. Do you think it would be good policy to take a line to the edge of the agricultural country? If a stretch of country is fairly well served by a railway there is no necessity to go to the expense of constructing one to it.
3746. You have stated that you do not expect a line from Temora to Wyalong to pay immediately it is constructed? No.
3747. The first thing to rely upon would be the direct trade of Wyalong itself? Yes. Already the country is largely settled, and there is a good deal of wheat-growing going on. A lot of wool is also produced.
3748. Assuming that the trade of Wyalong is worth a certain amount per annum, is it likely to pay the interest on a smaller or a larger capital which may be expended? The larger the expenditure the less likelihood of the railway paying.
3749. Consequently, if a line from Grenfell to Wyalong costs nearly £50,000 more than one from Temora to Wyalong, it is to be assumed that a line from Temora to Wyalong will have the better chance of paying? Certainly.
3750. How long has the line from Cootamundra to Temora been constructed? Five years.
3751. Do you think that is a sufficiently long time to allow a fair agricultural development in a country of this character? Development can go on for the next twenty years. The agricultural land has not been exhausted by any means.
3752. If a man has only a small capital, it takes him some time to get his holding up to its maximum bearing capacity? Yes.
3753. Therefore, it is probable that the land about here, if the timber is green, will not be got into bearing order for some years? That is so.
3754. So that the comparative non-success of the existing Temora line is hardly an indication that it is going to be a failure? I do not admit the non-success of the Temora line. I maintain that the indirect benefit to the State has been a big set-off.
3755. It is estimated that the Railway Commissioners are at present losing about £3,000 on the Temora line—that is, inclusive of the Wyalong traffic? Yes. I think the first year's loss on the Temora line was only £900. The losses during the last year or two have been due to failures in the crop. Last year only 10,000 bags of wheat were carried, whereas in the previous year the number was 70,000 bags.
3756. We will assume that there is a loss of £3,000 per annum on the line; it is also estimated that there will be a loss on the proposed line from Grenfell to Wyalong of a similar amount;—under those circumstances, is it a good thing to subtract all the Wyalong traffic from the line from Cootamundra to Temora, a line which is not paying? If the line to Grenfell is constructed, it will mean an additional loss on the Cootamundra to Temora line.
3757. *Mr. Shepherd.*] In speaking of the Bland country, do you refer to the plain country only, or to the country which is timbered as well? I refer to all the level country where there is no red soil.
3758. Including the timbered country as well? Yes.
3759. If anyone told you that he had obtained better results from some of the timbered country than from the red-clay country, would you believe him? It would only occur about one year in ten. In a good season the blue-clay country will grow anything, but in nine cases out of ten it will not.
3760. Does that remark apply to the timbered country? It applies to all the blue-clay country—to all country without a subsoil.
3761. Do you consider the floods any detriment to the land? They would be for agriculture.
3762. Is it not a fact that the floods enrich the land? For pasture. That clayey country has been formed by floods.
3763. Do not the floods leave a deposit which enriches the land? Floods generally do.

William Hall Matthews, storekeeper, Cootamundra, sworn, and examined:—

3764. *Chairman.*] Have you heard the evidence of the last witness? Yes.
3765. Can you corroborate it? In every particular. With regard to the flooded country, I may add that a deposit is not left there similar to that which is left on the rich alluvial flats of the coast. You might have a flood over this country without any deposit whatever. It has not the same effect here as it has on the Hunter River, where there is a large wash carried down from the mountains. The effect of the water lying on the plains is prejudicial. W. H. Matthews.  
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3766. *Mr. Watson.*] It is a damming back of water rather than a rushing of flood waters? It is. With regard to the carriage of starving stock, I might mention an instance in which 800 bullocks were started from the back of the Lachlan to be driven across to the Tumut, for grass. Only seventy of them got to Tumut; the rest died on the road. If there had been a railway line they could have been carried there straight away.

Denis O'Keefe, farmer, West Temora, sworn, and examined:—

3767. *Chairman.*] How far is West Temora from the Temora railway station? About 10 miles. D. O'Keefe.  
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3768. What is the size of your holding? 7,000 or 8,000 acres.
3769. How much have you under cultivation? 2,000 acres.
3770. Is the balance fit for cultivation? A good portion of it is.
3771. What percentage of the holding is fit for wheat growing? About 50 per cent.
3772. Is that a fair average for this district, or is your holding better or worse than others? A good deal of mine is rather worse than others.
3773. Then your proportion of good agricultural land is rather under the average than above it? I think so.
3774. Are you satisfied with the results of wheat-growing? Yes.
3775. Are there any signs of the land giving out? No. I have been a resident about here for thirty-one years.
3776. Where is your market? Sydney chiefly. 3777.

- D. O'Keefe. 3777. Do you think that the old idea that New South Wales is not a wheat-producing country has been exploded? I never held that idea. All that those who are outside the influence of a railway require is cheap railway communication, and a fair rainfall. The land is good enough if we only have a railway. I have some land to the east of Barmedman. I sold some of it twelve months ago; it consisted of dense scrub. It is under crop to-day, and it is looking splendid.
- 26 Aug., 1899. 3778. What is a reasonable distance to carry wheat to a railway station? Twelve to 15 miles; anything over that is rather a handicap.
3779. *Mr. Dick.*] Have you a good knowledge of the country from Temora to Wyalong? Yes.
3780. What would be a fair-sized holding to enable a man to make a decent living for his family? 1,280 acres.
3781. Would that be for mixed farming? Yes.
3782. Do you think 640 acres would be sufficient? I think it is rather small.
3783. Have you cropped any land continuously for a number of years? No; but I am well acquainted with land which has been cropped, on and off, for the last thirty years.
3784. Do you think that land is of such a character that it will stand continuous cropping? I think it will stand cropping a long time.
3785. Do you agree that the Bland country is not fit for agriculture? It is not. In order to bear out my statement, I may mention that 2,200 acres of it has been offered for sale to-day. The sale was fairly well advertised. The land was the pick of the land for grazing, and it is within a short distance of the proposed line. Nevertheless, there was not a single bid for it. If the same land had been offered for sale, publicly or privately, along the Temora route, there would have been no difficulty in selling. In fact, conditional purchase and conditional lease land was sold here a fortnight ago for £2 2s. an acre.
3786. Was the land on the Bland to which you refer private or Crown land? It is conditional purchase land. It was advertised at 6s. 6d. and 6s. 4d. per acre, to make it freehold.
3787. *Chairman.*] Where was it? On the boundary of Curraburrama, West Bland, and Barmedman—a short distance from the proposed line from Grenfell to Wyalong.
3788. *Mr. Dick.*] Would it be a fair conclusion to draw that that land was not enough for any single man to take up to make a living upon it? He could not make a living upon it. You cannot live in that country without cultivation.
3789. Do you think the development of wheat-culture in this district, since the Cootamundra to Temora line has been constructed, has been fairly large? Yes.
3790. Do you agree that it takes time to prepare green-timbered land for agriculture? Yes.
3791. Do you anticipate that in years to come an increasing revenue will be derived from the Cootamundra to Temora line, by the placing of the present timbered land under wheat-cultivation? Yes; during the last twelve months it has very much increased.
3792. Is the land between Cootamundra and Temora scrubby? No; only a small portion of the ironbark country is scrubby. I think that one of the greatest arguments in favour of a line from Cootamundra to Wyalong is the fact that it will carry starving stock from the dry country. There is no doubt that at some future time a line must be constructed to Tumut. During the present year thousands of sheep would have been saved if there had been a line to the back country. I saw that country thirty-five years ago, when it was first taken up. It got into such a state that if we boiled the billy in the open air the sheep would actually knock it over in order to get at the boiling water. There is, however, water there now. If there had been a line to the mountains, about 75 per cent. of the sheep would have been saved last year.
3793. Do you think that the Temora route offers you the choice of the Sydney or Melbourne market, with a consideration in favour of that route? I do not think it would be of much advantage to us at present, on account of the border duties.
3794. Would it be an advantage under Federation? It might be some slight advantage. I would not place much stress upon that.
3795. *Mr. Watson.*] Do you consider that the fact that the land has scrub upon it renders it unfit for agriculture? No.
3796. Have you seen scrub land made fit for agriculture? Yes; I saw land twelve months ago with the scrub upon it. It was knocked down at 2s. an acre, and it was cleared ready for the plough at 6s. an acre.
3797. Then it is quite possible to make scrub land good agricultural land, that is if the soil is good, with little expense? Yes. Most of the scrub lands about here are good agricultural land.
3798. *Mr. Shepherd.*] Does not trefoil grow chiefly upon that land? Yes.
3799. Is it not a fact that it seeds very heavily, and that the stock feed upon the seed for a great part of the year? Yes.
3800. How long do you suppose the seed would sustain stock during the year? It depends on the season and the spring. During a year like last year it would not last the stock long.
3801. I suppose that last year you had no feed anywhere? We had some in different parts of the country. It was not bad about here.
3802. Are you fairly well served by the present railway arrangements? Yes.
3803. *Mr. Watson.*] Have you had any experience in cattle? Yes, a little.
3804. Would you start dairying on the Bland if you were there in an ordinary season? If I did, I think I should incur a great loss. It was carried on some years ago for two or three months in the spring without success. It was done more to quieten the cattle than with a view of making money, and practically it was a failure. You require plenty of water and green feed for dairying. None of that country is adapted to dairying.
3805. Have they tried it at Young without success? Yes; and the rainfall is better there than it is here.
3806. Do you think that at Young, with its better rainfall and good land, the people should be as likely as the Bland people to make a success of dairying? The Young country is superior to any of the Bland country for dairying, and frequently at Young they have not made dairying successful. There has been no dairying on the Bland for the last twenty-five or thirty years.
3807. Was there not a local population thirty years ago, at Lambing Flat and Forbes, which they were able to supply with meat and cheese? Yes.
3808. They would have a monopoly of the market? Yes. They also had a market at Young and Forbes; but even then they could not get high enough prices to induce them to go on.

## MINUTES OF EVIDENCE—RAILWAY FROM GRENFELL TO WYALONG.

John Brett, farmer and grazier, Molonga, sworn, and examined:—

3809. *Chairman.*] Where is Molonga? Between 80 and 90 miles from Temora, on the road to Hillston.
3810. Have you any statement to make? Yes. In that part of the country we are greatly handicapped. I heard a lot of evidence given with regard to settlement. We are as nearly settled out there as are people here, and we have the Humbug Creek, Bygalorie, and Lake Cudgellico. One acre of that country is worth two of the country about Temora for grazing or agriculture. I have never seen better country than that between Wyalong and Hillston. There are belts of mallee, but whenever it occurs there is also splendid agricultural land. Wyalong is the poorest mallee country I have seen anywhere; but you have only to go 5 miles west and you come upon good mallee—open flats intersected with mallee ridges which run to Hillston. No man has any idea of the splendid country between Wyalong and Hillston. The great drawback is that, owing to the amount of limestone in the country, the grass, in hot weather, dries up. There is, however, no better fattening country than that about Lake Cudgellico and the valleys of the Lachlan. If I had not rented a piece of country in the neighbourhood of the Lake this year, I should have lost 4000 sheep. All that the country wants is a railway. It is surprising that the Government have left such a vast tract of Crown lands about that district without a railway. I do not think there are 300 acres of secured country upon Molonga. Not long ago 16,000 fats were sold from there to a Melbourne dealer for 13s. a head.
3811. Do you know the country on the route from Grenfell to Wyalong? I have been on a portion of the Bland country. It is alum country, and wherever that is in the soil you cannot grow wheat.
3812. Have you any further information to offer? I should like to see a line constructed from Temora to Wyalong. It does not matter whether the fat sheep go to Sydney or Melbourne, because the market will be regulated from lower Riverina, and we shall have a better market in Sydney than in Melbourne. It would, however, be an advantage to get them to the mountains.
3813. Your great want is a railway, and you are not particular where it goes to or from? As far as the fat stock is concerned, it will not make any difference.
3814. *Mr. Watson.*] Why do you prefer a railway from Temora to Wyalong? Because it will give us a chance of getting to the summer grass on the mountains, and it will be an outlet for store stock to Melbourne after the border duties are removed. The fats would mostly go towards Sydney. There is a man living alongside me on whose land I have seen as good a wheat crop as anywhere in the country. It is grown on yarran country, and you cannot beat it.
3815. In order that fat stock can go to Sydney and store stock to the mountains or to Melbourne, you desire a connection between Temora and Wyalong? Yes. If the proposed line is built I do not think it will pay the cost of axle grease, because you cannot divert our traffic from Cootamundra. The people of Wyalong are more in touch with the people of Cootamundra, Junee, and Wagga than with the people of any other part of the country. You cannot divert the traffic to Grenfell.

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William McClintock, pastoralist, The Bland, sworn, and examined:—

3816. *Chairman.*] Have you any statement to make? I may mention that I shall not be affected by a line from Grenfell to Wyalong. In view of the character of the country, I think a line should be constructed from Temora to Wyalong, upon which route there is better agricultural land. Fifteen miles west of Grenfell you get into poor country for cultivation, although it is good stock country.
3817. What is the character of the country from Back Creek to Wyalong? Fair agricultural country.
3818. Is the land from Temora to Wyalong similar to that about Wyalong? Yes; it is much better than it is west of Grenfell. I have been on the Bland for nine years, and have only had one successful crop. Dairying on the Bland is a failure. I was brought up to dairying on the South Coast. They are using condensed milk on the Bland at the present time.
3819. How long were you in the South Coast district? I was born there, and remained there for twenty years.
3820. If you had to milk fifty head of cattle how many head would you have to keep altogether? About eighty.
3821. Would you want 3,000 cattle, if you had to milk 1,000? No; that would not pay.
3822. What is the width of the Bland country along the route of the proposed railway? Fifteen miles of plain country, and then there is some timbered country.
3823. Is it intersected by belts of land which are worth anything? No.
3824. What is the extent of the plain and timbered country on the Bland? It is about 20 miles wide.
3825. Where does it commence on the southern side of the proposed line? About 30 miles.
3826. Where does it extend north of the proposed route to Lake Cowal? It extends right out to Lake Cowal along towards the Lachlan.
3827. There appears to be a belt of inferior agricultural country between two belts of good country? Yes; it is a valley. I believe it has been a lake which has gradually silted up. The land on the Barmedman side is superior to that on the Grenfell side. It is a sort of granite country west of Grenfell, and will not stand cropping. It will give a crop for a year or two and then fail.
3828. How far west of Grenfell is that class of soil to be found? Nine miles west.
3829. *Mr. Watson.*] North or south of the Weddin? Both.
3830. *Mr. Shepherd.*] What kind of stock do you raise? Sheep.
3831. How many sheep have you? We have very few now, but in a fair season, when we are stocked, we have about 10,000.
3832. Is there sufficient feed all the year round for them? There is in an ordinary season, but during the last three years we have had to send them away. In a good season the land will carry a sheep to the acre.
3833. Are you satisfied to remain there? Yes.
3834. Do you consider the Bland suitable for large cattle? No; not for quantity. Only for one's own use.
3835. Is the country upon which you are situated timbered? There is some timber and some plain country.
3836. What difference do you find between the two? There is not much difference. It is all a clayey country.
3837. What crops have you tried to grow there? Oats, wheat, and barley.
3838. Which succeeds the best? The best crop we had was one of oats.
3839. Had you any wheat in during the same year? Yes.

W.  
McClintock.  
26 Aug., 1899.

3840.

- W. McClintock. 3840. Have you ever tried lucerne? No.  
 3841. Do you know of anyone who has tried it? No.  
 26 Aug., 1899. 3842. Have you ever sunk for water? No. I have seen shafts 150 feet deep and no water.  
 3843. Has there been any attempt to cultivate fruit there? Yes; we put in fruit trees and they are all dead. We planted peaches, apricots, pears, apples, cherries, and plums. The only things which were of any good were figs.  
 3844. How long is it since you tried fruit growing? Seven years.  
 3845. *Mr. Watson.*] You have tried a little cropping for nine years? Yes.  
 3846. And you have only had one success out of nine? Yes; we did not get the seed back during the unsuccessful seasons.  
 3847. Were your failures equally upon plain and timbered land, or was there any distinction? We never tried the plain country; we tried the timbered country.  
 3848. Is that, in your opinion, the best country? Yes. We looked for the pick of it right on the bank of the creek.  
 3849. Were you growing for home consumption? Yes, for horse feed.  
 3850. Were the whole of the nine years bad seasons? No.  
 3851. Which year was it in which you got a crop? It was a medium season; it was not a wet season nor yet a dry season.  
 3852. Then we might fairly assume that in order to get anything like a crop from the timbered land of the Bland you require a season to suit it? Yes.  
 3853. Have you had any experience of the flooding of the Bland? Yes, on one occasion it was running under the houses for three days.  
 3854. Do you think there is any beneficial effect from the flooding? No; there is no silt from it; it is back-water. If you laid down a piece of fencing wire the silt would not cover it.  
 3855. Is the effect of it to sodden the ground? Yes; it does more harm than good.  
 3856. How deep is the flooded country ordinarily? You could ride for a mile or 2 miles and your feet would be in the water. A boat would be the best thing to use for a few miles.  
 3857. But for a great distance it would not be so deep? No. It would vary from 3 and 4 inches to a foot; but there would be hardly any current. On one occasion we had sheep in a paddock of 640 acres, and 135 were drowned. That was not upon the creek banks; they could go back a mile from the banks. They were unable to find a place upon which to camp, and were drowned.  
 3858. I believe that whichever way Wyalong is reached by railway, you will use Stockinbingal as your outlet? Yes. I think, however, that the line from Temora to Wyalong would be the best for the country. I know the country right out to Cudgellico, and I do not think there is any country in New South Wales which better deserves a railway. If a line is constructed from Grenfell to Wyalong it will not put any people on the Bland country at all.  
 3859. Do you know the piece of land to which one of the witnesses referred as having been offered for sale? Yes; one corner of it is within half a mile of the proposed line.  
 3860. The fact of no bids having been made would indicate that it is not large enough to support a family? It will not do that.  
 3861. Were the terms liberal? Yes; any terms you like.  
 3862. If it had joined your present holding would you have taken it up to consolidate it? Yes.  
 3863. Would a man be able to make a living upon it as an isolated block? If he were a shrewd, careful man he might; but he would require to be very careful. The people who have been on it for a lifetime have left it "broke."  
 3864. You favour the construction of a line from Temora to Wyalong, and thence to Hillston, rather than making Grenfell the starting-point? Yes; Grenfell as the starting-point will be a blunder.  
 3865. Do you think that even if the country beyond the Bland is good, the country from Grenfell to the Bland will not contribute much to the support of a railway line? It will not.

MONDAY, 28 AUGUST, 1899.

[The Committee met at the Municipal Council Chambers, Temora, at 10 a.m.]

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD. | WILLIAM THOMAS DICK, Esq.  
 JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

Wyatt de Little, manager, Temora station, sworn, and examined:—

- W. de Little. 3866. *Chairman.*] Where is Temora station? Six miles north of Temora.  
 28 Aug., 1899. 3867. Have you any statement to make? Yes; I have been in the district since 1885. I know the survey line from Temora to Wyalong. The line passes through good agricultural land the whole way, with the exception of a few quartz hills and a little belar country. The land is undulating, and mostly held by selectors and the Crown. There are no difficulties in the way of construction. I know of only one place which would necessitate a deep cutting—1 to 2 miles south-east of Barmedman. Ironbark sleepers can be obtained within 10 miles for almost the whole length of the line. Good ballast is plentiful along the line for at least 25 miles. The line could be built along the Temora-Wyalong road, which is sufficiently wide for a railway, and then to leave a 1½-chain road. Thus there would be no purchase of private lands; and if the road in question could not be used for its whole length, it could be used where private lands, which are few, adjoin the surveyed line. The absence of extensive cuttings, earthworks, bridges, no purchase of land, and the presence of material in plenty, should make this one of the cheapest lines to construct in New South Wales. The line is required for the carriage of passengers, machinery, and goods to Wyalong; also stores, machinery, &c., to settlers along the line, and in the back country; for removal in good seasons of fat stock for freezing or for butchers at the Sydney or Melbourne markets, whichever happened to be the better paying at the time; and in bad seasons for the removal of starving stock



stock from the back country to the mountains; for the transport of sleepers, of which a large supply can be obtained from the practically untouched ironbarks to the west of this line, and for the carriage of grain. The making of this line would open up thousands of acres of agricultural land now practically unworkable on account of its distance from a railway. Before the railway was built to Temora, I used to pay 2s. per bag cartage to Cootamundra; now 1s. 10d. per bag will land a bag of wheat in Sydney from Temora station. Another gold-field may at any time be found between Temora and Wyalong. I know the surveyed railway line from Wyalong to Grenfell, *via* Bimbi, as far as the Bland Creek. In my opinion the objections to this line are: (1.) West from Bimbi to Wyalong the land is mostly held by large land-holders. (2.) The greater cost of construction on account of the line passing through a large extent of private lands; the area required would have to be purchased; the absence of ironbark timber, also ballast, which would have to be obtained at either end of the line; and the expense of bridging over the flat country from the Bland to the Back Creek. This area is, in time of general floods, under water, and any attempt to build embankments would lead to destruction of the embankment, or the flooding of a large extent of country to the south of the line, either of which occurrences would lead to a serious loss to the Railway Department. Temora station, originally 150,000 acres, forms only a small part of the watershed of the Bland, and I know from experience the volume of water which flows down the Narraburra, Walladilly, Mandamah, and Duck Creeks. The latter empties itself on the flat country to the south of the proposed line, and when the Back Creek and the Bland are also in flood, all these waters meet. The Bland country is not, in my opinion, suitable for agriculture. The land from Back Creek to Wyalong is mostly agricultural, but would be served as well by the Temora-Wyalong line. The Bland country is not fit for dairying, except in good seasons. The box country, as on the Temora-Wyalong line, stands a drought much better than the Bland; is also better for storing water. (3.) The Temora-Wyalong line is the direct outlet for produce from Wyalong, giving the producer, who has to pay for the building of the line, the choice of Melbourne or Sydney markets. I consider it would be a national line. The Grenfell-Wyalong line would be in the interests of Sydney alone. (4.) If the Temora-Wyalong line would not pay, neither would the Grenfell-Wyalong line. If the latter were made it would cause the Temora-Cootamundra line to be also non-paying. (5.) My employers have no interests in the extension of the Temora line; neither have I.

W. de Little.  
28 Aug., 1899.

3868. Do you hold any land of your own? No.

3869. To what use is the station which you are managing put? Grazing and agriculture. We have 2,400 acres under cultivation this year, and I am clearing 720 acres more.

3870. What is the area of the holding? 15,600 acres of secured land, and 17,000 acres of Crown land.

3871. Had a line from Cootamundra to Temora not been constructed, would that land have still been used for sheep? Yes. Before that line was made I do not think I had 300 acres under cultivation. Now it is proposed to clear the whole of the secured lands on the station—15,000 acres.

3872. You say that the land from Temora to Wyalong is first-class agricultural land? With the exception of a few patches of the belar country, and a few quartz hills.

3873. I suppose you have no doubt that what has occurred within a reasonable distance of Temora will also occur if a line is constructed? Yes.

3874. Have you been west of Wyalong? I have been a little to the north-west and to the west. Through Kildary, Mandamah, and Buddigower it is all agricultural land. I have been as far as Narrandera and Rankin's Springs.

3875. Have you been along the surveyed route from Wyalong to Hillston? I have been from Wyalong through Nariah, and, as far as I have seen, it is all good agricultural land.

3876. In order to develop that country for agriculture do you think there is a necessity to build a heavy or a costly line, as is proposed—£2,400 a mile? I think the first cost is always the most reasonable one. There may be heavy traffic. Of course, it would not cost so much to build a line from Temora to Wyalong as it cost to build one from Cootamundra to Temora.

3877. Out of the 17,000 acres of Crown lands which you hold, on how much could a man make a fair living? 640 acres.

3878. Would that be enough along the whole of the route from Temora to Wyalong? Yes, within 10 miles of the line. As a rule, the selectors are without capital, and the more land they take up the more capital is necessary to develop it.

3879. *Mr. Shepherd.* Are you already well served by a railway? Yes.

3880. One of your objections to the Grenfell to Wyalong route is on account of the large estate;—do you not consider that the property you are managing is a large one? It is not a large one compared with the others. It is also in detached blocks, and the probabilities are that as soon as it is cleared it will be sold. I believe that is the object of the owners.

3881. Are you thoroughly acquainted with the Bland country? Only where I have been—through Oakhurst and part of East Bland and Curraburrama. I have never resided upon it.

3882. Can you speak as to its capabilities? I have been connected with grazing and agriculture for twenty years, and when I go through land I always take notice of it. If I go through country and do not see crops upon it I ask the reason. When I went through the Bland country I saw that it was not fit for agriculture; it is a splendid fattening country in good seasons.

3883. Could it be largely used for fattening stock? Yes; that is what it is fit for. Of course in seasons like the present the stations there have very few sheep upon them.

3884. Does not that remark apply to the whole of the district? It does not apply to the Temora district. On Temora station I have carried one sheep to 3 acres all through the drought.

3885. At Warwick in Queensland it is estimated that the country will carry six head of sheep per acre when the trefoil is at its best? Yes; but I do not think the Bland country is anything like the Warwick country. The Warwick country is agricultural. It is undulating, and grows wheat largely.

3886. The trefoil of the Warwick country grows as high as 2 and 3 feet, and it produces an enormous amount of fodder:—do you not think that the Bland country would produce something similar? The growth on the Bland country is not all trefoil. There is a lot of grass upon it.

3887. I understood that all the plain country on the Bland grew trefoil? The black soil does. The belar country does not grow trefoil.

3888. How many years of drought have you experienced since 1885 over the whole of the district traversed by the proposed routes? In the year 1888 there was a bad drought and the last four years have been droughty. The last two years have been the worst I have seen. I prefer this country to the Bland country. One acre of cleared land here, after it has been ploughed and allowed to go to grass

W. de Little. again is equal to any which can be found on the Bland. We can carry a sheep to the acre on this country after it has been ploughed, during the worst of seasons. We can fatten sheep here almost as well as on the Bland, although not so quickly.

28 Aug., 1899.

3889. *Mr. Watson.*] Do you think that this country when cleared is as good as the Bland for fattening? Yes.

3890. With the additional advantage that you will have good growing country here for a greater period of the year than on the Bland? Yes; and it will stand a drought better. The trefoil is not good, excepting from springtime to the end of summer, when it blows away.

3891. Can you say whether you get on the Bland a rainfall equal to that of Warwick? I understand that the Warwick country is first-class agricultural and grazing land. The Warwick rainfall would be better than the Bland rainfall.

3892. Do you think there is as much plain on the Warwick country as there is on the Bland. I dare say that the Warwick country has more soil in it.

3893. If your opinion as to the fattening properties of the land about here after clearing is correct, you will be likely to get as much fat stock from it as you would from the Bland country? Quite as much. I sold 2,500 sheep off the shears at Temora three years ago for 10d. per head. I sold them because I was afraid of the drought. Last year I had 7,700 sheep running on the secured land—15,000 acres, and on 4,500 acres of Crown lands—and I never fed them. In addition I had 1,600 lambs. I lost 200 sheep out of that lot, and most of them were killed by wild dogs.

3894. Have you made any calculation as to the price at which you could afford to sell wheat—say, a 10 or 12-bushel crop—in an ordinary season? I find that the Americans cannot grow wheat under 2s. 8d. a bushel landed on the coast. I find from my average during the last five years that I can grow it at 2s. per bushel landed in Sydney.

3895. If you get 2s. a bushel in Sydney, you will not lose anything? No; that is the minimum price.

3896. What do you pay for carriage to Sydney? Slightly over 4d. a bushel.

3897. With the approved methods which are daily coming into use, do you think people who farm will have a fair chance of competing in the world's market? Yes; I think we can produce cheaper wheat than they do in America.

3898. Does the 2s. to which you have referred include interest or rent? No; it is the cost of putting in a crop and taking it off and carrying it to Sydney. I allow for depreciation of plant and for repairs. It does not include the cost of the land.

3899. What do you think per bushel would pay your rent? Fourpence per bushel. That would bring the price up to 2s. 4d. Of course that estimate is based on my lowest average return. My average from 1889 has been over 12 bushels per acre. From 1889 to 1894 we had splendid wheat seasons. When I went to Temora in 1889, there were only 20 acres under cultivation. Between 1889 and 1894 I have seen 40 bushels of oats to the acre on two occasions; also 25 bushels of wheat to the acre on two occasions. The average cost of production for five years has been 14s. 11d. per acre. That includes everything from Temora station to the Temora railway station, and the gross return has been 31s. 6d. per acre. That leaves a net return of 16s. 7d. per acre per annum.

3900. That is sufficient to justify you in continuing cultivation? Yes. In 1896 I cleared 187 acres for the stump-jump-plough to see if it would pay. The cost of clearing was 9s. an acre. The cost of putting in the crop was 9s., and the cost of taking it off was 6s. I got 16½ bushels to the acre, and sold it for 4s. 4½d. The gross return was £3 8s. 8d. per acre, and the expenditure was 24s. per acre including the cost of clearing. Under those circumstances I reckon that I got back the price of the land from one crop. That shows the possibilities of the country.

3901. Do you think we are justified in regarding 2s. 6d. per bushel as a minimum price? I base all my estimates on that amount. It will pay to grow wheat, with an average return of 10 bushels, at 2s. 6d. a bushel. I have kept a record of the rainfall on Temora station since 1884. The average for fifteen years is 20·24 inches. The lowest rainfall was in 1888, when we had 10·12 inches. In 1897 the crop was a good one—11½ bushels per acre, which is 2½ bushels above the average for the last five years; but in 1898 I lost 2s. an acre.

3902. What rainfall would be sufficient to enable you to get a decent crop? Fifteen inches, if it fell at the right time. We generally get rain in Autumn, and also in September.

3903. Is it the rule to get the rain at a time when it will do most good to the crops? It has been.

3904. How far from a railway station could a man do reasonably well at growing wheat? Up to 15 miles, perhaps 20 miles. Every mile beyond 20 means so much off the profit.

3905. How far could a man travel in a day with a load? Fifteen miles each way is a fair distance to allow.

3906. *Mr. Shepherd.*] How do you find wheat-growing compares with sheep-breeding? Wheat-growing pays better than sheep-breeding.

3907. To what extent? I could not tell you. Last year, for instance, there was a loss on both sheep and wheat. The year before that there was a loss on sheep and a good profit on wheat. I have been increasing my area under cultivation and decreasing the number of sheep carried.

William Ness, farmer, Temora, sworn, and examined:—

W. Ness.

28 Aug., 1899.

3908. *Chairman.*] How far is your holding from Temora? Five miles north.

3909. How long have you been farming there? For seven years, but I have been twenty-one years in the district. There were only two or three farmers here when I first came.

3910. Was it their success in wheat-growing that induced you to cultivate? Yes.

3911. Have you been doing fairly well at it? I have made both ends meet, although we have had four very bad seasons of late. Last year I only produced 2 bushels to the acre.

3912. Do you think you will be justified in taking up further land for wheat-growing? Yes, if I had the capital and a reasonably cheap method of carrying produce to market. Wheat-growing would be a failure without that.

3913. If wheat were 2s. 6d. per bushel at the Temora railway station, how far would it pay you to carry it? Twenty miles.

3914. Supposing it were 2s. a bushel? It would hardly pay at all at 2s. a bushel.

3915. Even if you were only 6 miles away? Under those circumstance, I should require 2s. a bushel.

3916. Do you think that with the best machinery, and a fairly good road, you could carry wheat for 20 miles for a return of 2s. 6d. per bushel? Yes; if we could get cheaper machinery. In America you can buy a binder for £25, and here we have to pay over £50. Therefore, we cannot compete with them. If the ring in these colonies were broken up, and we could get machinery at a reasonable price, we could easily compete with America. I may state I am fairly well acquainted with the Bland country. I am a native of Young, and know all the watersheds which come down to the Bland. The watershed starts between Maringo and Young, and between Murrumburrah and Young finds its way into the Bland Creek. The water from Wombat and Cootamundra meets at Morangarell. The water travels along the hilly country to the Bland very quickly. When it gets on to the Bland, the country being level, the creek runs out, and it spreads all over the flat. Anyone travelling across the Bland in dry weather would never dream that there could be such an extent of water upon it after a rainfall of 3½ inches. I heard some evidence on Saturday with regard to the Bland being good stock country. I do not agree with that statement in every particular. I agree that it is good fattening country for a few months of the year, but I do not consider it a success for sheep. In wet years they get fluke and footrot. The Bland is good enough for fattening store wethers and store cattle in the spring, but you cannot keep them there from one year's end to the other. You could not raise stud-sheep on the Bland, no matter what trouble you went to.

W. Ness.  
28 Aug., 1899.

Robert May, miller and auctioneer, Temora, sworn, and examined:—

3917. *Chairman.*] Have you any information to furnish to the Committee? I have been in Temora for twenty-one years, and am one of the oldest residents of the district. With the exception of twelve months, I have been farming during that time. I made farming pay fairly well. Of course, there were some very dry seasons. When I first came here we had a couple of very dry seasons, but latterly we have not felt them so much on account of being better provided with water, and the country being improved. When I came here the country about Temora was similar to that towards Wyalong—it was a wild bush. It was dense pine bush, and what is called sifting bush. In those days we had to cart our wheat to Cootamundra, a distance of 37 miles.

R. May.  
28 Aug., 1899.

3918. What were the prices ruling then? [Four shillings to 5s. a bushel. The average price of late years has been pretty low. During the last two seasons it has been down to 2s. and 2s. 6d.]

3919. Have you any farm lands now? Yes; I am farming about 160 acres. The year 1888 was a very severe one. In that year I was buying wheat myself. The crops around Temora for a distance of 20 miles averaged from 7 to 8 bushels to the acre during that year. The last two seasons have been the most severe since I have been here.

3920. How far out from Temora does the general cultivation extend? From 40 to 50 miles in some directions. Between Temora and Wyalong there is not a great deal of cultivation.

3921. From how far is wheat brought to Temora? I have had it brought to our mill, a distance of 80 miles. It has been brought from Ariaah during two seasons.

3922. What kind of country is there between Temora and Ariaah? It is very good land. There is some splendid agricultural land about Buddigower; 3 acres of it are equal to 4 acres about Temora for wheat-growing.

3922½. Is the rainfall about the same as it is here? It is scarcely as good; but you can grow wheat with 14 or 15 inches of rain if it falls at the right time. I have been across a portion of the Bland from Morangarell to Barmedman.

3923. How far from Temora do you first strike the Bland country? Twenty-two miles. I offered a Bland property at William's Crossing for sale on Saturday. It was over 2,000 acres in extent. I am told that it is the pick of the Bland. I have seen a statement to the effect that of that 2,000 acres not more than twenty-five were suitable for agriculture.

3924. *Mr. Watson.*] What were you offered for it? There was not a single offer.

3925. What were the terms? Six shillings an acre will make it freehold. We were willing to take instalments extending over ten or fifteen years. The Bimbi route of railway passes through it. It is distant about 30 miles from Temora. I send a good deal of flour, pollard, bran, &c., from Temora to Wyalong. I have sent 482 tons in twelve months. I have never sold a single property on the Bland country. With reference to the carriage of coal my opinion is that coal will not be required here for fifty or sixty years. Coal can be landed here at 23s. and 24s. a ton, and you can get box-firewood for 4s. and 5s. a ton. As there are many thousands of tons yet, I do not think the coal will trouble us much.

3926. Have you had experience as a farmer in South Australia? Yes, and in Victoria.

3927. How do you think the land from Temora to Wyalong, and out west compares from an agricultural standpoint with the land in Victoria? The land here is far superior to the mallee lands in Victoria. Every acre of land between Temora and Wyalong will be put under wheat in the course of time. It can easily be rolled down.

3928. Some of the mallee we have seen is rather heavier than the Victorian mallee? Yes; but there are only patches of it. Before they put the heavy roller over it they nick it, and the roller smashes it down. Then it is set on fire.

3929. Will the stump-jump negotiate the big mallee stumps? Yes. Some of the best wheat grown in Victoria is grown in the mallee districts of Wimmera.

3930. *Chairman.*] Does the Victorian Government run railways to that sort of land? Yes.

3931. *Mr. Shepherd.*] What distance is the wheat-growing country in South Australia from a railway station? I have carried wheat there a distance of 60 miles.

3932. Do you think that 15 to 20 miles is a good paying distance for the carriage of wheat? Yes.

3933. What description of wheat is grown about Temora? The Purple Straw and the Allora Spring. I tried an experiment from the Allora Spring wheat this year and I find it is quite as good as the other.

3934. Has rust ever made its appearance in the district? Rust was here in 1889. That was the year after the drought. It has never made its appearance since. In the year to which I refer we had from 35 to 36 inches of rain.

Stanley Eugene Gelling, forwarding agent and produce merchant, Temora, sworn, and examined:—

- S. E. Gelling. 3935. *Chairman.*] Have you any statement to make? During the last twelve months we have forwarded 1,100 tons of general goods, including corn, chaff, and potatoes from Temora. We have had 90 or 100 tons of ore from Wyalong to Dapto. We have also had 50 tons of skins from there. Of course, there are job lines of which we do not keep an account, and they will amount to about 20 or 30 tons.
- 28 Aug., 1899. 3936. *Mr. Dick.*] If a line were constructed from Grenfell to Wyalong, would a great amount of the goods you now receive be sent along the route? I dare say they would.
3937. And the line from Cootamundra to Temora would, therefore, lose a portion of its revenue? Yes.
3938. Would it not amount to this—that we should have two branch lines competing for the one trade? That is what it means so far as that class of goods is concerned.
3939. How many stations out back would take their wool to Wyalong from Temora if a line were constructed from Wyalong to Temora? Billabong, Oakhurst, Back Creek, Barmedman, Trungley, Ungarie, Wollongough, Merringreen, Yalgogrin, Youngara, and others too numerous to mention.

James MacNamara, farmer, Duck Creek, sworn, and examined:—

- J. MacNamara. 3940. *Chairman.*] Where is your holding? About 12 miles north of Temora.
- 28 Aug., 1899. 3941. Have you any statement to make? I have land on the Bland Creek within 5 miles of where the proposed line will run. None of the Bland land is suitable for agriculture. I tried to cultivate it on several occasions. I had wheat in five times, and I never got more than one crop, and that was washed away by the floods.
3942. Have you ever heard anyone say that the Bland country is fit for agriculture? No.
3943. Have you heard the evidence given respecting the flooded state of the Bland country? Yes; I have seen the floods there for thirty years.
3944. *Mr. Watson.*] What depth would the water be in flood time a mile back from the creek? On the plains it would be 3 feet deep in places. I have seen the plains covered to such an extent that you could row a boat from Able's Ridges, on the Back Creek, to the Weddin Mountain. There have been several such floods as that. That country is so low that when all the creeks are flooded together it must of necessity be under water.
3945. We have had some conflicting statements as to the distance the line would go across the country which you say is unsuitable for agriculture;—how far is it from Grenfell, coming round to the north of the Weddin, before the bad land commences? Sixteen to 18 miles. That continues to the Bland Creek, and crosses it to beyond Back Creek. That land, with the exception of little patches, is unsuitable for agriculture.
3946. *Chairman.*] That is, 30 miles across? Yes.
3947. *Mr. Watson.*] You speak as one who has practical experience in the Bland country, and who has lived upon it for many years? Yes. At one time I was connected with the two Wyalong stations, and cultivated land there, and had good crops.
3948. Generally speaking, how do you regard the land between Temora and Wyalong? It is all suitable for cultivation, with the exception of a few patches of belar country and a few ironbark ridges.
3949. I believe there is some of the belar country at Back Creek? Yes.
3950. Is there much of it at Caragabal? Yes; there are a few patches of gilgai country between Temora and Wyalong, but not many. The whole of the lefthand side of the route is good country. The greater portion of the land between Temora and Wyalong is fit for agriculture; the poor land is in very small patches.
3951. Have you seen anything of the land from Wyalong westward? Yes.
3952. Is a fair proportion of it good for agriculture? Yes. I think the rainfall there is sufficient to enable wheat to be grown.
3953. *Mr. Dick.*] Is the Bland country good fattening country? Yes.
3954. For how many months in the year is it available for fattening purposes? It is first-class fattening country all the year round in wet seasons. It cannot be too wet for the land.
3955. How many wet seasons out of five have they there? It is generally a wet season every two or three years, but during the last five years the country has been without a wet season.
3956. Would you say that, on an average, the Bland would be available all the year round for fattening purposes one year out of three? Yes.
3957. For how many months during a bad season would the Bland be available for fattening purposes? Three months. That country suffers more in a bad season than this. This season I had 450 sheep on 900 acres at Curraburrama and they all died. I had 1,200 sheep at Narraburra, and I did not lose any. I lost all I had on the Bland.
3958. *Mr. Watson.*] Do they suffer more on the Bland from drought than you do on finer country? Yes.
3959. *Mr. Dick.*] Would the Bland country be suitable for dairying? I do not think it would.
3960. Do you disagree with any statement to the contrary? Yes.
3961. Was last year the worst you have had about here? Yes, both for agriculture and pasturage.

William Thom, general manager for James Thom, storekeeper, Temora and Wyalong, sworn, and examined:—

- W. Thom. 3962. *Chairman.*] Have you prepared any statistics with reference to your traffic? The total amount of our tonnage between Temora and West Wyalong was, by ordinary teams, 567 tons for twelve months.
- 28 Aug., 1899. Twenty tons went by coach. To Barmedman and Reefton we sent about 100 tons.
3963. Has there been any increase in business in this district of late years? Considerable; and there is no doubt that the construction of a railway from Temora to Wyalong would increase it further, on account of the country becoming more settled. At present the farmers are not able to compete with other markets on account of the land freight.
3964. Do not the farmers on the Grenfell-Wyalong route suffer in the same way? I do not think the settlers on that route are as numerous as they are between Temora and Wyalong.

Peter Meagher, manager for John Meagher & Co., storekeepers, Temora and West Wyalong, sworn, and examined:—

3965. *Chairman.*] Have you prepared any information for the Committee? Yes. The tonnage which our firm sent to West Wyalong between July, 1898, and June, 1899, was 1,100 tons 7 cwt. 2 qrs. To Barmedman and the vicinity of Barmedman we have sent 209 tons. That tonnage represents goods sent by carriers. The stuff for which people send—and that is a large item—is not accounted for. We merely account for way-bills sent by paid carriers. Of course, if a farmer comes in for wire, and that sort of thing, and takes it away himself, it is not accounted for. A lot of goods come from Melbourne to Wyalong *via* Cootamundra and Temora at present. From Cootamundra to Wyalong there are only 70 miles of carriage. If the goods had to be sent from Cootamundra to Harden, Young, Koorawatha, Grenfell, and thence to Wyalong, they would have to go over 100 miles more of country. The same remark applies to passengers. Of course the saving of time and extra passage money should be taken into consideration in connection with the construction of a railway. People travelling from Albury to Wyalong would be taken right out of their course if a line is constructed from Grenfell. They would have to pay extra passenger fares, and would lose a great deal of time on the journey. My opinion is that, if the proposed line is constructed, passengers from the district to which I have referred will still travel to Temora, and proceed to Wyalong by coach.

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3966. *Mr. Watson.*] If passengers from Sydney were in a hurry, would they not do the same? I think it is quite possible, unless a special railway service were arranged.

3967. *Mr. Shepherd.*] What effect do you think the opening of a railway from Temora to Wyalong would have on Temora? The outlook for Temora is not too promising. We cannot say that we should benefit very much. It is a natural thing not to wish a line to pass your doors, because if it does you must lose a lot of traffic, as well as the sale of feed to carry it.

3968. What passenger traffic is there between Temora and Wyalong? I do not know. I may state that our firm sends a large number of small parcels to Wyalong by coach. My estimate of the goods sent to Wyalong does not include those parcels—only what we send by teamsters.

3969. *Mr. Dick.*] What effect will the construction of a line from Grenfell to Wyalong have upon the Cootamundra to Temora line? I think it will have a very depressing effect upon it. The Temora to Cootamundra line has not been a paying one; but I am informed that it is losing less than any other branch line. The Railway Commissioners were here a short time ago, and expressed their surprise to me at the amount of business done. The traffic which goes in a year by coach to Wyalong is not ascertainable, because the coach proprietors will not divulge it. Of course the running of the coaches is their bread and butter, and they do not wish a line from Temora to be constructed. We know, however, that the traffic is considerable.

John Louis Tréflé, journalist and farmer, Temora, sworn, and examined:—

3970. *Chairman.*] Have you any information to furnish to the Committee? The evidence I wish to give has reference, principally, to the tonnage of the goods carried between Temora and Wyalong. The tonnage is as follows:—Wright, Heaton & Co., 1,641 tons; Gelling and Sons, 1,051 tons; Meagher & Co., 1,309 tons; Man Sing & Co., 209 tons; and J. Thom, 667 tons; making a total of 4,887 tons. Mr. May sent out 492 tons which I have not included, because it is principally produced locally. The 4,887 tons consists of stuff which came over the Temora line from Cootamundra. That would go by way of Grenfell if the proposed line were constructed, and would rob the Temora-Cootamundra line of that amount of traffic. That does not include a large amount of stuff which is carted by carriers and private individuals direct. There are no records of that kept; neither does it include a great amount of forage. A little of that is included in the return of Gelling & Sons, but very little. I will quote some figures from the rate-books to show what may happen if a line is constructed to Wyalong from Grenfell. The passenger fare from Cootamundra to Wyalong *via* Koorawatha would, on the present basis, be: first-class return, £2 7s.; Cootamundra to Temora, first-class return, 11s. 6d. Coach to Wyalong, £1. That makes the cost of travelling from Cootamundra to Wyalong by coach and train £1 11s. 6d. Thus, in the event of a line being constructed from Grenfell to Wyalong, a man would save 15s. 6d. by coming to Temora and continuing his journey by coach. In the event of the proposed line being constructed, and heavy traffic taken off the road from Temora to Wyalong, the road will be very much improved for light traffic, especially in good seasons, and the charge for travelling by coach would possibly not be more than 15s. At present, owing to the bad roads and the high price of feed, the charge is £1 return, but with better roads I think we might safely say that it would be reduced to 15s. Under the circumstances it appears that a man travelling to Wyalong from Cootamundra, by way of Temora, would save about £1. The first-class return fare from Temora to Melbourne is £5 2s. 3d. Allowing the return fare from Wyalong to Temora to be 15s., that would make the cost of a return ticket from Wyalong to Melbourne—coach and train—£5 17s. 3d. If the line were built *via* Grenfell, a first-class return ticket from Wyalong to Melbourne would cost £6 15s., or 18s. 9d. more than if the passenger took the coach to Temora, and proceeded on his journey from that point. With regard to goods: if a line be built *via* Grenfell, as soon as we have Federation and trade commences with Melbourne, carriers will carry from Coolamon or Temora and compete against the line. With regard to freight, I would point out that third-class goods from Albury to Wyalong, *via* Grenfell, would have to pay £7 7s. per ton. From Albury to Coolamon, £3 12s. 7d. per ton. There would be a difference of £3 14s. 5d. A man could land goods at Coolamon £3 14s. 5d. a ton cheaper than he could land them at Wyalong. Even in times of drought the carriers have often charged as low as 26s. a ton from Temora to Wyalong. I should imagine that the carriers from Coolamon to Wyalong—a distance of 65 miles—could carry goods for £2 a ton at the outside. That would leave Wyalong purchasers a profit of £1 14s. 5d. per ton in favour of bringing their stuff *via* Coolamon to going round by way of Koorawatha and Grenfell. With regard to second-class goods, the freight from Albury to Wyalong *via* Grenfell, will be £5 5s. 10d. a ton. From Albury to Coolamon, £2 12s. 7d. a ton, a difference of £2 13s. 3d. a ton,—which on the basis of the previous calculation would leave a profit of 13s. 3d. a ton to purchasers at Wyalong, admitting the carriage from Coolamon to Wyalong to be £2 a ton. In my opinion the teams would in fair seasons carry the goods from 25s. to 30s. a ton across that country. Mr. Meagher pointed out that he had hundreds of tons of goods carried last year at 26s. a ton. I know of my own knowledge that the general charge

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J. L. Tréfilé. charge for carriage, even in a time of drought, was not more than 30s. a ton, until the Carriers' Union was formed. At a meeting of the Carriers' Union held last night complaints were made that members of the union were carrying for 30s. a ton, and that one had accepted a contract to carry at 25s. a ton to Wyalong. In view of these facts I think a line from Grenfell to Wyalong would be open to competition from the carriers for all the southern traffic. Under Federation the traffic of this part of the country would be somewhat divided between Melbourne and Sydney. It would be against the interests of the people who would be taxed not to have a line to connect them with Temora, which would give them the choice of two markets, whilst it would at the same time place Sydney under no disadvantage. Carriage to Sydney from Wyalong would be as cheap *via* Temora as it would be *via* Grenfell. With regard to stock: the carriage of a truck-load of stock from Albury to Wyalong *via* Grenfell, at the present rates would be £6 5s. 4d.; from Albury to Coolamon £3 10s. 10d.; difference £2 14s. 6d. It would thus be fair to assume that stock which would be naturally trucked at Wyalong from Melbourne, would pay the people better if they were driven across and trucked at Coolamon, as they would thus save £2 14s. 6d. per truck. With regard to sheep: a truck-load of 100 sheep at £2 14s. 6d. would run to about 6d. per head. If a man, instead of trucking 1,000 sheep from Wyalong to Melbourne, were to drive them to Coolamon, he would save £25.

28 Aug., 1899. 3971. How much will they lose in condition? They would not lose much in fair seasons in being moved that short distance.

3972. Do you call 65 miles a short distance? Yes; many stations have to drive them more than that. Practically, all the traffic south of Wyalong would be tapped by Coolamon. If a line were constructed from Temora to Wyalong the fare would be so near a reasonable charge that it would not pay to send across to Coolamon, and the traffic would come through Temora. Thus the railways would be earning a good deal which they would miss altogether if the line were built by way of Grenfell. If the line is built from Grenfell to Wyalong the Temora terminus will be placed in a position in which no other terminus in New South Wales is placed. All the back country traffic will be cut off. All railway termini in New South Wales, in addition to their local traffic, have a large amount of back country to gradually drain. For instance, wool comes for 70 or 80 miles into Temora. If the proposed line be built Temora will be circumvented, as it were, and there will be nothing but the local traffic to depend upon, and that will injure the town greatly. We could never, under those circumstances, support a daily train, and it would place the line on the list of hopelessly non-paying lines. In fact, it would become the worst paying line in New South Wales.

3973. We have it in evidence that there is splendid agricultural land west of Temora;—do you not anticipate that some day it will be tapped by means of a railway? Yes; but the wheat traffic is practically confined to three months in the year, when the Department is taxed to its utmost. I have seen two trains a day going from Temora, and then they did not take the wheat away fast enough.

3974. For how many months of the year does the wool traffic last? About two months. When that is gone our ordinary merchandise will not keep one train a week running.

3975. Do not those conditions apply to all lines? If you rob us of all our natural back-country trade which Temora has at present, we shall have nothing to depend upon but local traffic. The local merchandise for this place can be carried by one train a week. Most of the railway termini in the Colony have local merchandise and a big area of back country. We have a stretch of back country here, and a number of squatters go to Temora and deal there. We shall lose a lot of our merchandise traffic by the construction of a line from Grenfell to Wyalong. We shall lose the wool traffic from the back country, and when we lose all that, and all the Wyalong traffic, there will be very little traffic for the Cootamundra to Temora line, except during three months of the year, when the wheat and wool come in together. I have been farming for years, and I have carried wheat to Temora railway station, and have some experience of the matter.

3976. Is it not a fact that, no matter where we construct pioneer lines in agricultural districts, the bulk of the traffic will be carried during a few months of the year? I am pointing out the effect of the construction of the proposed line on the existing line which has its terminus at Temora. A lot of the traffic on that line belongs to the Temora back country. If a line be constructed from Grenfell to Wyalong it will, practically, circumvent the Temora line and place it, as a terminus, in a worse position than any other in New South Wales. All the other termini, in addition to local traffic, have a back country to drain. The construction of a line from Wyalong to Grenfell will cut the Temora to Cootamundra line clean away from the back country. It will even cut off stations only 20 to 30 miles away, and will turn their trade the other way. The staff which now works the line from Cootamundra to Temora could—if the line were extended to Wyalong—work the line to that place. At present the staff remains at Temora, and the men say they would prefer to go on to Wyalong. It would be a saving to the Department to have one train to work the whole of the line from Temora to Wyalong. The inward tonnage is: Wright, Heaton, & Co., 320 tons; Gelling and Sons, 115 tons. I might point out that if a line were constructed from Temora to Wyalong there would be an increase in the tonnage inwards in ores, as the cartage of ore from Wyalong to Temora is £1 per ton, and from Temora to Dapto 15s. 9d. per ton. I have been written to by the holder of one of the principal estates on the Bland country, through which the proposed line would pass, asking me to oppose its construction, as he does not wish it to be carried through his property. I am not, however, at liberty to make his name public.

3977. *Mr. Watson.*] Is there any land open for selection on that holding? I do not think so. I have a general knowledge of the Bland country; I have lived in this district for twenty-three years, and I think that the country from Temora to Wyalong is good agricultural country, excepting where it is too sandy, or where the gilgai holes are too wet. There is, however, very little of that country.

John James Miller, farmer, grazier, and auctioneer, Cootamundra, sworn, and examined:—

J. J. Miller. 3978. *Chairman.*] Are you prepared to give evidence with regard to stock and agriculture in connection with the proposed railway? Yes; I believe Wyalong is in every way entitled to a railway. I speak from an experience of the country extending over twenty-five years. I have a knowledge of the country about Cudgellico, Hillston, Mossiel, Ivanhoe, and the Bland. I consider that when a line is constructed from Temora to Wyalong it should go on to Lake Cudgellico, Hillston, across the river to good country on Mossiel, and subsequently to Ivanhoe and Menindie. We have not only Wyalong to take into consideration, but

but all the country at the back, which has been entitled to a railway for years past. There is good agricultural and grazing land about there. My opinion, as a practical man, is that the natural connection is by way of Temora. Vested interests have sprung up. People from Cootamundra and Temora have settled there, having been led to believe that a line would be constructed to them from Temora. People have taken up land there, and they have been neglected. Their business communications with Temora have been kept up. Some people on the other side of Temora bank in Cootamundra, and they have business transactions with Temora and Cootamundra. If a line is constructed from Koorawatha to Grenfell and thence to Wyalong, those business connections will, to a great extent, be broken up, not only with Cootamundra, but with Gundagai, Tumut, and Melbourne. A great many selectors are finding their way to this district from Victoria, and their business transactions are naturally with Victoria. It will be an anti-federal step to drag business out of its natural channel. There is no doubt that a line from Grenfell to Wyalong will be an anti-federal one. It will take business out of its natural channel. A big business has sprung up with graziers and the Victorians. The Victorians have had to pay full rates this year from Temora to Albury for their stock. One lot from Wyalong was loaded here, and they were compelled to pay full rates to Albury. We have had to send hay from Temora to meet sheep coming from Wyalong. If a line had been constructed from Temora to Wyalong the sheep would have been trucked there, and an immense amount of loss would have been avoided. If a line is constructed from Koorawatha to Grenfell and Wyalong, the stock-owners will be compelled to load at Wyalong, and carry their stock to Grenfell, Koorawatha, and Harden, back to Cootamundra, and thence to Albury. That is a distance of 101 miles, whereas by coming by way of Temora the distance would be only 70 miles. Reference has been made to connecting this country with the mountain country. We have a large extent of good mountain country on the other side of Tumut, and it was the means of saving thousands of stock last year. The country at the back is subject to drought. The stock from there is supposed to go to the mountain country to be saved. It would be a hardship to the stock-owners if they were compelled to send their stock by way of Koorawatha to Harden, and thence to Cootamundra and Tumut. This remark does not apply to times of drought only, because even in good seasons the mountainous country will be utilised. This district will take advantage of the opportunity of sending stock, principally by rail, to Tumut, and a large extent of mountain country will be brought into use in conjunction with the drier country. This year one owner of stock from this side of Condobolin had to truck his stock from there to Orange, thence to Blayney, Harden, Cootamundra, and back on the Temora line. If a line had been constructed to Wyalong, or a little further out, he could have brought his stock to Temora without following that circuitous route, and he would thus have saved expense. The Railway Commissioners will, no doubt, endeavour to make revenue out of the removal of starving stock. It sometimes takes two or three months to get sheep from the back country to the eastern country. There are losses *en route*, and heavy droving expenses. The expense is so great the Railway Commissioners would find that there was a good business to be done in carrying store stock at all times. They can carry them at cheaper rates than those they impose at present. The Temora-Wyalong line would be a line of that kind. It would bring stock from the back country to the grazing properties on the east. Some years ago 5,000 head of stock were brought from Cultower, on the Darling; and 2,000 were lost between that point and Nymagee. If a line from Temora to Wyalong, and thence to the west had been constructed, they could have been picked up and saved. A great thing to be considered is the situation in which the stock-owners will be placed in connection with the mountain country. I may say that I have known the Bland country for a number of years, and I can corroborate what previous witnesses have said in regard to it. It is not suitable for agriculture. There is a considerable extent of clayey plain there—20 miles across. It has been stated that it will be a good dairying country: I have had experience in dairying, but I do not think it will be suitable. It is very hot there in summer, and dairy-stock must have succulent food, which is not obtainable there in warm weather. It may be a good fattening country, but it will not do for milk. A great extent of the country would not be suitable for agriculture, whereas all the country from Temora to Wyalong, and for some distance beyond, is suitable for wheat-growing.

3979. Do you know the country out west from Temora? Yes.

3980. Do you know the Hay district? Yes.

3981. Is there a large amount of good agricultural land in that district? Yes; it is good wheat land right up to Hillston. It is good land all the way from Gunbar to Cudgellico, and with the exception of a few ranges here and there the whole of it is wheat land. It is good chocolate soil, and good fattening country.

3982. I believe that between the Hay line and the Lachlan there is some good country? Yes. Pretty close to the Hay line you have plains, but when you get about Gunbar you have good timber country.

3983. How far north of the Hay line have you to go before you get into the good country? There are plains of 25 miles before you get upon the proper agricultural land.

3984. Would a line from Temora to Gunbar have good agricultural land on the south, all the way? It would go through a belt of pretty thick mallee.

3985. How far does agricultural land extend between Temora and Mirrool? It is all good agricultural land between here and Mirrool Creek.

3986. We have it in evidence that fat stock brought to Temora come by way of Gundagai? Yes; a large amount of store stock has been trucked to Gundagai, and thence to Tumut.

William Falconer, contractor and timber merchant, Cootamundra, sworn, and examined:—

3987. *Chairman.*] Have you any evidence with reference to the timber and other business relations between Wyalong and Cootamundra? Yes. I may mention that I have resided at Cootamundra for the last twenty-five years, and am well acquainted with the districts between Cootamundra and Wyalong. In my opinion, a railway from Temora to Wyalong would be the best and most profitable, as it will open up good agricultural lands most of the way. There are also large belts of Murrumbidgee pine for building purposes, also ironbark and white box suitable for railway sleepers. There being a large demand for the pine at Temora, Cootamundra, Murrumburrah, Gundagai, Adelong, Tumut, and surrounding districts, for building purposes, it will bring a large revenue to all the lines. If the line is run *via* Grenfell to Wyalong it will be most inconvenient to the travelling public from all stations on this side of Harden, as they will have to go there by mail train at night, change on to the Young line, go on to Koorawatha, and stay there until next morning, whereas if run *via* Temora, we can go straight through and back in the one day if required.

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W Falconer. required. Being connected with mining at Wyalong, I go out once a month, and it will cost just as much by rail *via* Grenfell as it would *via* Temora, and thence by coach. I am of opinion that if the line is run *via* Grenfell, there will be competition with the teams and coaches from Temora against the railway. Cootamundra is the natural outlet for railway communication between Sydney, Melbourne, and Adelaide. Being half-way between Melbourne and Sydney, it will suit the convenience of the travelling public, besides opening up the back country. The line can be cheaply constructed, being practically level the whole way to Wyalong. Sleepers, fencing, and gravel can be obtained on the route. The country between Temora and Wyalong is more or less auriferous, and if prospected, there are likely to be some good finds made. Should the line be constructed *via* Grenfell, I am of opinion that three trains per week will be sufficient for the traffic, both to Temora and Wyalong, whereas if run straight through from Cootamundra it will keep the line fully employed every day, and can be run with the same engine-driver, stoker, and guard, and less rolling stock.

28 Aug., 1899. 3988. Can you give any opinion as to whether the Construction Branch have over or under-estimated the cost of a line from Temora to Wyalong. I think they have over-estimated. If they did away with the fencing it would make it cheaper still.

3989. Do you think it wise to run unfenced railways through agricultural country, and country which is likely to be fairly heavily stocked? No.

3990. What would fencing cost per mile? About £40.

3991. Can you endorse the evidence of previous witnesses? Yes.

3992. *Mr. Watson.*] Do you consider that if a line is constructed from Temora to Wyalong, a fair amount of timber will be carried over it? Yes. It will open up a large trade in sawn pine. If it goes round the other way it will cut off all that trade, because there will be too much trainage upon it. There is a wide belt of pine running from Coolamon through the country close to the line.

John Thom Stratton (Stratton and Sons, millers and grain merchants, Cootamundra), sworn, and examined:—

J. T. Stratton. 3993. *Chairman.*] Have you any information to furnish to the Committee? We do a great amount of business on the Temora line, and also towards Wyalong. We feel that if a line is not constructed from Temora to Wyalong it will not only depreciate the earnings of the Temora line; but will also depreciate the value of our mill. We have sunk a lot of money in Cootamundra. It will also affect the mills from Murrumburrah to Albury. We receive a large amount of grain direct from Gundagai, and after it is crushed it is distributed by rail over the district. If the proposed line is constructed that trade would be lost. The line from Cootamundra to Temora does not pay, and we think it advisable to extend it to Wyalong.

28 Aug., 1899. 3994. Where do you send the bulk of your flour? To Temora, Barmedman, and Wyalong.

3995. You do not depend on the local consumption of flour? No; but we depend on the local wheat.

3996. Do you think you are able to hold your own in the local markets? We cannot do it under free-trade; but we can do it under protection.

3997. If a line is constructed from Grenfell to Wyalong it means that the business which comes to you over the Temora-Cootamundra line will to a great extent cease? Yes; unless we can get the carriers to compete against the railway, which, I expect, they will do. I endorse what Mr. Miller said about the proposed line being an anti-federal one.

Frederick Pinkstone, journalist, Cootamundra, sworn, and examined:—

F. Pinkstone. 3998. *Chairman.*] Are you prepared to give evidence to show the effect of the construction of the Cootamundra to Temora line on the trade of the district? Yes. I might point out that the first selection made in this part of the country was in 1879. At that time there was not a single centre of population between Cootamundra and Wyalong. Now we have several centres, including Temora, Barmedman, and Wyalong, with a number of intermediate settlements, promoted chiefly by the railway and by gold discoveries. I think railway extension is absolutely necessary for the benefit of these districts.

28 Aug., 1899. 3999. Do you wish to say that the business built up on the Cootamundra to Temora line will be injured by the construction of a line from Grenfell to Wyalong? It must be injured. The Temora extension was started to connect Tumut with the Lachlan country—to connect the summer country of the Murrumbidgee and Tumut with the drier country of the Lachlan valley, the idea being to enable the inner districts, which were thought then to be the only ones which could grow wheat, to send breadstuffs out to the Lachlan, and to enable the pastoralists of the Lachlan in dry times to send their stock to summer country. Since the line has been constructed there has been an enormous traffic in stock to the summer country. Many thousands of stock have been saved by these two short extensions. If the gap were filled up between Temora and Wyalong it would enable nearly every sheepowner on the Lower Lachlan country to take advantage of it. They are not likely to do that, however, if they have to send sheep by way of Koorawatha. It would be cheaper and more direct to bring them along the other route. If you can put stock into a train and ship them straight to the summer country it is a great advantage and will save a lot of loss. If sheep are irregularly fed and watered the wool staple is seriously injured. Therefore, if they can be trucked direct to the summer country it is a great advantage.

4000. Do you mean to say that it would pay to construct a line simply to carry sheep? No; there are other things which have grown up as the result of railway extension. Besides the sheep traffic, a very large trade has sprung up between these districts in fat stock. For instance, all the country about Coolac, Jugiong, Gundagai, up the Adelong Creek to Tumut, is devoted very largely to the fattening of stock for market—stock which have generally been sent to Melbourne and Homebush. Since the construction of the line, however, during many months of the year no fat stock reached Homebush, and scarcely any reached the Melbourne market, for the simple reason that they are absorbed in this country. There are large populations to feed, and they can consume a lot of that fat stock. The buyers come to Temora and Cootamundra, purchase the fat stock, and take them away. In addition we have a large business in wheat. Messrs. Stratton and Sons, encouraged by railway extension, came from Victoria to Cootamundra, and established one of the finest milling plants out of Sydney. They take the wheat from these districts and send it to the most northern and southern parts of Australia, and to all the islands as far as New Caledonia. The local market for wheat is very often above the Sydney market. I have known the market in Cootamundra to be 1d., 2d., and 3d. above the Sydney market.

Generally



Generally speaking, wheat is worth 25 per cent. to 50 per cent. of the freight between Cootamundra and Sydney, on account of the good central market we have, and on account of the enterprise which has been shown by the millers from Young to Wagga Wagga. There are big mills at Young, Murrumburrah, Cootamundra, Wagga, and Temora. All these compete with each other, and can absorb a large amount of the wheat grown in these districts. By opening up markets outside we are in a sense independent of Sydney. Then there is a large traffic between these districts in chaff. Chaff is grown in these districts, and is expensively consumed in the south-east in the summer time. We get the benefit of that trade. The stud stock in these districts have, to a large extent, to be hand-fed. Nature requires a rest in October and November, and also in March and April, and sometimes May, and during these months stock have to be hand-fed. Hence we do an enormous trade in chaff with the southern districts. That all percolates through Cootamundra. The populations of the whole of the districts from Cootamundra to Wyalong are engaged in farming pursuits and in mining, and they use a large number of draught horses. These draught horses, for farming purposes, cannot be fed on wheat, but must be fed on corn. The corn comes principally from Tumut, which grows the finest quality of maize in the world. Not even the kiln-dried maize of the northern states of America can beat the Tumut maize. Hence there is a large demand for it, and a large business has been promoted by the Railway Department between Tumut and this district, which does not produce maize to any extent. We consume maize, and so do Barmedman and Wyalong. The further the wheat extends in this country the further will maize-growing in the Tumut district develop. We grow oats in this district, but not extensively. It is used more as a changing crop for sweetening the land. Wheat is a much safer crop for several reasons. If wheat goes below 2s. 6d. a bushel they prefer to feed the stock for dairy and fattening purposes with it.

4001. Is a farmer likely to bring maize from Tumut in order to feed stock, if he grows oats? If the oats were grown for grain it would have to be crushed, because it would foul the paddocks to such an extent as to do serious injury to wheat cultivation. They have to get something which is foreign to their own paddocks, and the Tumut maize is just the thing the draft horses want, both for cultivation and mining purposes. I have kept a record of the rainfall since 1885, and, in view of the character of the seasons, I think dairying is almost a hopeless industry in this part of the country. The chief industries here are sheep raising and agriculture. In connection with sheep, of course, we have a variety of industries. For instance, we have the skins, the wool, and many products, which are important industries in themselves. This trade must be injured by the construction of a line from Grenfell. I firmly believe that if it is constructed the road will beat the railway. The railway is too far north to compete with the road traffic.

4002. *Mr. Watson.*] There will be a considerable amount of traffic to Wyalong *via* Temora, even if the proposed line is constructed? Yes. I do not think the traffic to Wyalong will be reduced? I think the road will bring the traffic from Barmedman this way. Men cannot afford to grow wheat and carry it even 10 miles. Men in this district, 20 miles from a railway, have, during the last four seasons, made nothing. Men living on the railway have done well. The other day there was the sale of a farm within 3 or 4 miles of Temora. The purchaser gave a good price for it. He bought the farm because he will be able to get a siding on his land, and he intends next year to cultivate 2,000 acres. That man will not go 12 miles from a railway. He had a large farm—one of the largest between Gundagai and Wyalong—and it is only 6 or 8 miles from the line at Wallendbeen. Nevertheless, he abandoned it for sheep, and has come to this district to purchase land contiguous to the line for the purpose of growing wheat. He rented land at 5s. an acre from the Mackay's, at Murrumburrah, and made profit, simply because he was able to save in carriage. It is generally conceded that, under Federation, the Federal territory will be somewhere between the southern line and the coast. If it is, the tendency of all traffic should be to the main Southern line, and not away from it. I have a statement showing the progress of agriculture promoted by the construction of the Cootamundra to Temora railway since 1894. The total number of acres under cultivation in 1894 in the Harden, Clarendon, and Bland districts was 133,957; in 1895 it was 129,345; in 1896 it was 114,301; in 1897 it was 145,732.

John Gazzard, Railway station-master, Temora, sworn; and examined:—

4003. *Chairman.*] Have you any statistics showing the local traffic on the Temora line? Yes. From J. Gazzard. September, 1897, to August, 1898, inclusive, we carried 57,268 bags of wheat. That is the only return I have compiled during the thirteen months I have been here. The wheat traffic from December last to 28 Aug., 1899. July last, inclusive—which is a fair season—was 8,300 bags. I estimated, after seeing the millers and making inquiries from the agents and buyers, that there would be 70,000 bags carried, and the number of bags sent was as I have stated. That was due to the effects of the drought.

4004. Have you made an estimate for the coming year? Yes. Of course, everything depends on rain in October. With a good season there will be 100,000 bags.

4005. How do you arrive at your returns? The police informed me of the number of acres under cultivation, and I also interviewed the millers. There are 26,000 acres under crop, which the Temora station can fairly command.

4006. Has the other traffic fallen off proportionately? The wool traffic has. In 1893, the first year the line was opened, we carried over 11,000 bales. Last year the number of bales carried was 4,200. There has been a repetition of bad seasons since 1893. The general traffic has not fallen off. The cash returns for twelve months ending July were—Coaching, £4,287; goods traffic, £18,105. Those amounts do not actually represent the earnings of the station. Part of it is due to the main line.

4007. Do you know by how much the construction of a line from Grenfell to Wyalong would reduce your returns? I should think fully one-half, except in regard to wheat. Our passenger-traffic revenue depends very much on Wyalong. We should lose some wheat traffic, of course.

4008. Would that be made up with the greater area which will be put under wheat within reach of the line? Yes. About the same number of passengers go to Melbourne and Sydney.

4009. I believe a great number of people have found their way to the district from Victoria? Yes. At the same time, we have a good traffic towards Sydney, although as many go to Melbourne as to Sydney. Nearly all the mining population of Wyalong belong to Victoria.

4010. *Mr. Shepherd.*] Have you sent any starving stock from Temora? No. We got a lot from Hay, but they went back again.

- J. Gazzard. 4011. The wheat sent away during the last twelve months does not represent the natural production? By no means.
- 28 Aug., 1899. 4012. Is much timber brought here from Sydney and other parts for building purposes? Not a great deal.
4013. Do you send any from here? Very small quantities have gone.
4014. *Mr. Watson.*] The actual falling off in wheat last year, as compared with the previous year, was 50,000 bags? About that.
4015. That, I suppose, would materially affect the earnings of the branch? Yes.
4016. What would the carriage on 50,000 bags of wheat amount to? 3s. 6d. a ton. That means about £1,000 for the lot.
4017. Practically, then, the Cootamundra to Temora line earned £1,000 less in carriage of wheat last year than it did in the previous year? Yes.

TUESDAY, 29 AUGUST, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

Rev. John Milne Curran, Lecturer in Geology and Chemistry, Technical College, sworn, and examined:—

- Rev. J. M. Curran. 4018. *Chairman.*] A little while ago the question of constructing a railway to Wyalong was before a former Committee, and some doubts were then expressed as to the permanency of Wyalong as a gold-field;—you have had opportunities of making an examination there? Yes; I had opportunities in the year 1895, when the field first opened. I think I was on the field off and on between two and three months. At that time my opinion of the field was summed up in a very short report which was submitted to our people, and it appeared in the *Sydney Morning Herald* of 26th February, 1895. My opinion of Wyalong was expressed in one sentence, "That Wyalong had come to stay." We had no doubt left in our minds as to what the results were going to be, because the Technical Education authorities agreed to have me take an assay plant to the field, and assist the miners as far as we could possibly do. At the time there was a period of great depression in Sydney, and the idea was to try and find employment for men anyhow and anywhere. I was given *carte blanche* to do the best I could, and having an assay plant and an assistant on the field, I was able to form an opinion on the spot as to what it was going to be. I was very favourably impressed. In my previous examination I was asked if I thought the district would make progress. I remember distinctly saying that I did not think that there would ever be more people on Wyalong than there were at that time. I did not think the population would increase from a mining standpoint, although I believed that settlement would take place in the country about. I do not now think the population will ever attain to the number to which it had attained at that time, if the place depend simply on mining. As far as I remember, that is a summary of my evidence.
4019. In the early days of a field there is generally a large population attracted there? Yes; we find a great number of people going there.
4020. And a number of men who are not miners, and who are hardly looked upon as likely to stay? Yes. What struck me about Wyalong was that there were comparatively very few miners there in the early days. Everything was against regular miners going there; the formation was so unusual; the conditions under which gold occurred were very unusual, and the methods of prospecting there were curious. There was really no systematic method by which men could find a reef. I think Mr. Neeld himself saw the first quartz brought to the surface through a tree being blown down, so that it was really not a field for regular miners to be attracted to in any sense.
4021. How long is it since you were there? Since 1895 I have visited the field twice in my private capacity.
4022. The Committee were at Wyalong recently, and we made inquiries in reference to the permanency of the field. Most of the holders seem to have no doubt about its permanency; but we found on inquiry that each of the shafts at the 500-foot level had struck a blank. They have not found anything; but they think they have a good lode channel;—do you think it is possible that at that depth the reefs have pinched out? I do not think there is any probability of it. There may, perhaps, be a floor coming in at that depth; but I think that they will pick up the reef again.
4023. You think it is quite probable where they happened to crosscut or strike it they have just struck a blank, and that it will make again? Yes.
4024. The character of the lodes is that they make and pinch out? They make and pinch and make again.
4025. You have no doubt about the permanency of the field, and that the lodes will carry to a depth? That is my opinion.
4026. *Dr. Garran.*] You judged early that Wyalong would be a permanent gold-field;—what is there in Wyalong different from Temora to make you come to that conclusion? In the first place, the country about Wyalong is all granite. The country about Temora is all slate and diorite. The conditions in which reefs were formed in Wyalong were such that these fissures must have been formed at a period long before the granite became decomposed. The granite is now decomposed to, say, 150 or 200 feet. The fissures could not be formed in the granite as it is now; the granite must be solid. For fissures to form in solid granite, it means, relatively speaking, very large earth movements to cause these channels. In the slate country, I should say, very much less movement would cause fissures, and in the slate country the fissures need not be necessarily connected, but simply be puckerings. In the granite country the breaks and the character of the reefs, I think, bear that view out entirely. That is one reason. Another reason is that I always find, when we get such minerals as sulphide of zinc and lead phosphate with gold-bearing quartz, it is invariably a good sign of permanency. I never saw any thoroughly good mineralised stone

stone from Temora—what you might call a true mineralised gold-bearing stone, in reefs or lodes of any size.

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4027. Did you visit Temora in the early days? Yes, about fifteen or sixteen years ago.
4028. What opinion did you form then? I really did not form any opinion. I felt rather confused about the whole place. The impression was inclined to be favourable; but I could form no opinion, as there were too many divergent conditions.
4029. The two gold-fields are quite different in their character? In every way.
4030. To what cause do geologists attribute these fissures in the granite? Earth movements.
4031. Not to contraction and expansion—heat and cold? I doubt it very much. The depth at which they were formed would hardly support such an idea.
4032. Is the gold supposed to have been deposited by infiltration from the surrounding rocks? Probably, if by surrounding rocks we mean rocks that are closely related to, as well as actually in contact with, the reefs; also the rocks surrounding the hundreds of feet of reef now denuded away.
4033. The width of the lodes to-day would depend on the width of the crevices? I should think the lodes are very much smaller than the original crevices on account of the lateral and vertical movements of the sides of the fissures.
4034. The two sides will work up and down? Yes, and they have also moved along their length.
4035. If the fissures were formed, as you suppose, would it be reasonable to imagine that they went down to a considerable depth? Certainly.
4036. They are not superficial fissures? No. Take a field such as Mount McDonald. The gold occurs in slate there, and the slate runs in a trough under the granite. I should think, when they come to the granite, there will be no more gold. But there is no presumption we could fall back upon to say why gold should give out in Wyalong.
4037. What do you suppose is underneath this granite? No man knows.
4038. What do you think is the thickness of the granite? It is the thickness of the crust of the earth—it goes in 30 or 40 miles at the least. There is no rock we know under it.
4039. The limit to mining is simply the limit of our capacity to go down and work at the depth? Yes.
4040. Will you explain why we cannot get an equal depth in the fissure at Temora? All the fissure-reefs I saw at Temora seemed to be formed more through openings in stratified rocks.
4041. There would be a slight puckering of the rock there? Yes. At Temora, too, some of the best reefs I saw there simply formed at the junction of slate and diorite.
4042. Is it not a general rule that you get the gold at the junction of slate and diorite? Yes; it is a very common occurrence. It is by no means a permanent condition, not nearly so good as Wyalong would be, I should imagine.
4043. If gold is found in this way in the granite near Wyalong, what is there to indicate how much of the surrounding granite may be expected to be auriferous also? Outside the auriferous area fissures were probably not formed.
4044. There is a good deal of granite around Wyalong? Yes. I do not think the gold goes very much further from Wyalong as a centre than what they have discovered.
4045. Can you give any geological reason why granite should cease to be gold-bearing at that particular point? The present auriferous area is much fissured, and was probably a focus of earth movements.
4046. The area of the profitable gold-bearing country to-day depends on the area of the fissures of a long time ago? I think so.
4047. No fissures, no gold? No; no payable gold.
4048. Yet the granite itself may be as auriferous as the granite was years ago near Wyalong, only it has passed its gold into the fissures? I doubt if there is gold in the granite at all in Wyalong? I do not think the granite itself has given much gold to the reefs.
4049. Where does the gold come from? There is a good deal to be said on many phases of the question.
4050. Does it come up from below? I should say so—in solution.
4051. Not drawn from surrounding rocks? Not from surface rocks surrounding. There is one peculiar rock at Wyalong—diorite—sometimes called by other names. That I would take to be the source of the gold. It is what we call very heavy and basic rock, compared with granite. Crude as the idea seems to be, there is something in it, that metals are distributed in the earth according to their specific gravity. I think rocks from a greater depth would be more likely to bring gold with them.
4052. The tendency of your question is that Wyalong, although a permanent gold-field, is a limited one as to its area? Yes.
4053. And you do not know of any locality in the immediate neighbourhood of Wyalong which is equally good, or likely to be equally good? Not immediately around Wyalong.
4054. Where is the nearest to Wyalong? Barmedman on one side, and Yalgogrin on the other. I was rather impressed with Yalgogrin.
4055. Is Yalgogrin similar country? No; it looked magnificent as a gold-bearing piece of country. Most of the reefs I saw were in slate. The whole conditions were auriferous-looking. I am rather disappointed that it has not come forward very much better than it has.
4056. In going west from Wyalong there is not very much seen of auriferous country? Yalgogrin is due west. Beyond Yalgogrin you get into rocks where I do not think there is any chance of getting gold.
4057. If there is gold there, it has been overlain by alluvial washings? Even the bed-rock is not gold-bearing along these central ranges of the Colony. They are mostly Devonian sandstones.
4058. Are these Devonian sandstones which you speak of the hardest sandstones, which have stood the weathering? They are not very hard, but relatively they are harder than what is washed away.
4059. They are survivals of a plateau? Yes.
4060. They all represent a higher elevation than what there is now? Yes.
4061. They do not rise many feet? No.
4062. Just enough to form a watershed? Yes; sometimes you wonder where the watershed is there. There must be a watershed I suppose—it is a very deceptive country. The country has been worn away about Wyalong, I should say, by marine action in Cretaceous times. Therefore, the gold which should have gone into rivers and gutters has simply been spread over a beach formation. Instead of being, so to speak, gathered together in gutters, it has been spread over old sea-beaches.
4063. When the denudation is by fresh water, and above sea-level, we get it in gutters? Yes.
4064. When it is by marine water it spreads? Yes.

4065.

- Rev. J. M. Curran. 4065. It is the spread of gold which induces you to think that it has been under sea-water? Not altogether; Cobar stands at a higher level. It was probably washed by Cretaceous seas. I do not, therefore, see why that country to which I refer should not have been also subjected to marine action in Cretaceous or Cretaceous-Tertiary times.
- 29 Aug., 1899. 4066. *Mr. Shepherd.*] Have you not been at Wyalong since 1895? Yes; but not officially. I have been there on two occasions on private business.
4067. Did you go down any of the shafts on the occasion of your last visit? Yes; at Pine Ridge only.
4068. What was the depth of the deepest shaft you went down? 130 or 140 feet. It is about  $2\frac{1}{2}$  miles from the township.
4069. They are working one shaft now at a depth of 300 feet, and they seem to have a very good reef on it, but the reef is very hard? As far as that goes, we get abundant samples sent from there, and I know the character of the stone referred to.
4070. Although they have been working fifteen months, they do not appear to have tested the reef at a deeper level than 300 feet? Probably they are rather frightened; the conditions are so unusual. I know many were frightened to go below water-level when I was there.
4071. The reef they are working in is perfectly dry;—they also have two other shafts—one 600 feet deep and the other 500 feet deep; but they do not appear to have come on the reefs at that depth;—I think your opinion is not favourable to the field being regarded as a permanent one? I think it is permanent; but I do not see how it is going to support a very large population of miners. I could not think why it would not be permanent.
4072. Do you think it is likely that these reefs will be payable at a greater depth? I think they would.
4073. I suppose you have not had any practical experience of mining? I have not had any practical experience in mining.
4074. *Mr. Dick.*] What is your opinion of Barmedman field? When I was about there, there was very little to be seen. I was rather struck with the Fiery Cross country, and with the minerals which came from that country; but the shafts were full of water, and there was no chance of knowing how things were.
4075. From information we received there, it seems that operations were suspended on account of the water;—do you think that if that difficulty were got over, the reefs below the water level are likely to prove payable? I have seen very magnificent samples of gold-bearing stone from Barmedman.
4076. Do you remember whether they were mineralised? Yes, highly mineralised.
4077. Is that usually regarded as a good sign? Yes, of permanency.
4078. Is the field at Reefton of the same nature? No, it is very different. When I saw that field it was rather more like the conditions in which gold occurs in, say, Cobar, or even Temora. The reefs were all in soft, yellow slate.
4079. Taking that stretch of country from Temora to Wyalong, may it be reasonably expected that mineral developments will take place along that line? Certainly. It is all country where you might expect anything in the way of a mine to be discovered.
4080. Can you offer any opinion as to whether that district has been fairly prospected? I think it has been fairly prospected; but against that fact look at Cobar. When I lived at Cobar, there was not a gold-mine in the district, and it was supposed to be as well prospected as a country could be; but events showed it was not.
4081. Is that mineral belt from Temora to Wyalong of any great width—that is east and west? I hardly could give you an opinion. There are really three different belts, and I do not think there is any connection between the belts.
4082. Do I understand that you do not anticipate much from reefing developments immediately around Temora? Really, I do not expect very much there.
4083. *Mr. Watson.*] Do you consider sinking to a depth of from 150 to 250 feet sufficient prospecting? Yes; if you are following a reef, I should think it would be quite sufficient. I quite understand that if you are simply sinking a shaft to cut a reef the statement would not hold.
4084. Assuming you to have good gold above, would you think that was fairly prospected if you lost the run of gold, although still holding the reef at (say) 150 feet? No, I would not.
4085. You think it would be worth while following up the reef? Yes, provided that you had good gold above.
4086. I think you said that you did not remember any instance where good reef gold in a well-mineralised matrix was obtained at Temora;—did you hear of Mother Shipton's? Yes; I have seen samples and been underground.
4087. They got rich gold near the surface? Very rich alluvial. I do not think they ever got any considerable quantity of quartz with much gold in it, and it is a very problematical question where alluvial gold has come from, indeed.
4088. I have been shown specimens which were supposed to be from Mother Shipton's, and the quartz was heavily charged with gold? I have seen some rather good quartz from Mother Shipton's, and also from another abandoned shaft on the railway line which someone took up again recently.
4089. Did you notice any of the reefs at the lower end of Temora? No; I have not seen any reefs in the lower end at all.
4090. There are some reefs there which have assayed 12 and 14 dwt. per ton? Yes; I have heard that they have got something rather like that.
4091. Do you think there is sufficient distance between Upper Temora and Lower Temora to give a possibility or a probability of a change in the character of the reefs, the distance being about 4 miles? I could scarcely answer that question, as I do not know sufficient of the later developments there.
4092. We were informed at Reefton that they had got mineralised ore there at the 300-foot level, that is in slate country;—is that a good indication following on what you saw of the reef originally? I think it is. What is there is very good looking, but there is not enough of it.
4093. You think that at Reefton there might, perhaps, be a few mines which might pay well? Yes, a few mining camps.
4094. *Mr. Trickett.*] When you were before a former Committee you stated that you thought that the Wyalong stone must be treated on the field;—but they seem to be sending a good deal to Dapto for treatment? At the same time I think it would pay them better if they could do it on the field. It is the hope of, I think, everyone who owns a mine to treat the ore on the field. There is really no reason why they could not or should not treat the stone locally. 4095.

4095. It is a question of plant and outlay? It is a question of their agreeing amongst themselves to support works which could treat ore of that sort. It is a matter of brains more than actual capital. You want a good man, and you cannot get a good man under £1,000 or £2,000 a year who will do that sort of thing, and one mine cannot afford to give that salary.

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4096. Do you think there is any prospect of any other minerals being found in the district between Temora and Wyalong? No. I do not think it is a copper country.

4097. You think it is purely a gold country? I think so.

4098. Before a former Committee you stated that you thought the mining population of Wyalong was about at its normal state—about 5,000 people; since that time it has rather decreased;—I suppose you are still of opinion that the field is of such a character that it will not attract a very large mining population? No; the highest population which the mining industry will support was the population which it had when I was there in 1895. I do not think there will ever be so many there again.

4099. When you were there in 1895 you stated that there were between sixty and seventy claims on payable gold;—on the occasion of your last visit, did you notice whether the number had been diminished or increased? A great many less; nothing like that number, I should think.

4100. *Mr. Watson.*] I suppose, when you were there previously, a great number had been working at shallow reefs in broken country? Yes.

4101. What has since become one property belonged then to three, four, or five prospectors? I suppose so.

4102. *Mr. Trickett.*] Before the former Committee you said that you did not see that the development of the field was in any way being retarded by reason of its not having railway communication;—have you seen any room to change your opinion? From a mining standpoint, I cannot see what advantage it would give them in the way of developing the field.

4103. It is not likely, if they build a railway from Temora, that the development of the mines would be in any way increased? I do not see that it would affect the mines at all. It might affect other industries, but the mines would go on just the same, I should imagine.

4104. Have the conditions, in regard to water supply in the district improved since you were there before? No; I think the trouble is as intense as ever it was. There is always the danger of everything coming to a standstill from the want of water.

4105. *Chairman.*] We gather, then, that, so far as Wyalong is concerned, you think that reefing will be permanent there—that it is doubtful at Barmedman and at Reefton, and that there is very little chance at Temora for reefing? I think it would be rather strong to say that in regard to Barmedman and the Reefton mining camp on the way out there. There are great possibilities in both places. As far as reefing goes in Temora, I think I might say safely, I do not think there is any great development to be expected there. I think it would be rather hazardous to say that Barmedman might not turn out to be a very good gold-producing centre.

4106. Possibly it may be? It is quite possible. You might even say that there is a reasonable possibility of believing such a thing.

4107. We are considering a proposal to construct a line of railway from Grenfell to Wyalong;—do you think the construction of the line would benefit mining at all;—I think I understood you to say that it would not? That is what I think. I cannot see how the mining industry could take any great leap forward if the railway were built.

4108. Do you think, from the character of the stone there, it would be necessary to smelt? I do not think so. I do not see how they could very well smelt the ore. It is a very different thing at Dapto, where they have other ores to smelt with—that is, if they do smelt Wyalong stone at Dapto.

4109. So that, if it did resolve itself into a question of smelting, the ore would be carried from Wyalong? Even then, I think, it would; but I do not think the smelting proposition will ever do much for Wyalong.

4110. We must not hope to get much revenue from traffic in either coal or ore over the line if constructed? I do not think so. I do not see how there would be any considerable consumption of coal.

4111. *Mr. Levien.*] I suppose that with a permanent field like Wyalong there is a better chance of success for a railway than there is with a field about which there is no certainty;—there is always a constant traffic between the two places? In a general way it would have a better chance of success; but I cannot see how it would benefit the mining materially.

4112. But the population and the merchandise would provide a large traffic to a permanent field;—you would say that Wyalong is a permanent field? Yes.

4113. Both the Rev. Mr. Campbell and yourself think that it is a permanent field? I see no reason why mining should not go on there for many years.

4114. Considering that it is a permanent field, with its population and the merchandise which will be required, do you not think it has a good chance of success? I think the district would benefit by a railway; but that is hardly a help to mining. It opens up a commercial question.

4115. You look upon it as a permanent field in a limited way? Yes.

4116. What is your opinion about Barmedman? I think I might expect anything from Barmedman. It would not surprise me to hear that good discoveries were made in that district.

4117. So far as you can offer an opinion, do you think Barmedman will be a permanent field? It is only a very vague opinion one can give as to a possible field. If any gold were discovered there below water-level in some of the old shafts, I should consider it a very hopeful sign.

4118. And as regards Reefton, what is your opinion? It will be a good mining camp, I should say, for some time.

4119. It is rarely that you find three fields so closely associated as you find these three fields, and having a chance of success? Yes; it is rarely you find three fields so close together, and so different in character, too.

Arthur Sharp, District Surveyor, Forbes, sworn, and examined:—

4120. *Chairman.*] You are District Surveyor stationed at Forbes? Yes.

4121. How much of the country to be served by the proposed line is in your district? The whole of it.

4122. Will you give the boundries of your district? It extends south to within 5 miles of Temora—it runs north of east to about 6 or 8 miles west of Koorawatha—it follows the Dividing Range right down to the Lachlan, including the whole of the land district of Grenfell.

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4123. Can you describe the nature of the country between the Lachlan and the proposed line? Yes. Following the line from Grenfell, you pass through good agricultural country for about 20 miles when you

A. Sharp. you strike the Bland Plain country which I consider only pastoral country. It is very rich pastoral country, but is not adapted for agriculture. That country would extend for about 25 miles. For the last 10 miles you get into agricultural country again before you reach Wyalong.

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4124. The Bland country is first-class sheep country? Yes.

4125. Is there much good land lying between Lake Cowal and that line which you see on the map running north from Grenfell to Forbes? There is some very good country in between those two points, until you get within 20 miles of Lake Cowal, when you strike the Bland country again.

4126. *Mr. Watson.*] That would be about half way between the imaginary line and the lake? Yes.

4127. *Chairman.*] If we have been told that the good agricultural country extends almost to the shores of Lake Cowal, you do not think that is so? Certainly not on the east side. On the west side it extends much closer; but on the east side that is low-lying country, swampy country, not what I consider agricultural country at all. It is very rich pastoral country, but it is not adapted for agriculture.

4128. *Mr. Trickett.*] As regards a railway line from Grenfell to Wyalong, you start with about 22 miles of good country? Yes; about 25 miles of good agricultural country.

4129. Consisting of red-soil, suitable for the growth of cereals? Yes.

4130. Then you go through this large patch of Bland country for a distance of 25 miles? Yes.

4131. And for the last 10 miles on to Wyalong you come into country which you think is suitable for agriculture? Yes.

4132. Although somewhat different in character from the country at the other end? Yes.

4133. It is more of a mixed character—some red soil and some mallee country, which would be suitable for crops? Yes.

4134. *Mr. Watson.*] The mallee is rather in narrow belts, as a rule? Yes; but there are some good large belts about Wyalong. Some of it is good, and some of it is absolutely worthless.

4135. Starting from Grenfell to Wyalong, of the northern route, and the Bimbi route, which do you think would benefit the larger area of agricultural land on either side of the line? I should say about equal; I do not think there would be very much difference.

4136. On the northern route you have the Weddin Mountain on the left side, and on the southern route you have it on the right side going out? Yes; you must go round either north or south.

4137. With regard to this Bland country, we have had many opinions;—what do you think of that country as regards its agricultural capacity? I do not think it is suitable for agriculture; it is too stiff.

4138. Is it likely to be flooded? Yes; it is low-lying. It holds water; it is clay-pan country.

4139. Do you think it would be a class of country across which there would be any great rush of water in a time of heavy rain, which would injure a surface line of railway? Yes. In 1885, when the Cootamundra railway accident took place, that was all a sea of water for miles wide; it filled the lake. It catches all the water from up near Cootamundra. There is a tremendous watershed.

4140. To what depth was the water where the railway line would traverse? I should say from 1 foot to 5 or 6 feet in the depressions.

4141. For a railway line the depressions would be filled in? Yes.

4142. But on the ordinary level the water was about a foot in depth? Yes.

4143. Was not that a very extreme fall of rain? It was a very exceptional fall.

4144. Do you think, under ordinary circumstances, a surface line of railway, with ample water channels at frequent intervals, would stand the ordinary rush of water? Yes, provided that the get-aways were sufficient to keep the water from going over the line.

4145. With plenty of water channels at frequent intervals would it stand the ordinary rush of water? Yes.

4146. The Bland Creek does not run generally? No.

4147. It only runs in times of heavy rains? That is all.

4148. As a rule the water-holes of the river are at considerable intervals? In an ordinary season you can get water in every quarter of a mile along the river.

4149. Have you ever seen any crops growing on this Bland country to any extent? No. The only place at which I have seen crops growing is Billabong station, which is below Marsden. The crops were not a success, and the station manager told me that he found it much cheaper to buy from farmers who have selections out towards Wyalong on the sandy country than to attempt to grow his own, as the crops were so risky.

4150. Having described the country to Wyalong, will you now describe the character of the country in the direction of Hillston from Wyalong? It is very scrubby country. It is all timbered country as far as my district goes, that is about 30 miles west of Wyalong.

4151. Will you describe the country between Yalgogrin and on towards Rankin's Springs? It is all timbered country, mostly encumbered with scrub; very excellent soil for agriculture for the greater part of the area. It is difficult country to treat for grazing purposes, because of the noxious growths. They require constant expenditure, and the country is not sufficiently heavy-carrying to keep down this undergrowth; but I think it would grow first-class wheat on three-fourths of the area.

4152. Is there any wheat cultivation out on that area? Yes, I have seen a crop growing at Ungarie, 30 miles north-west of Wyalong, and it was as fine a crop as ever I saw in my life.

4153. In a good season you have seen a splendid crop of wheat there? Yes.

4154. Is the country at Ungarie of the same character as the country in the direction of Rankin's Springs? As far as my district goes it is similar country—open box and oak forest with belts of mallee interspersed occasionally with patches of boree.

4155. With regard to this scrub country, it is a fact that it is allowed to become overrun by scrub and vermin, by reason of the squatters not being certain of their tenure, and not being prepared to go in for expensive clearing? There is no doubt that has a great deal to do with it. On Buddigower, which comprises 80,000 acres, there is a large area—three-fourths of it—of first-class agricultural country. It is a leasehold area which was thrown open three years ago. They would not pay for the land for grazing purposes.

4156. If it is such good agricultural land as you describe why is it not taken up;—is it not available for agricultural purposes? Yes, but there is no market. It is too far from a railway to cart the stuff.

4157. Going from Wyalong to Barmedman, will you describe that country for a distance of 10 miles on either side of the suggested route? On the western side it is practically all timbered country, and a good deal

- deal of mallee within that distance of 10 miles. On the eastern side, three-fourths of the country is heavily timbered, but it has a fairly good soil for cultivation. The other fourth would be clay soil. A. Sharp.  
 4158. In going from Wyalong to Barmedman we did not notice so much cultivation as we did in going from Barmedman to Temora;—do you know the reason of that? Yes. You are passing through leasehold areas nearly all the way from Wyalong to Barmedman, and where you are not passing through leasehold areas, you are passing through a stock route which you cannot see across. 29 Aug., 1899.
4159. So that that land has not been available for agriculture? Not close to the road.
4160. Then going on from Barmedman down to Temora, will you describe a stretch of country for say 10 miles on either side of the suggested route? It is all timbered country, good red soil, well adapted for agriculture, except on the hills, such as about Reefton, where there is some barren country.
4161. Off the hills it is all good country, and there is a considerable amount of agriculture going on? Yes; as you get in towards the railway.
4162. Take the country from Temora outwards towards Wyalong for a distance of 20 or 25 miles, and taking the country from Grenfell outwards towards Wyalong for a distance of 25 miles, do you think the circumstances are very much the same with regard to agricultural advantages? Very much the same, if anything I should say a little in favour of the Temora side, because the Weddin Mountain takes up a large area, more, I think, than there would be within the same radius from Temora.
4163. But the class of country available is of much the same character, is it not? It is of much the same character—really good wheat land.
4164. Have you known the district well since the line was extended from Cootamundra to Temora? Yes.
4165. What has been your observation of the effect of that railway upon agriculture, between Cootamundra, and between Temora and Barmedman? I could not say so much about the country between Cootamundra and Temora. From Temora and Barmedman West, out in the direction of Ariaiah, there has been a large increase in agriculture.
4166. More so than on the direct line from Temora to Wyalong? I think so, because it is easier country to clear.
4167. Will you describe the country? It is pine and box country; but it is not so encumbered with noxious scrub; it is easier to deal with.
4168. Do you know the country to the west of Koorawatha? Yes; as far as my district goes; as far as the top of the range I know it.
4169. Do you know the wheat areas there belonging to Mr. Greene, Mr. Wood, and the other holders? Yes.
4170. How would you compare that patch of country, as regards its agricultural advancement, with the country which you have described, out between Temora and Ariaiah? I should think that one would be about as good as the other. I should think that the Ariaiah country would be as good as Mr. Woods'.
4171. Just about the same? I think so.
4172. Do you regard all that country you have been speaking of as being of a somewhat similar character as regards its agricultural prospects? Yes.
4173. Do you think the fact of the rainfall being lighter as you get westward is a detriment to the wheat crops, or is that patch of country such that where you get rain in one part you do not get rain in another? There is not a great deal of difference, I think, in the rainfall of the whole district.
4174. We hear it contended that with regard to some of the starting-points of these railways, such as Grenfell and Temora, as you go west the rainfall becomes less, and that places to the east, such as Grenfell, Koorawatha, and Temora, would be the means of feeding the western parts in dry season;—do you not think they are sufficiently close together that when there is likely to be a drought in one part of the district, there is likely to be a dry season in another part? I think so. A thunderstorm makes all the difference in wheat-growing.
4175. Taking the ordinary rainfall, until you get possibly out towards Rankin's Springs, do you not think that the rainfall of that district which we are now considering is pretty much of a muchness? Yes.
4176. So that as regards one part getting a benefit from another part in a dry season, there is not very much chance for them to get a market out west? Not as regards the country shown on the map. It is all practically the same. In one year it might be better in one place than in another; but in the next year it might not be.
4177. How does this belt of country which we are now considering compare with the wheat-growing country as you get up nearer to the Lachlan River, about Forbes? The country about Forbes is of a different nature; it is more black soil.
4178. Better for wheat growing? I do not think so. It is better for grazing.
4179. Crops have been fairly successful up there? One failure in six or seven crops, not more.
4180. They are entirely dependent on the rainfall; they do not go in for irrigating their crops? No; nothing to speak of. I do not know of any wheat that is irrigated.
4181. I suppose, as a Government official, you would not care to give a straight-out opinion as to which line would be the better one to construct? My opinion is that the line from Temora would be the best one, for the reason that, on the other, for a distance of 25 miles east and west, and about 30 or 40 miles north and south, I do not see that it could be much more productive than it is. Another reason is that on that line there are such large estates to go through. You may say that Mr. Gibson, Mrs. French, Mr. Chisholm, and Mr. Donkin have nearly all the Bland country. I suppose there is an area of 150,000 acres of freehold land in four estates. That condition of things does not prevail at all on the route from Temora.
4182. Would that be regarding the railway as merely going as far as Wyalong, or as having in view a further extension to the west? Either. If it is to go beyond Wyalong, which I presume it is, I think it should still go from Temora, because it would open up more Government land, and country that is capable of a good deal of production, but which is now only a breeding-ground for vermin.
4183. *Mr. Shepherd.*] Is the whole of the Bland country of a similar character as regards soil, or does it vary? It is practically the same; it is more swampy in places, of course.
4184. I suppose it is pretty well equally divided between plain and bush? Yes; a good deal of the country has a little timber on it; but the soil is practically the same. It is a wet, clayey soil, which holds the water. It grows splendid grass.
4185. It is a sort of blue, tenacious clay? Yes.

- A. Sharp. 4186. Are you aware whether any attempt has been made to cultivate? No; except at Buddigower, below Marsden, where it is a crumbly black soil, not a hard black mud.
- 29 Aug., 1899. 4187. With what success at that place? The station manager told me he found it so precarious that he had given up all idea of cultivation since the farmers came out near Wyalong; he found it much cheaper to buy stuff from them than to grow it.
4188. How does it answer as pastoral country? Splendidly.
4189. I suppose in a fairly good season it affords pasture pretty well all the year? I have seen grass as high as myself on the plains there.
4190. Chiefly trefoil, I suppose? There is trefoil, and there is what they call "plain grass," which runs to a head like oats.
4191. Have you ever seen Mitchell-grass in that part of the country? I could not say, as I do not know Mitchell-grass.
4192. As a pastoral country, you think it is excellent? Yes.
4193. How many cattle or sheep will it carry to the acre? It is estimated at about  $1\frac{1}{2}$  acre to a sheep, and at about 10 acres, or perhaps a little more, to a grown bullock.
4194. I thought it was generally considered that one large beast takes as much as three sheep? I think about seven.
4195. As regards dividing the country, where a regular system of railroads exists, do you not think it is an advantage, as nearly as possible, to run parallel lines, so as to tap the distant country from the main line? Yes.
4196. Which line would divide the country best in this instance—a line from Grenfell, or a line from Temora? The Grenfell line would, looking at the matter in that way, as far as Wyalong.
4197. There is very little doubt that ultimately the line from Koorawatha will be continued, and taken probably on to Hillston, and then the line from Wyalong to Temora would strike off from that line almost at a right angle? It is a long way from a right angle.
4198. At all events, adopting a principle of that kind, it appears to me that a line from Koorawatha to Hillston would more equally divide the country than would be the case if you constructed a line to Temora, and left all that country open? I quite admit that, if the other conditions were similar. There is so much in favour of the Temora line that I think it should be taken from Temora.
4199. You think in the interests of the country generally the Temora-Wyalong line is the better one of the two? I think so. Taking a line north and south from Wyalong, as regards most of the people west of that line, their interests lie more southerly than northerly, and if the line were taken *via* Grenfell, there would still be a large traffic by coach to Wyalong and Temora.
4200. *Mr. Watson.*] A competitor with the Grenfell-Wyalong railway? Yes. The Commissioners would get all that traffic if they took the line from Temora, whereas they would lose a great deal of it by taking the line from Grenfell.
4201. *Mr. Shepherd.*] You are well acquainted with the whole of that country right out to the Lachlan? Yes.
4202. Is it a fact that there is good agricultural country out all the way to the Lachlan? Yes; till you get within 15 miles of the Lachlan, and leaving out the hills, it is really good agricultural land. It is all country that is easily cleared for agriculture.
4203. Compared with the coast country, it is very easily cleared, because the timber is so easily burnt off? Compared with coast country, it is very easily cleared.
4204. Is that black-soil country met with to any extent in any other portion of that line: we were told that a little way out from that line from Barmedman there was a good deal of black soil? Yes; you strike what you call the Bland country about 3 miles from Barmedman—at Mr. Rickardson's station.
4205. Is there any great extent of that country? Yes; you skirt it all the way.
4206. *Mr. Dick.*] You were asked whether you do not think, as a matter of policy, it would be better to split the country up by a system of parallel lines;—does not such a system presume that the whole of the land is uniformly good? Yes; I explained that with equal conditions that argument holds good, but not otherwise.
4207. Is it not also presumed that there are no great differences in the way of mountains, watercourses, and lakes? Yes; the conditions must be absolutely equal.
4208. Could you offer any opinion as to why a considerable amount of the leasehold area in this district is held under a system of annual leases, and why so much of the country to the west of Wyalong is untenanted? Because the expense of getting it into a fit state for grazing purposes is so heavy that it does not pay with the tenure they have, and also because it is infested with anthrax and wild dogs; but at the same time it is admirably adapted for agriculture.
4209. Do you think a system of close settlement with small holdings would alter the conditions of settlement out there? I do; I think it would be taken up if they had railway communication within a reasonable distance.
4210. I think you stated that the good agricultural land extended west from Grenfell for a distance of from 20 to 25 miles;—do you not think that for all practical purposes that good land would be served, as far as traffic is concerned, by a terminus at Grenfell? Yes.
4211. Then, with an extension from Temora to Wyalong, would not the good country around Wyalong also be similarly served by a terminus at Wyalong? Yes, for a similar distance.
4212. That leaves an intermediate stretch between Grenfell and Wyalong—practically the Bland area—through which a railway would not pass;—do you think, as it is pastoral country, that area would be sufficiently served by a terminus at Grenfell and a terminus at Wyalong? Certainly I do.
4213. We had it from several witnesses that the low embankments which it is proposed to construct along the Bland country for the railway would, in the case of even an ordinary flood, be almost entirely washed away, and that the rails would be left practically hanging to the sleepers, with no support at all between them;—do you think the country there is of so soluble a nature as to bring about that result in times of flood? I do not think so, except in a big flood. As long as the flood did not come over the rails, I think it would be all right.
4214. In any case you think considerable openings would be necessary to allow the water to get away? Certainly.
4215. If there were not sufficient openings provided, a railway line from Grenfell to Wyalong would act practically as a long dam, which would intercept the course of water practically at right angles? Yes.
- 4216.



4216. *Mr. Watson.*] Will you roughly describe the country which is drained by the Bland, south of the proposed line? Commencing at Bumbaldry, 15 miles west from Cowra, the water runs into the Bland, and also from the town of Young; then again from near Cootamundra, and then again from Temora, and at Duck Creek, between Reefton and Morangarell. A. Sharp.  
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4217. That is an extensive area of country? It is a very large area.
4218. Therefore, I should imagine a very great body of water will pass down the Bland occasionally where it is proposed that the line will cross? Yes.
4219. Do you think the gentleman who has been conducting the survey recently across that tract of country, having seen it only in the driest season, would really have no conception of the Bland under wet conditions? I do not think so. They would have the levels to guide them, and they would get particulars as to flood-marks from the local people; but looking at it alone they could not realise the difference.
4220. Do you not think it would almost require that the two conditions should be seen to appreciate the difference between them? I think so.
4221. With regard to the cutting up of the country, you are of opinion that, notwithstanding the fact that the line from Grenfell to Wyalong may look to divide the country in a better manner, the local conditions are so emphatically different that it is a wiser proposition to go from Temora? Yes.
4222. You have no doubt either that with a railway connection, no matter from which point westward from Wyalong, that country can be opened with profit to the State? Yes; from Temora to Wyalong.
4223. In any case, supposing the railway goes to Wyalong, an extension westward would pay—at any rate, would open up a big lot of country? It would pay in this way: It would bring into profitable occupation country which is now a wilderness.
4224. I do not suppose a single settler going there under present conditions would have much chance of success against dogs and rabbits? No.
4225. He would require to have near him neighbours who would assist him in keeping down the vermin? Yes.
4226. So that it is impossible without a very large expenditure of capital, I should imagine, to expect that country to be profitably worked without railway communication? I think it would require a railway to reclaim it; otherwise I do not think it will ever be occupied.
4227. *Mr. Levien.*] You have looked at the matter from every standpoint, and if you had a recommendation to make you would recommend a line from Wyalong to Temora? Yes.
4228. How many years have you been in that part of the Colony? I have been District Surveyor for eight years, and I have been a surveyor in the district for twenty-two years.
4229. You have a thorough knowledge of the district, and that is what you would honestly recommend? Yes. The Temora line can never pay unless it is extended. As regards the Grenfell to Koorawatha line, I think it is only a matter of time when it must be extended to Dubbo.
4230. *Mr. Trickett.*] Suppose a railway is wanted out to Ariah and Gunbar, where will that go from? If those two lines are going to be made, a line from Temora to Wyalong will not be necessary.
4231. *Mr. Watson.*] If a line to Ariah were necessary, could it not junction at Temora and still go through good country all the way? Yes. There is a cocks spur line from Cootamundra to Gundagai, which runs into mountain country, and which has been much used this last year by starving stock. When there is a drought in this western country that cocks spur line could be used to take stock from the dry country up on to the mountains by a direct route, whereas it will never pay to go all the way round with the stock.

WEDNESDAY, 30 AUGUST, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

Samuel Nixon, farmer, Gunbar, sworn, and examined:—

4232. *Chairman.*] You are a farmer residing at Gunbar? Yes.
4233. You are also President of the Gunbar Railway League? Yes.
4234. You desire to give evidence at this inquiry? Yes.
4235. *Dr. Garran.*] What do you cultivate? I have 1,675 acres of land under wheat.
4236. During the last four dry years, have you been able to grow wheat? With the exception of last year, I have had payable crops.
4237. What do you call a payable crop? From 10 to 11 bushels.
4238. Is it good wheat? It is first-class wheat. The wheat has been sold in Sydney by Harrison, Jones, and Devlin, and it has always fetched top price.
4239. Is it a hard, flinty wheat? No; that country grows a soft milling wheat—a dry wheat.
4240. Wheat that millers like? Yes.
4241. You have no difficulty in getting top price for your wheat? No. It always commands top price. Is it similar to wheat grown north of Adelaide.
4242. What is the sort of soil you cultivate? It is a red loam.
4243. Is it clay underneath? Yes, in my own case the subsoil is of a clayey nature. It retains the moisture well.
4244. But it is not too wet? No, we never have it too wet.
4245. How many inches of rain do you get in the year? Our average rainfall is between 15 and 16 inches.
4246. Do you get it at the right time of the year for your wheat? Generally. Out of seventeen years farming at Gunbar I have had one total failure, and one partial failure.

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- S. Nixon.  
30 Aug., 1899.
4247. What are the times of the year when you most want the rain for wheat? We require rain to bring it up between May and June.
4248. Do you not first want the rain for the ploughing? I usually fallow the land. I usually plough in spring, and keep my land fallowed. My style of working is to have between 3,000 and 4,000 acres cleared, and I crop 1,000 or 1,500 acres alternately, as a rule. By that means I am enabled to get my crop in early, and also plough when the land is in the best condition. By using six and eight-furrow ploughs, which I usually do, I can get my land turned over very cheaply.
4249. Can you plough before any rain has fallen, after the crops are taken off? Yes; by using plenty of strength, and keeping the shares in good order.
4250. You do not actually want rain to plough? No; it is not absolutely necessary.
4251. Do you want rain for sowing? No; I usually sow at a dry time. I prefer to sow then.
4252. When do you want rain—when the seed begins to spring? Yes; we would prefer rain about April or May to bring it up. We usually start sowing at the end of March.
4253. When after that do you want more rain? Every month or so.
4254. You do not get rain every few weeks? No; in this season, since the 3rd January, we have had about 5 inches. Our crops are looking very well indeed.
4255. Do you want rain when the wheat is forming in the ear? Yes; September and October is the most critical time.
4256. Do you want rain again before it finally ripens to swell it to the full size? No. If we get two falls in September and October our crop is assured.
4257. You let it ripen without any more rain after October? Yes.
4258. So that all you want is rain between March and October? That is all.
4259. And it does not matter to you if, for the rest of the year, it is quite dry? No.
4260. From that statement I should say that you look upon Gunbar as an agricultural district? Yes.
4261. Some witnesses seem inclined to think that the agricultural district ends a little after we get beyond Wyalong, and that the pastoral district begins there;—you do not take that view? No. I would like to explain one remarkable feature of the Gunbar district—its producing qualities with a slight rainfall. Fifteen inches of rain with us will give payable crops; but I see that about Wagga and Junee the same rainfall will result in failures.
4262. Does it come at the right time of the year for that? As a rule it does.
4263. Would the good land and the climate also carry agriculture right on to Booligal? No.
4264. Why not? Gunbar is getting on the edge of the cultivated lands—that is, the agricultural land; and then you get into open plain and salt-bush country, which is totally unsuitable for cultivation.
4265. You look upon Gunbar as being upon the margin of cultivation? Yes.
4266. Had you had any experience of wheat growing in Australia before you went to Gunbar? In South Australia I had.
4267. In what part of South Australia? Over the northern areas. I had also nine years experience in the Deniliquin district.
4268. You sometimes had less rainfall in the northern areas of South Australia than you have in Gunbar? On an average, we had far less.
4269. Then Gunbar is a better agricultural country than the northern areas of South Australia? Very much so.
4270. But you were within Mr. Goyder's limits in the northern areas? Yes.
4271. Yet you did not get enough rainfall? Not sufficient.
4272. Have most of the farmers cleared out of those northern areas now, or are they struggling on? Many of them are struggling on.
4273. How many have given it up? I have been away from that district now for twenty-one years.
4274. From what you know of the northern areas, has the attempt to make that an agricultural district, under Mr. Goyder's advice, been a success on the whole? The northern area got beyond Mr. Goyder's rainfall, but up to that rainfall it has been a success—that is, up to Mount Remarkable.
4275. You think his judgment was sound? Yes. I was there at the time he limited that district.
4276. Has the Government pushed beyond his limit? Yes.
4277. Where they have gone beyond his limit the attempt to establish agricultural settlement has not been a success? No.
4278. If we are to learn from the experience of South Australia, it will be to attempt not to push agriculture in districts not fitted for it? Just so.
4279. But as far as you can see, is all the country between Temora and Gunbar fitted for agriculture? The greater part of it is. There are a few stony ranges; a very small percentage is not suitable.
4280. That is a matter of soil, but I am speaking of a matter of climate? As a matter of climate, and a matter of rainfall, it is well adapted for that purpose.
4281. But not far beyond Gunbar? No, the soil is unsuitable beyond Gunbar.
4282. Was Gunbar a good pastoral country before you took your land up? Years ago it was much better than it is now. Gunbar has deteriorated very much within the last seventeen years, since I have been there.
4283. From what cause? Chiefly from the rabbits.
4284. Not from overstocking? No.
4285. Can you keep the rabbits off your own wheat? Yes; I find no difficulty with wire netting.
4286. They do not climb over the wire netting? A certain percentage does, but the number is very few.
4287. They do not crawl under it? We have to watch; it requires great supervision.
4288. Have you suffered from the sand blowing up against your fence this season? Yes; but most of the Gunbar country is sheltered. Out towards Booligal the fences are completely blocked.
4289. Is it timber which shelters the Gunbar country? Yes; the Gunbar country and all the Temora country is sheltered by timber.
4290. I understand that you favour the idea that the line to Temora should be continued to Gunbar? Yes.
4291. And in the main you think that it will go through an agricultural district? Yes.
4292. From Temora to Ariaah, is that country all fairly good? I have had no experience of that part.
4293. But there is a good deal of settlement about Ariaah? I believe so.
4294. Do you know the country between Ariaah and Mount Elliott? No; but I know the country from Mount Elliott to Gunbar.
- 4295.

4295. What is it between Mount Elliott and Gunbar? Good agricultural country.
4296. Where do you send your wheat when you sell it? It goes to Sydney *via* Carrathool, on the Hay line.
4297. How far is your place from Carrathool railway station? Forty miles.
4298. It will pay you to cart wheat 40 miles to a railway station? Up to this time it has paid me. I have had the advantage of the wool teams. I have got my wheat carted the 40 miles at an average cost of 1s. 8d. a bag, but I can see a great difficulty from now; in fact it is a source of anxiety to me how I am to get my wheat in now. The teams have lost the stock by the drought, and they see so little wool to cart now that those who have survived are leaving the district.
4299. But still the wool teams which go from Gunbar to Carrathool could not take your wheat in addition to the wool? The harvest comes a month or so after the wool-carting.
4300. The same teams do it, but at different times of the year? Yes; and they have been carting it at a low rate.
4301. Do these teamsters own land up there—are they settled in the district? Very few.
4302. Are most of them without a home? A few of them have settlement leases about Hay.
4303. They are simply wanderers with their teams? Yes.
4304. What price will pay you, after deducting all costs, and leave you a livelihood? At Gunbar, from 1s. 9d. to 1s. 10d. a bushel.
4305. You could make a profit out of that price? Well.
4306. With a yield of 11 bushels to the acre? Yes.
4307. And if this railway were extended to Gunbar, and your produce were carried at the ordinary low rates which now prevail, you would gain, I suppose? Yes.
4308. It would cost you less? Very much less.
4309. Because if this railway were made you would have to send from Gunbar to Temora by rail? Yes. At present it has been costing me the same rate to send it 40 miles by team as it has to send it over 400 miles by the railway. It has cost me about 5d. to Carrathool, and a fraction over 5d. from Hay or Carrathool to Sydney.
4310. That shows the value of railway communication to the working farmer? Yes; it is simply the difference between success and failure.
4311. I suppose the price you get is only got in dry weather, when the roads are naturally good? That is all.
4312. They could not do that in very bad weather? No.
4313. After rain are the roads bad about your place;—is it a sticky country? If we have the wet the roads are very bad.
4314. Then if this is to become an agricultural district a railway is almost essential to the development of it? Yes.
4315. There has been a great deal of evidence brought before us in favour of making a line to Wyalong from Temora;—if that were done, do you think it would militate against an extension to Gunbar? I think so.
4316. Why should it, as it is in quite a different direction? It is not so direct as it would be from Temora.
4317. But supposing there is a railway made from Temora to Wyalong, and it can be shown that there is certain settlement all the way to Gunbar, why should it be impolitic to make a railway to Gunbar because there has been a railway made to Wyalong? It may not. It appears to me that it would be so; I may be wrong.
4318. Is that the general feeling at Gunbar? I think so.
4319. Are there any other farmers around Gunbar besides yourself? There is an area of about 12,000 acres under crop around Gunbar.
4320. Are they mostly South Australians? A number of them are South Australians and Victorians.
- 4321-2. Did they come over about the same time as you did? Many of them came over after I did. They came on my recommendation.
4323. Your impression is that you have prospered much more at Gunbar than you would have done if you had stayed in the northern areas of South Australia? Yes. I know that many of my friends who remained there have failed; but those of us who have come from there have all been successful.
4324. You see no reason to regret your removal? None whatever.
4325. Did you free-select your land? Yes.
4326. Did you take up leases round your selection? Yes; three conditional leases.
4327. Do you continue to hold under your original tenure? Yes.
4328. How much did you take up originally? I took up 620 acres conditional purchase and 1,300 odd acres pre-emptive leases.
4329. You very nearly exhausted your right at starting? Yes.
4330. Did the others who came across begin on the same large scale? Yes; it is necessary to have a large area.
4331. It will not do to begin with 40 acres, and wait to be able to extend your holding? No; nothing under 2,000 acres is any good there.
4332. Did you ever have any trouble with the pastoralist on whose run you settled? Yes.
4333. Was it a fight from the beginning? Yes; I was cut off—dummied all round.
4334. You struggled through in spite of it? Yes.
4335. Was not that rather a hard business to have to fight up-hill like that against a powerful man? Yes; but fortunately it is stopped now.
4336. It does not strike you as the best possible method to settle a poor man on the soil, to set him to fight a squatter? No.
4337. You got through? Because I happened to have money. I came up with a few thousand pounds and got through; otherwise I should not have done so.
4338. If you had not started with sufficient capital, you would have gone down? With sufficient capital and with experience too.
4339. Has there been any movement along the line of road between Temora and Gunbar in favour of the extension of this railway? I think for the whole distance.

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4340. The previous proposal for a railway to Ariah, was not from Temora but from Coolamon on the other line;—would you approve of a line from Coolamon to Ariah? I could not say. I know nothing about that district, and, therefore, I am not capable of giving an opinion.
4341. What seems to you the best way to get to Gunbar is an extension from Temora? Yes.
4342. And that is the general idea, as far as you know, along the whole line of road? Yes.
4343. If that line were made, do you think there would be, in the course of the next five years, a fair amount of settlement on that route? Within the last few years a number of Victorian men have come up there. They have all spoken highly of the land. But the trouble has been the difficulty of getting their produce to market. I am satisfied that within a very few years there will be an immense population there.
4344. You think that when the leases have run out, if the people had a notion that within two years there would be a line made from Temora to Gunbar, the available land would be taken up within the next five years? I am quite sure of it.
4345. If you have not worn your ground out in fifteen years, when do you expect to wear it out without manuring? I think with my style of farming—cropping every second or third year and grazing—I can keep the fertility in the soil; that has been my experience.
4346. Practically, you give your land a fallow every two or three years? Every two or three years. I am adopting every three years now.
4347. You plough it up and let it go into grass? Yes.
4348. Do you sow grass? No. The wind soon covers it with natural seed.
4349. Do you know what sort of natural grass it is? Silver grass, barley grass, trefoil, and crow-foot. Cultivation improves the country.
4350. The old grass-seeds are in the ground, I suppose? Yes.
4351. The grass is good enough for cattle and sheep? Yes.
4352. Are they fond of it? Yes; it is very fattening.
4353. Do they fatten on it? Very much so.
4354. Could you make hay of this grass? No.
4355. Does the first hot wind dry it up—brown it? No. There are a few root grasses, which hold fairly well—white head and spear grass stand well.
4356. How long through the summer does it stand good for feed? Our stock generally do on it till the cold weather sets in.
4357. Right through the summer? Yes.
4358. You do not overstock it? No; the main thing is not to overstock it.
4359. The secret of success is not to over-exhaust your ground by cropping, and not to overstock it? Yes.
4360. If people will do that, you think that they may go on for a long time? I think so.
4361. *Mr. Levien.*] How long have you lived in that district? I have lived in Gunbar and Deniliquin for twenty-six years.
4362. What is the character of the country between Wyalong and Gunbar? I can only speak of the country for about 40 to 50 miles east of Gunbar. I do not know anything of the country beyond that point towards Wyalong, except from hearsay.
4363. What is your opinion of the country itself? I believe it is good agricultural country.
4364. Supposing you had to give your real opinion as to the construction of a railway from Temora to Wyalong, or from Grenfell to Wyalong;—in the interests of the whole country, which line would you suggest? I think I would say to go straight from Grenfell to Wyalong, as it is the most direct route.
4365. Where do you live? Ten miles north of Gunbar township.
4366. It would be no benefit to you which way the line went to Wyalong? None whatever.
4367. Do you know Mr. Sharp, the District Surveyor for the Forbes district? No. We are out of his district.
4368. Mr. Sharp, who lives at Forbes, admits that he has had great experience, and he suggested yesterday a line from Wyalong to Temora;—what do you say about that? I daresay he is right.
4369. Mr. Sharp suggests a line from Temora to Wyalong;—you would not oppose his opinions, would you? The only thing, I think, in favour of Temora —
4370. You said just now that you would agree with Mr. Sharp? I said I would agree with him; but a line from Temora may serve more settlement. I am hardly competent to speak of that end of the line. I do not know enough about it to speak.
4371. He has expressed an opinion right away? I think it should go straight across from Grenfell, *via* Wyalong, to Gunbar.
4372. But you know nothing of that part of the country at all? I know nothing whatever of the country between Wyalong and Gunbar.
4373. So that you do not give any decisive opinion which line is the better? No, I do not. I am not capable of giving an opinion as to which line is the better.
4374. Which line do you advocate? So that it came to Gunbar, it would be indifferent to us which way it came.
4375. You are looking to your own interests, I suppose? Yes; and in that case I am also looking to the interests of the country.
4376. Considering that Mr. Sharp, who has been for many years in the Public Service, suggests that the line should go from Temora to Wyalong, and that it ought to go from Wyalong to Forbes, what do you say? I am not capable of speaking, because I do not know the country.
4377. *Mr. Dick.*] Your fear is that if the Temora-Wyalong extension be constructed, it may delay or altogether prevent the extension from Temora to Gunbar? Yes.
4378. If you will glance at the map you will see that the Parkes-Forbes extension did not prevent the extension from Parkes to Condobolin? No.
4379. And the conditions of those two lines, as far as their directions were concerned, are very similar, except that one goes north and the other south, to the position of the Temora-Wyalong extension and the Temora-Gunbar extension? Yes.
4380. Do you not think it is reasonable to assume that if the Temora-Gunbar extension would stand on its own basis as a line, and is necessary in the interests of agricultural development, the Temora-Wyalong extension would not interfere with it at all? It appears not, if you adopt that rule; it appears not in that instance.

4381. I think you said that you thought the Grenfell-Wyalong extension would be preferable to the Temora-Wyalong extension? Yes; it appears to be a more direct route on the map. I am going by the map. S. Nixon.  
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4382. That is your only reason? That is my only reason. I am not acquainted with the district.
4383. Of course, local conditions would entirely govern the choice of a route to Wyalong? Yes; I suppose they would.
4384. *Mr. Levien.*] You live at Gunbar, and I suppose when you come down you generally come by Temora? No, by Carathool.
4385. You know nothing whatever about that country? I know nothing of the country to the east of Mount Elliott.
4386. *Mr. Shepherd.*] Your property is 40 miles from a railway station, and you are satisfied to carry grain for that distance? I have been, up to this time, having the advantage of the wool teams.
4387. Do you think you can carry on successfully at half that distance—say 20 miles? Yes; grain may be profitably grown within 25 miles of a railway station.
4388. During a period of seventeen years, you have had only one total failure, and one partial failure? Yes; in 1888 I had a total failure, and last year only a partial failure.
4389. Do you include the last four years? Yes.
4390. Do you always adopt the plan of ploughing in spring, and allowing the land to fallow from spring up to the sowing season? Yes.
4391. You find that plan to answer? Yes.
4392. You have a sub-soil of clay;—what depth of loam have you over the clay? I should say from 6 to about 10 inches.
4393. You do not cultivate as deep as the clay, I suppose? No; we must not cultivate too deep there.
4394. What kind of plough do you use—a five-furrow plough? Six-furrow and eight-furrow ploughs.
4395. You get over an enormous amount of ground? Yes; I have the seed-sowers on the ploughs. If I plough in the beginning of winter, I plough and harrow at one operation.
4396. You received your farming education in South Australia, which is a very good school? Yes.
4397. You say that the country about Gunbar has deteriorated very much during the last seventeen years? Very much indeed.
4398. Have you noticed whether any kinds of grasses have disappeared during that time? The summer grasses have all gone. There was a time when, if we got a summer rain, we had a number of grasses, but they have totally disappeared.
4399. Did you ever have the Mitchell-grass there? No; a few roots came. They were dropped by travelling stock, but they died.
4400. Have you noticed the grasses which cattle or sheep are most fond of are those that disappear first? No; it is the summer grass.
4401. What grasses did you say are the most valuable there? Barley-grass, white-head grass, and spear-grass.
4402. What kinds of timber have you growing there? The forests are mostly pine and belar, but we have apple-bush, wilga, needle-bush, and any of the small scrubs.
4403. None of them would be suitable for railway sleepers? No.
4404. Do you know much about the country out to the Lachlan? I know the Lachlan country well. I was appraising for all the special areas in that district three years ago.
4405. The country right out to the Lachlan is something similar to the country at Gunbar, I suppose? North of Gunbar it is—to Hillston; but not towards Weelbar or Booligal.
4406. You know nothing about the country from Temora to Wyalong? Nothing whatever.
4407. Knowing that there is a probability of a railway being constructed in that direction, have you studied out the question as to which route would be likely to serve you best, and also serve that part of the country best? Not very much.
4408. Of course, you would prefer a line going down somewhere to Hay? No; I want a line going more direct—a line from Temora, not from Hay. It would go through agricultural country, and we could do so much better.
4409. How is the country about Gunbar watered? We depend chiefly upon tanks and deep wells.
4410. No creeks or rivers there? None whatever.
4411. Have you attempted to sink for water there? I have sunk four deep wells.
4412. Without success? I got water in them all. In the one I sank last summer I got stock water; but in the others the water was too salt. At Gunbar township there is an unlimited supply of shallow water, about 15 feet deep.
4413. *Mr. Levien.*] What kind of water is it? It is splendid, fresh water. It is soft water, and there is any quantity of it.
4414. *Mr. Shepherd.*] Does it appear to be supplied by a spring;—does the hole fill again immediately after being emptied? It appears to be in a basin. They cannot bale it down; there appears to be such a large supply. It is about 15 feet from the surface.
4415. *Mr. Levien.*] How do you get the water? By sinking. They lift it up with a windlass.
4416. Does it appear to be an everlasting supply? It appears to be so. There are no irrigation works about there. A well at a public-house watered hundreds of head of stock last summer.
4417. Is it all good water? It is all first-class water.
4418. How many of these springs are there? There are three or four wells out there.
4419. All the summer? Yes; it seems to me there is a sort of underground water. You can trace that water. You can also trace a sort of low watercourse by the native willows. It does not appear to be of great width; but it extends, to my knowledge, from 15 to 20 miles through the run.
4420. How many feet do you sink for water? It varies from 12 to 20 feet; on an average it is about 15 feet. There is any quantity of it.
4421. Does it take any particular direction? Yes; it runs from about south-east to north-west. It takes a narrow strip across the run.
4422. It requires no force to bring up the water? No.
4423. They would have to lift the water by buckets? Yes.
4424. *Mr. Shepherd.*] Do the holes ever overflow during heavy rains? No; it is a sort of underground watercourse. 4425.

- S. Nixon. 4425. *Mr. Levien.*] It would all have to be pumped up then? Yes; it is first-class, soft water.
- 30 Aug., 1899. 4426. Have you ever sent down any samples of this water for analysis? No; it has been so good that there has been no occasion to test it.
4427. Have you ever followed it down from Mount Elliott? No.
4428. *Mr. Trickett.*] I understand that you come here to-day, as a resident of Gunbar, to advocate that if any line of railway is constructed striking out in that direction it should take as direct a route as possible;—is that what you wish to convey? I suppose that is the substance of it.
4429. On the map do you see the Hay line marked in black, and a line marked from Grenfell to Wyalong, and a line from Wyalong to Hillston, which are the lines suggested? Yes.
4430. If a line were constructed from Grenfell to connect Wyalong and go out to Hillston, would it serve you in any way? No.
4431. I understand that you are inconvenienced by having to travel about 40 miles to the Hay line with your wheat? Yes.
4432. What distance do you think it would be a fair thing to you to have to convey your wheat to a railway, having in view the extensions which are now going on to wheat-growing centres? About 25 miles.
4433. That is the ultimate distance? I should think that would be about the limit.
4434. That being so, would not a line from Temora to Ariaiah and to Gunbar pretty well split the districts between the Hay line and the Grenfell-Wyalong-Hillston line? It would.
4435. And would that line bring in an area of country which is midway between the two lines I have mentioned, and which, at the present time, is not served by other means? According to my idea that is where the line should go.
4436. That, I understand, was your contention to-day? My contention is that the line should go from 10 to 15 miles north of Gunbar. That would split the two. It would embrace the cultivation land on both sides of the line. By going to Hillston you go on to the outskirts; you are going on to the northern limits of the wheat-growing land; you are also getting on to the border of the Western Division, where the land is locked up under lease for twenty-eight years.
4437. For how many miles, then, north of Gunbar, do you think it is a better class of wheat-growing land than you get at Hillston;—when does it get into the inferior wheat-growing parts? All north of Hillston.
4438. From Gunbar easterly to Mount Elliott you are well acquainted with that part of the country? Yes.
4439. Is there not to the north of that line a large tract of country suitable for wheat-growing? A very large tract.
4440. Extending pretty well up to the Hillston district? I am acquainted with this country from the line I have mentioned up to Lake Cudgellico.
4441. Is that all good wheat land? The most of it is. There is a large patch of mallee about Monia Gap.
4442. Whichever way it may go ultimately, whether it goes to Wyalong, or whether it goes to Ariaiah, ought it, do you think, to go on beyond that point to serve large centres of wheat-growing land, where there is likely to be a considerable population? I certainly do. I think it would be a great mistake to stop short of that point.
4443. At either Wyalong or Ariaiah, if it came on from Temora? Yes.
4444. It ought to go on beyond? Yes; it would be only half doing things if it did not.
4445. Some people contend that there should be a line of railway either from Coolamon to Ariaiah or from Grong Grong to Ariaiah? Yes.
4446. If either of those two lines were constructed it would seem to be an off-shoot from the Hay line, and would only serve a very limited part of the land around Ariaiah; is not that so? I do not think I am capable of expressing an opinion, not knowing that country.
4447. From looking at the map, it appears to be an off-shoot from the Hay line? Yes.
4448. If either of these lines were constructed, would it not be necessary later on to send some more off-shoots northerly from the Hay line, or else construct a line from Ariaiah to Gunbar? Yes. I think to construct a line west from Temora is far preferable to constructing these branch lines.
4449. Looking at the map, and the positions I have indicated, if you want to serve that tract of country, instead of shooting off from the Hay line at either Coolamon or Grong Grong, and treating the districts similarly, as you go further to the west, would it not be better, at the outset, to take a straight line from Temora to Ariaiah and Gunbar? Decidedly so. I think these branch lines are a mistake.
4450. They will be a lot of expense, whereas one straight line from Temora westward to north of Gunbar would answer all purposes? It would suit very much better.
4451. As far as you know, would that line from Gunbar be a difficult one to construct? It is very level country. I think there are one or two slight ranges.
4452. Has your experience, with regard to the success of Gunbar as a wheat-growing district, been the experience of other farmers there? Quite so.
4453. They have all done well? They have all been successful. There are a few that came there in debt; there are a few that have gone under; but the men who came there unencumbered are all prospering.
4454. *Mr. Watson.*] What you have just stated to Mr. Trickett about the desirability of taking a line across from Grenfell to Wyalong, and out that way is, I suppose, founded upon the mere appearance of the map? That is all.
4455. And in ignorance of local conditions altogether? Yes.
4456. I suppose, as a business man, if you were doing anything of this sort in your own interests, you would look to local conditions before adhering to mere map projections? Certainly.
4457. If local conditions were unfavourable in any extensive way, you would refuse to abide by map appearances? Certainly.
4458. Coming to the question of railway extension towards Gunbar, I think you said you thought that 25 miles would be the limit for the cartage of agricultural produce to a railway? Yes.
4459. May we assume that any one within a distance of 20 miles would be fairly within the influence of the railway line? Yes.
4460. Taking 25 miles to be the maximum limit, could we reasonably say that within a distance of 20 miles the country would be fairly served? Yes.
4461. Do you think the line to Gunbar from Ariaiah, as shown on the map here, is sufficiently far removed  
northwards

- northwards from the Hay line to give intervening space enough between the two to keep both lines going? Honestly, I do not think so.
4462. You think it would be better if taken further north? I think it should turn north from Mount Elliott. S. Nixon.  
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4463. Knowing that country near Mount Elliott, can you say is there any engineering necessity to go to the south of Mount Elliott; is that dividing range shown there of any importance;—is it only a low chain of hills, or merely a water divide? It is a range of hills; but I think there are gaps which a railway could get through.
4464. You think it would be preferable to keep a bit further to the north? It would be.
4465. The drainage area of a railway requires a fair distance to be between that line and any other line in order to give a payable quantity of traffic? I am aware of that.
4466. Towards Hillston from Wyalong there are two projections, namely, a line *via* Lake Cudgellico, and a line *via* Rankin's Springs? Yes.
4467. We were informed at Wyalong recently that a more middle course, or a line between the two surveyed lines would be preferable, with the view of opening up the good country;—can you offer any opinion as to that? I think the southern line would serve the country better than the northern one, *via* Lake Cudgellico. I think this northern one is still too far north. There is a lot of land about the Lachlan which is not suitable for cultivation.
4468. The line *via* Lake Cudgellico, in your opinion, would go over a lot of country which would not be productive from a railway standpoint? Between Lake Cudgellico and Hillston.
4469. There would not be enough traffic coming from it? No; it is not agricultural country.
4470. I think you said that nothing under 2,000 acres is sufficient at Gunbar for a man to make a living on? Not to rear a family properly.
4471. Were you thinking of that in relation to your present distance from market, or was that with the construction of a railway? Both.
4472. Even with the construction of a railway you still think it would require 2,000 acres? I do,—that is to keep the land cropping, and to keep it in its fertility. It is necessary to fertilise the ground, or you must only crop periodically with grazing. My idea of enough land is for farming and grazing combined.
4473. We have evidence that Between Temora and Barmedman if a railway were constructed, 640 acres would be sufficient to keep a man;—as that amount is found sufficient around Temora in many cases, does that argue that the land there is better than the land around Gunbar? No. There are many farmers around Hillston and Gunbar who have the same ideas, but I differ from them. I think that in a few years they will have worn the land out.
4474. Even with 640 acres—surely a man can make a living without cropping all his area each year? You want to crop from 200 to 300 acres.
4475. Supposing he crops 300 acres, he has the other half of his area which he can fallow? You should have some for grass. You would want at least 900 then and without any grass. I maintain that a man should combine grazing with farming. There are men around Gunbar with 640 acres who have been there many years, and they are pulling along. They consider they are prosperous, but as the family grows up they will want more land. In South Australia I have seen the evils of these too small areas in dry country.
4476. When you speak of enough to carry a man along, do you anticipate that he must always allow sufficient to provide for whatever possibilities of family there may be? Yes; and for coming down to Sydney in the summer, and taking his family down to Manly for two or three months, he does not want to be stuck up there all his time; he wants to be able to come down to the sea coast in the summer. If it were not for the fact that my family and I can afford to come down here for a few months in the summer, I would fling it up.
4477. Supposing you have one man to over 2,000 acres, and anything like a close network of railways, do you think there would be sufficient traffic then to keep the railways going? I think so. I think you would get just as much for the railways as if you had double the population. I am speaking of our own district; I would not apply that to a district where you have from 20 to 30 inches of rainfall.
4478. *Mr. Levien.*] Can you give any idea of the number of settlers down that way? No.
4479. Say within 10 miles of Gunbar? No. I made up a list before I came away, and worked out the acreage; I cannot state the number from recollection.
4480. *Mr. Watson.*] From Gunbar right down to Carrathool, is it good agricultural land? No.
4481. How far towards Carrathool does the good land go? From 12 to 15 miles.
4482. Does that pastoral land continue easterly along the Hay line a similar distance from it, that is including the Mirrool country? You get into different country when you get up there.
4483. How far would that tract go? From Carrathool up to near Whitton it is 70 or 80 miles.
4484. For a distance of 70 or 80 miles you have only pastoral country immediately north of the Hay line? I should consider that in a wet season it will grow crops; but it is of a clayey nature.
4485. You could not build much on that for ordinary agriculture? No.
4486. About Mirrool Creek, is it good land? I was down there only once. I saw some good agricultural country as nearly as I can remember when I came down years ago.
4487. Your idea is that if the line is taken from Temora in the direction of Gunbar it should be taken more northerly so as to get well into the centre of the productive district? Yes.
4488. Do you know any reason why a junction should not be made at Temora, and lines projected in the direction of both Wyalong and Ariah? I do not follow you.
4489. I think you said that you came here to give evidence owing to a fear that if the line were taken to Wyalong from Temora, it would put out of court a proposal to take a line from Temora towards Gunbar? I think it would be likely to postpone that line.
4490. Do you know any tangible reason why there should be an objection to making a junction at Temora? None.
4491. Or why the suggestion to take a line from Temora to Wyalong should postpone the commencement of a line out in the direction of Ariah? I think it would. I thought it was not likely that they would have two lines running out from Temora.
4492. They have done something like that in other places? I can see that they have.
4493. That is the only objection you have? That is the only one.
4494. *Chairman.*] The proposal before the Committee is to construct a line from Grenfell to Wyalong, and

- S. Nixon. and the ultimate object is to go out towards Hillston. You are in Sydney, I believe, as a member of a deputation to urge that there should be constructed a line of railway from Temora to Gunbar?  
30 Aug., 1899. That is so.
4495. And you think that if the line were constructed from Temora to Wyalong it would have some effect against your proposal? Yes; I thought it would.
4496. You state that, in your opinion, 25 miles is the limit at which a man successfully cultivate wheat from a railway? Yes.
4497. If a line is constructed from Temora towards Wyalong, more than half of that line will, as it were, run to waste; if a line is thrown out from Temora towards Gunbar—say to Barmedman, 25 miles—it is within a reasonable distance of Temora? Yes.
4498. So that would be served, and if they construct a line from Temora to Gunbar that country would be doubly served, would it not? Yes, it seems so by that map.
4499. Is that one of the reasons which you had for thinking that it would militate against the success of your proposal? I thought so. I did not think it was likely that the Department would construct two lines running out from Temora.
4500. Taking a line between Gunbar and Mount Elliott, how far to the south of that line would the good agricultural land extend? About 20 to 25 miles to the south; but, as they get towards Gunbar, it would narrow down to about 12 or 15 miles.
4501. Outside that distance of 10 or 15 miles, what is the nature of the country? Twelve miles from the line it is red loam, and after that it becomes clay plain between there and Carrathool.
4502. It is all good pastoral country? Yes.
4503. Was there any idea of carrying on agricultural pursuits out on the Hay line when it was constructed? I think not.
4504. The traffic on that line, I presume, is principally wool? Wool and stock. A lot of wheat has gone to that line from Gunbar; what wheat has come down has come chiefly from our neighbourhood.
4505. Would the country that you do know—that is, the country north of Mount Elliott, and on towards Lake Cudgellico—be served by the extension of the line from Grenfell to Wyalong, and fairly split up the good country you know of? It would not serve that country.
4506. Would a line from Wyalong to Hillston serve the good country you know of? Yes, partly.
4507. Which part? It would serve to 25 miles south of the proposed Hillston line.
4508. Leaving out the land within 25 miles of the Lachlan, would that line fairly intercept the good land which you do know of;—could you get good wheat land for 25 miles on either side of the line? No, I consider it is going too far north.
4509. How far south of Lake Cudgellico does the good agricultural land extend? I only went about 12 miles, and that is all good agricultural land.
4510. Did you say it was good agricultural land right along there for 12 miles north of the lake? At the lake it is. It is good agricultural land to the river, but as you get towards Hillston the land becomes of a clayey nature near the river.
4511. What distance back from the Lachlan would that strip of land extend? It is difficult to answer that question correctly, because it varies so much.
4512. You could not say how far the pastoral land or the land which is not fit for agriculture extends from the banks of the Lachlan? I could not say.
4513. Do you think it extends 20 miles? I think not.
4514. Ten miles? In some places it runs nearer that distance, in other places it may be 20 miles. The distance varies very much.
4515. Are you acquainted with the land about Rankin's Springs? Yes.
4516. East of that you do not know anything about the country? No.

Alfred George Humby, farmer and sawmill proprietor, Bolero, sworn, and examined:—

- A. G. Humby. 4517. *Chairman.*] You are a farmer and sawmill proprietor? Yes.  
30 Aug., 1899. 4518. You reside at Warri? I reside at Bolero, beyond Warri. I selected on a station called Bolero, which adjoins Mumbooldool.
4519. You were appointed a member of a deputation to wait upon the Minister to bring forward the claims of a line of railway from Temora, *via* Warri, out towards Gunbar? Yes, representing the settlers out on North Barrallan and Binya.
4520. Will you state to the Committee the reasons which you have for advocating that line? Because I believe that on that country it will be found that a line will carry very much the largest freight from the first, and because I am afraid that if a line were carried from Temora to Wyalong, we should be, perhaps, put back for a few years, thinking that that part of the country between Temora and Ariaiah might be served sufficiently by that extension from Temora to Wyalong if the route were carried that way.
4521. As far as that reason is concerned, you would be about on all-fours with the people who are between Temora and Wyalong; suppose the line is run out from Temora to Ariaiah and not to Wyalong, then those people on that stretch of country will have just the same right to complain? They would be quite right. I think they ought to have a railway at Wyalong.
4522. Do you think that Wyalong could be served by a line from Grenfell? Most decidedly, I do.
4523. How would you describe the country between Temora and Ariaiah—as all good agricultural land? There is a range a little out from Temora towards Ariaiah, and, with the exception of that range, I call it all good agricultural land.
4524. How far north and south of that line would the good land extend? I should say 20 or 30 miles north and 30 miles south. Right through there it is all good country.
4525. Do you know the country between Ariaiah and Mount Elliott? I know that country pretty thoroughly.
4526. How would you describe that country? From Ariaiah on to Warri it is all first-class agricultural country, and from Warri on to Bolero, Mumbooldool, North Barrallan, and Binya I do not think you could beat the country.
4527. Suppose a line is constructed from Ariaiah to Mount Elliott, how far south of the line and how far north of it would there be good agricultural land? From where I live at Bolero it is all good land right through to the Hay line. I do not think you could find any bad land there at all scarcely.
4528. Right through to the Hay line? Yes. 4529.



A. G. Humby.

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4529. How far do you live west of Ariah? About 10 miles.
4530. From there down to the Hay line you say it is all good land? Yes.
4531. And it is all fit for agriculture? Yes; it is all fit for the plough.
4532. Going west of that again, what is it like? Going west from North Barrallan I think you will find some of the finest agricultural country. I hold in my hand a letter from the agricultural expert excusing himself for his inability to attend our deputation, and saying, if you will allow me to use his own words, "however, I shall be delighted to give all the information I can *re* your magnificent wheat-growing district." That applies to Warri and right through. I drove him all through the country last October.
4533. *Mr. Dick.*] Is that letter from Mr. Thompson? Yes. I believe he reported officially on the country last October.
4534. *Chairman.*] Do you know the country as far as the Binya Range? Yes.
4535. Would there be any engineering difficulties to overcome to get across that range? There are gaps in the range where the line could be taken through.
4536. As far as you know of the country between Temora and the Binya Range, would a line traverse good agricultural country all the way? All the way.
4537. And how far north and south of that line would the good agricultural country extend? From my own knowledge I should say about 20 miles north and 20 miles south.
4538. That would be a belt 40 miles wide? Yes. There is a belt of mallee land in that country; but there is a great diversity of opinion in reference to its suitability for agriculture.
4539. But you get belts of mallee in pretty well all parts? Yes; and the mallee land can be cultivated pretty well as any other country we have.
4540. Is it very difficult to clear? No.
4541. Do you think it would be taken up and cultivated if there were a railway constructed there? I am quite sure of it. I had some on my land; I cleared it and cultivated it.
4542. Do you know the country west of Grenfell? I know Wyalong and Yalgogrin, and round that neighbourhood; but I do not know anything of the Grenfell country.
4543. What sort of country is it for agriculture going west from Wyalong;—do you know Rankin's Springs? No; but I know the country well between my place and Wyalong, through Buddigower and Yalgogrin.
4544. Is that country fit for agriculture? On Yalgogrin and part of Buddigower it is; but there is a great deal of rough country on Buddigower itself,—very rough, stony, ironbark ranges.
4545. You do not know anything of the country west of Yalgogrin? Not much.
4546. I take it that your opinion is that all that western country which is said to be fit for agriculture, would be best served by parallel lines, and not by cross-country lines? By lines similar to those shown on the map.
4547. That is one of the reasons which brought you down as a member of the deputation? Yes.
4548. Have you any reason to advance for an extension of the line from Temora to Gunbar, as against one from Temora to Wyalong? No. I think, as the settlers about Mandamah and Broken Dam would be served by that line, in all probability it might be that it would serve our purposes, and we might be put back for a few years from the advantage of a line.
4549. Which would suit you better—a line from Coolamon, or a line from Temora? From Temora. I certainly advocated the Coolamon-Ariah line, because I did not know anything better at the time; but when the proposal came out to extend the line from Temora, after looking the thing thoroughly in the face, I saw that that was for all purposes the best.
4550. A line from Coolamon would not serve that part of the country so well as a line from Temora? It would serve us at Warri equally as well; but looking at it from a general point of view, I think it would open up more country, and do more good to bring it from Temora, and it would serve our purposes just as well.
4551. In the construction of light lines, or agricultural lines, do you think it would be better policy to construct them parallel, running west into that good country, rather than to build cross-country lines? Decidedly, because you would have to construct so many of these cockspur lines to get people within reach of them. I think it would be much better to run the whole line right through; it would serve more country, because it would serve country to the north again, unless you went up the wrong way with the line.
4552. What sort of timbered land is it in that country? Pine timber.
4553. Any ironbark ridges or ranges? There are some, but they are limited. There is a very large quantity of timber there. It is not generally known, perhaps; but I will undertake to say that for five years from its starting, there ought to be 20,000 tons of pine timber sent along that line annually.
4554. Does the pine grow to a good size there? To a fair size. There are some very beautiful forests on Yalgogrin, and on North Barrallan, that the proposed line to Gunbar would pass close to. It would open up a very fine industry, and the pine timber business would be a very profitable source of freight for a railway.
4555. *Dr. Garran.*] What is the pine used for? For building purposes. It is pine which is proof against the white ant.
4556. Is that the pine which spreads so much, and becomes almost a nuisance? It is.
4557. It is not scrub where you are? There is any amount of scrub.
4558. Must you thin that out to make a good forest? Not necessarily.
4559. Do the good trees grow if you do not thin it out? The strongest seem to survive. If you want to use land for grazing or agriculture, you must get rid of it.
4560. Is this pine forest spreading naturally? I do not know that it is.
4561. *Mr. Watson.*] You stated, I think, that you were afraid that if the railway were taken from Temora to Wyalong, people would contend that the Broken Dam district would be served by that line? Yes.
4562. And, consequently, that no line would be taken towards Ariah? I am afraid that it would be a block in the way.
4563. Do you think, as a matter of fact, the Broken Dam people would be served by a line between Temora and Wyalong? They would not be served so well, certainly.
4564. Do you think they would go in towards that line, or continue to go towards Temora, the present terminus? It looks by the map as though it would be an equal thing.

- A. G. Humby. 4565. That map brings your land within 20 miles of the Hay line, but that is not true, is it? That is wrong.
- 30 Aug., 1899. 4566. As you cannot go by the maps, what is your own opinion of the country;—do you think the people of Broken Dam would come into Temora with their produce, or would they go to a line which would connect Temora and Wyalong? I think as many of them would call at Temora as would go the new line, because they would be at an equal distance from the two.
4567. So that, as a matter of fact, your fear in that regard should prove groundless; people would not be justified in stating that the Broken Dam district was served by the construction of a line from Temora to Wyalong? Some of it would be served, certainly.
4568. How far towards Broken Dam do you think it would be served? You can easily see that between Reefton and Barmedman there is a certain amount of settlement, and certainly that would be served to a certain extent.
4569. As a matter of fact, the Barmedman people and the Broken Dam people are just about the same distance from Temora? I should think so.
4570. Do you know the country between Temora and Wyalong? Yes.
4571. You ought to be able to say, then? As nearly as I can see, they would be.
4572. Suppose a line were taken from Temora to Wyalong, would you still say that a line from Broken Dam to Ariah was necessary? Certainly I would.
4573. I think you stated that Wyalong would be served from Grenfell, but that you did not know the country across from Grenfell? I do not know the Grenfell country.
4574. I think you stated that a system of parallel lines running out or approaching a common centre would be a proper thing? Yes.
4575. In that case would you prefer to always follow parallel lines or to be guided in some cases by local conditions? You would have to be guided by local circumstances, I suppose; you cannot lay down a hard-and-fast rule, but for their own proposals I think the parallel lines or those two lines are far the best.
4576. You think it will suit you? I think it will suit not only myself, but the whole of the settlers of our district.
4577. It is to be assumed that if the line were constructed the people of Wyalong would have higher or lower freights, according as the line paid? I think it would be likely to pay just as well if taken from Grenfell as from Temora.
4578. How can you say that when you admit that you do not know the country? I know that some of the country between Wyalong and Temora is very unsuitable for agriculture, if you are depending on that.
4579. I want to know how you are able to express an opinion if you do not know the country between Grenfell and Wyalong? I think it should serve as well from Grenfell to Wyalong as from Temora to Wyalong. Looking at it from the agricultural aspect, I do not see how it can be a good payable line from Temora to Wyalong, because I know there is a good deal of country between Temora and Wyalong which is not suitable for agriculture.
4580. You do not know how much on either line is suitable for agriculture? Not on the Grenfell extension.

THURSDAY, 31 AUGUST, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

Alfred George Humby, farmer and saw-mill proprietor, Bolero, sworn, and further examined:—

- A. G. Humby. 4581. *Mr. Levien.*] How many years have you been in the district? Eight years.
- 31 Aug., 1899. 4582. From what colony did you come? Victoria.
4583. You have had a good deal of experience in farming, I suppose, in Victoria, and also New South Wales? I had no experience of farming in Victoria. I was a carriage-builder in Melbourne.
4584. What have you gone in for in this Colony? While I was in business in Melbourne I bought into a saw-milling industry in this Colony.
4585. As a saw-mill proprietor, I suppose you have acquired a fair idea of the capability of this country for farming, and also its timber-carrying capacity? I have made a special study of both subjects.
4586. I suppose the timber business is more in accord with your own inclinations? At first the timber was; but circumstances forced me to turn my attention to farming.
4587. How many acres do you hold? In the first instance, I selected 2,000 acres, and I have over 300 acres under cultivation.
4588. Supposing your selection of 2,000 acres were absolutely under cultivation, what would it carry;—could it all be put under agriculture? It could all be put under cultivation for wheat.
4589. How about oats? Oats grow there; but we have turned our attention to wheat more than oats.
4590. How many bushels to the acre would it yield? In good seasons, my neighbours have had as many as nine bags per acre, but in a season like the last, the yield was reduced to about half a bag or 2 bushels to the acre.
4591. In a fair season, what would it yield on your own land per acre? I should say four or five bags.
4592. I suppose you have given a fair consideration to the question of the Grenfell-Wyalong line and the Wyalong-Temora line? I have.
4593. Your place is out at Gunbar? No; on a line between Warri and Mumboodool. My place is a good 10 miles from Ariah, westerly.
4594. Describing a circle there, what kind of country is it? It is all good agricultural country.
4595. Setting aside a feeling of sentiment, or a desire to serve your own interests, in the public interests, which

- which line would you recommend, supposing you had the duty of making a recommendation, in respect to these two alternative lines? I should say at once the line from Grenfell to Wyalong.
4596. And that is a greater distance from your place? Yes.
4597. Why? Because the proposed line we are agitating for with that line from Grenfell to Wyalong would open up the country to everybody between the two lines. I reckon that if a line ran from Grenfell to Wyalong, and then a line ran out from Temora as we propose, it would take in everybody. But should the line run out from Temora to Wyalong, it would not have the desired effect.
4598. So that if you had to decide the question, you would favour the Grenfell-Wyalong line, not the Temora-Wyalong line? Most decidedly.
4599. As the railway stands, which is the nearest station to your place? Narrandera. We have to send all our produce to Narrandera. We are about 45 miles from Narrandera, and 55 miles from Temora.
4600. I suppose you would rather have both of these lines disposed of, and make a line from Ariaah right away to Narrandera? No.
4601. Supposing the Government put forward a proposal for a line from Ariaah to Narrandera, a line from Wyalong to Temora, and a line from Temora to Grenfell, which would you vote for? I do not think I should vote for any of them, because they would be of no use to us.
- 4602-3. You would not vote for any one of the three? No. When you asked me whether I should vote for a line from Wyalong to Temora, or a line from Grenfell to Temora, I imagined that you were speaking in connection with this line as well. I gave my answer, making up my mind that both lines were requisite.
4604. Supposing the Government proposed to make the three lines, which line would you choose? I should choose one which would go through our own country.
4605. To serve your own interests? Certainly.
4606. Therefore you favour your own line from Ariaah to Narrandera? No, from Temora, westward. I do not see what advantage it would be to have a line from Narrandera to Ariaah, because it would not benefit the people at Warri much, or the people between Warri and Temora.
4607. In the public interest you favour the Grenfell-Wyalong railway? As far as that railway is concerned, I should say the Grenfell-Wyalong line certainly was the best.
4608. Are you a free selector? Yes, I selected under the late Land Act. I have leased lands also. The holding embraces about 8,000 acres, 2,000 acres are conditional purchase and conditional lease, and the majority of the remainder is improvement lease.
4609. *Dr. Garran.*] Did you take up your land for cutting timber or for cultivation? I took it up to reside on it and cultivate it. I started to cultivate it from the beginning.
4610. The cutting of timber and the saw-mill business was not your primary object? I connected the two.
4611. Does clearing the ground of timber count as an improvement? I should say so. You cannot clear the ground without taking the timber off.
4612. You say you have some ground on improvement lease? Yes; and one condition of the lease is that the land is to be cleared.
4613. Can you find a fair market for your timber? We could do so.
4614. Have you found a market as far as you have gone? There is a market for a great deal more than we can get to a railway.
4615. Where does it go to? It would go to all parts.
4616. To Temora? It would be a good way to send it through Temora, because a great deal of it goes up towards Sydney, and would go into the Sydney market.
4617. It goes to Carrathool? No, I have never sent any there for years.
4618. To Narrandera? That is where it has to be trucked.
4619. How near to Sydney does your timber come down? It has come to Sydney itself.
4620. If it is so good as to resist the white ant, would not there be a demand for it in Sydney itself? Yes, if it were generally known that it does resist the white ant; but somehow or other it has not become known as it ought to be.
4621. Do you know whether any is sent to Queensland, where they are much troubled with the white ant? No.
4622. Would it be worth while to send it there? I should think so.
4623. I want to know whether, if you had a railway, it would be worth while to cut and export any of that timber? Decidedly it would.
4624. And a railway would facilitate that business? It most undoubtedly would.
4625. Was the whole of the ground timber-covered? No, nothing like it; only a small portion of it.
4626. You have no right to cut timber outside your own property? Not without a license from the Crown.
4627. Is the timber country round you taken up by other people? No; there are very large forests of timber reserved by the Crown for saw-milling purposes.
4628. Is part of this Warri forest reserved? There is timber on Warri, Yalgogrin, Barrallan—in fact, on all the surrounding country, but it cannot be done anything with. It is practically useless to the Crown, because no one can touch it.
4629. Because there is no market? There are plenty of markets, but you cannot afford to pay the royalty on the timber, and the large freight there is to get to the railway.
4630. In the absence of a railway you cannot afford to pay the royalty? No.
4631. If you had a railway you could afford to pay the royalty? Yes. I paid a large price for this business to the man who was conducting it at Devlin's Siding. He was paying a large amount in royalty to the Government, and I was advised badly to allow the mill to be sent out to this far distance from the line, because the pine on the Hay railway was getting scarce. I have been practically shut out of the market. I have ruined myself in the attempt to compete by carting timber down to the railway. It has cost me 25s. a ton, whereas it used to be put on the trucks at Devlin's Siding for about 3s. a ton.
4632. If the Government made a railway from Temora to Warri, even if it lost a little on the annual working of the line, it would gain in the carriage of timber, and also gain in the royalties which it would receive? If a railway were constructed, say as far as Mumbooldool, the first section—and the majority of the timber is beyond Warri—I guarantee that in the first five years 100,000 tons of timber could be put on the railway.
4633. You are sure that there is an expanding market for that timber? There is.

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- A. G. Humby. 4634. At the rate at which you have been going, how many years would it be before you cleared those forests right off? I made a calculation with the ranger a short time since, and we came to the conclusion that there is enough timber there for half a dozen mills to cut for ten years.
- 31 Aug., 1899. 4635. That is at the rate you mentioned just now? Yes.
4636. How many square miles are there in these forests at Warri? I dare say it embraces an area of 20 or 30 square miles at, and surrounding, Warri.
4637. Is it nearly all good, marketable timber? A great quantity of it is. It is not all pine. There are other timbers intermixed with the pine, which are not valuable.
4638. Is it fit for posts and rails? Yes.
4639. It does not rot in the ground fast? No; it is the best timber we can find.
4640. Is it used at all by squatters for fencing? There is nothing but pine used in that district for fencing.
4641. When the ground is cleared of this timber is it good agricultural land? It is beautiful loam country.
4642. What is there underneath? The loam is deep. I have not got down to know what is below the loam.
4643. You have never sunk a well? Yes; I went through a lot of white pipeclay.
4644. That would hold the water? Yes; it is a country which absorbs all the rain.
4645. Have you ever had it too wet for the growth of crops? Never.
4646. It does not dry very quickly on the surface? No; it is a class of country which retains the moisture.
4647. For that reason it is good for cultivation? Yes.
4648. You would not want subsoil draining at all? No; it does not require it.
4649. Have you tried orchards and vineyards on that ground? Yes; I have tried fruit-trees, which grow remarkably well; so do vines.
4650. Is it good for market gardens—for vegetables? I believe anything you like to plant will grow in it. I have carried on a good many experiments at one time and another, at the suggestion of gentlemen like Mr. Thompson, with fodder plants and sorghum, and that kind of thing. It is wonderful country to grow them.
4651. Does it grow good sorghum? Yes.
4652. How many times did you cut your sorghum? Twice a year.
4653. Does it grow lucerne? I have tried lucerne, but I have been unfortunate. I have tried lucerne in a season when it has been dry.
4654. Will it grow trefoil? It grows that well.
4655. Are cows fond of trefoil? Yes.
4656. Do sheep eat it? Yes. It is a great country for growing anything in the shape of vegetables. I remember during one of these droughts taking about 8 tons of citrons and melons for the use of the pigs off a little square of about  $\frac{1}{2}$  an acre.
4657. How has this sort of soil stood the drought for the last four years compared with other countries? I think it has stood it well.
4658. Have you had any wheat-crops grown close by? Yes; the majority of the farmers were able to save their seed last year, whereas in many instances even that could not be got in other districts.
4659. And the year before that? It was a fair crop.
4660. Worth reaping? Certainly.
4661. If, when you have cut down the timber, you leave the ground alone, will fresh young trees grow up of themselves? Yes; there is a great deal of box country.
4662. If you only cut the box trees down, young box will grow up again? Yes.
4663. Will young pine grow up again? No, unless it is seeding.
4664. Does it seed naturally? It comes up in a most remarkable manner. I think the wind blows the seeds about, and often it comes up where we least expect to see it.
4665. If you cleared 1,000 acres of pine, and left it alone, you could not count upon another pine forest growing in the same place? I think not.
4666. If the Government want to keep the pine growing, they will have to seed it? They will have to adopt some plan. I do not mean to say that they will have to sow seed; but they will have to take care not to allow trees under a certain size to be cut.
4667. There is always such an amount of young growth that it would reproduce the forest? Yes; my experience extends over eight years, and I find that the pine is still going on growing all the time.
4668. If this line from Temora were continued as you propose, where would be the best stopping-place in the first instance? I should propose to take the line at least to Mumbooldool.
4669. Is that beyond your place? Yes; about 6 or 8 miles.
4670. Why do you talk of Mumbooldool as a temporary terminus? Because you asked the shortest distance I could say. I do not think you ought to stop short of that point on any consideration.
4671. How far would that be from Temora? About 60 miles.
4672. You think an extension of 60 miles from Temora would be justifiable straight away? I do, indeed.
4673. And that it would not prove an unprofitable line in the long run? I do not think there is any fear of that happening.
4674. Would it help to make the existing Temora line more payable? I think it would, certainly.
4675. It would throw more traffic on it? Most decidedly. The whole of the timber traffic of that district would be brought there. There would not be a cartload sent from Narrandera, and the whole of the wheat, which would be a very large item, would go there.
4676. If you send your timber down to Cootamundra, will any of it go south, towards Albury as well as towards Sydney? Some of it may; there is not very much of a market in that direction. Some goes towards Sydney.
4677. Would you get a market at Goulburn? Yes; at Murrumburrah, Yass, Boorowa, Goulburn, and all those places towards Sydney.
4678. Is it soft wood, and easily worked? It is something between softwood and hardwood.
4679. Is it fit for joiners' work—for making doors? No.
4680. Is it fit for skirting boards? It is fit for skirting boards, mouldings, floors, roofings, joists, and rafters.

- rafters. It is used by the Educational Department—and it is the only Department which does—in A. G. Humby. preference to any other timber they can get.
4681. Have they built any schools with the timber? Yes; nearly all the schools in the country are built with it. 31 Aug., 1899.
4682. They have stood the weather and the white ant? Yes. I once prepared a report for the Forestry Department, and Mr. John Kent, the Chief Architect for the Education Department, said, in his evidence, that he had found no timber like it for resisting white ant, and either damp or dry-rot.
4683. Are there any other forests of this kind nearer to these markets than Warri would be? No; they were cut out in the earlier days.
4684. As far as you know, that is the best good forest near to Sydney? Yes. I had the assistance of Forest Ranger Tate in making that statement.
4685. As you go west towards Mount Elliott and Gunbar, are there any more patches of pine? There is a great quantity of timber as the line approaches Barrallan, Binya, and Gunbar.
4686. Are there patches of pine all the way to Gunbar? Very large reserves of pine.
4687. Does any grass grow in the pine forest while the trees are standing? Yes; but it is patchy.
4688. Will a cow eat it? Yes, it is a sweet grass.
4689. Is it a very thirsty tree for drawing up water from the soil? Some people have an idea that it is injurious. They say that pine poisons the grass around. I do not believe there is much in that idea, for I have seen young grass growing up close to the trees as well as it would if there were no trees there.
4690. Have you seen the cattle browsing right up to the roots of the trees? Yes.
4691. A previous witness said that if the line from Wyalong to the Lachlan were extended, it ought to go rather more north than going to Hillston;—do you think that would be an improvement? I am hardly able to say, as I do not know anything of that country. I only know the country from Temora on to Warri and Mumboodool, and out as far as the Binya Range, where Mount Elliott is.
4692. Do you think it will be perfectly safe to extend the railway as far as Binya some day? Certainly.
4693. You think it would lead to settlement? Yes, and there is a great deal of settlement there now.
4694. You know the demand which is said to exist for land in this district generally;—do you think when the leases fall in, if a railway were made from Temora to Binya, settlement would take place all along that line within the next five years? I am positive of it. I live on the main road, and a great many people come up that way, and have done so for the last four or five years, looking for land, and immediately they get out they say, "We can never look at this land," and they are off to somewhere else. They are frightened to take up the land.
4695. They do not condemn the land? No, they speak highly of the land. They do not take up the land on account of its distance from a railway.
4696. Did you know Temora before the railway was made to it? Yes.
4697. Has the making of that line greatly stimulated cultivation and settlement near Temora? I believe it has.
4698. Sometimes railways have been made in the hope of stimulating settlement, and they have not done so? Yes; but there is such a large amount of settlement in this district we are referring to that it should be a proof that it does. We have battled along, and some of us are not fit to fight with long haulage. But there is not a doubt in the world that every acre of land would be taken up as soon as a railway were decided upon.
4699. All the good land within 15 miles of the line on either side would be taken up? Within 20 miles. But, on the other hand, I can assure you that many settlers out there have told me that they do not know how they are going to see their way through another season. They have been so tried by the long distance from the railway, and the trials they have undergone, that they have almost made up their minds to throw up the land, and let it go back to its natural state. The people I refer to are settled more towards Binya.
4700. There are some settlers between Warri and Binya? A large number. Round about North Barrallan and Binya I got some statistics from seventeen or twenty settlers. They own about 20,000 sheep between them; they have at present about 5,000 acres under cultivation, and they state that they would cultivate to the extent of about 14,000 acres if a railway were run out.
4701. These people at Binya are quite as near the Hay line as Mr. Nixon is? They are about 40 miles away.
4702. He has weathered it all with that distance of 40 miles from the railway? He happened to be in an enviable position, in that he came there with capital.
4703. You are of opinion that, to start well, a man should have a fair amount of capital? He must have some capital. Every man who goes on the land wants a little capital, and some help.
4704. What capital does a man want to take up 2,000 acres in that country? He could go very comfortably into it with £500.
4705. Would that see him through the first year? Yes; it would help him to see a return from the soil.
4706. Without going into debt to the store? I should think so.
4707. As regards most of the men who are in trouble, have they started with less capital than that? I think so.
4708. As far as you know, want of capital has been one of the causes of the failure of many of the farmers? Want of capital combined with the difficulties of getting their produce away.
4709. Mr. Nixon, with all these difficulties in the way, has thriven there for seventeen years? He was in an enviable position, for he said yesterday that he came there with some thousands.
4710. As regards these men who have failed, are they men who had had farming experience in Victoria or South Australia, or were they new to farming? They had had experience. I do not say they have failed, but they have had the hearts knocked out of them.
4711. You have seen a good deal of farming in Victoria and New South Wales;—do you think previous agricultural experience is essential to a man's success, or will a smart man get on, even if he has not been brought up to farming? It is not absolutely necessary. Previous experience helps him undoubtedly; but I had never had any experience in agriculture myself; I was forced into it.
4712. Have you found that the want of agricultural experience has been a great hindrance to you? It may have been, the first year or two.
4713. You made a few mistakes for which you had to pay? Yes; I got the seed in too late, and did several little things of that sort.

- A. G. Humby. 4714. *Mr. Watson.*] In the district round your place, how many acres of land do you think a man with a family would require to have in order to make a reasonable living? It depends upon what he is going in for. If he simply wants to cultivate, and keep a number of horses, and a cow or two for his family, and does not want to go in for sheep, he ought to get on very well with a 500-acre farm—and less than that area.
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4715. It is to be assumed that he will go in for what will keep him properly? If he wanted to run 500 sheep in connection with his farm, he would want to have from 1,500 to 2,000 acres.
4716. What would be a reasonable area to set aside if you opened the land for settlement with railway communication? A man can get a good living on 500 acres.
4717. When Mr. Nixon told us yesterday that at Gunbar it would require 2,000 acres, the presumption is that the land round Warri is better than the land round Gunbar? It would lead you to suppose so.
4718. Nearly all the pine and box country is good for agriculture? Yes.
4719. That is pretty well the universal experience? Yes.
4720. You stated yesterday that some portion of the land between Temora and Wyalong is, in your opinion, unfit for agriculture? I did.
4721. Is not pine and box with oak a leading characteristic of the country between Wyalong and Temora? There is a good deal of box, and all that sort of thing.
4722. There is a lot of pine there? I did not refer to the nature of the soil when I spoke yesterday; I referred to the country itself. It is full of gilgai holes and coolamon holes, and it is a most unsatisfactory kind of country to cultivate.
4723. What proportion of it do you think is gilgai holes? A very large proportion, and besides that there is a lot of rough, stony country in it.
4724. If the District Surveyor has stated in evidence here that nearly the whole of that land is fit for agriculture, excepting a very small portion, do you not agree with him? I should say that he has seen more of it than I have, and must be able to give a better report.
4725. Did you travel any more than along the road when you went between those two points? I have travelled on the different roads between Temora and Wyalong, and round about Wyalong.
4726. I think you stated yesterday that you had not been between Grenfell and Wyalong? No.
4727. And that your approval of the line from Grenfell to Wyalong was simply based on the appearance of things on the map? No. In the best interests of the country, I said.
4728. Assuming that your motive is to consider the best interests of the country, in approving of the proposed line, you would have to be guided by the map if you did not know the country, would you not? Yes.
4729. Whatever approval you are giving to the line from Grenfell to Wyalong, you are giving from the appearance of things on the map, not knowing the country? As far as from Grenfell to Wyalong, certainly.
4730. Is there any reason why the Government, if it would appear that both lines were going to pay, should not construct a line from Temora towards Hillston, and also a line from Temora towards Gunbar, that is making a junction at Temora? No; I form my opinion from the answer which the Government made when we made the proposal to construct a line from Coolamon. They said that lines which ran at angles to one another like that did not pay.
4731. That I take it was the individual opinion of some Members of the Public Works Committee? I think it was the Committee who expressed that idea.
4732. You mean the Sectional Committee who were there? I believe so.
4733. Is the angle there much more acute than the angle shown by the Forbes line, and the Condobolin line from Parkes? It would be more acute between Barmedman than it would be between Forbes and Bogan Gate.
4734. Supposing a line were taken from Temora to Wyalong, do you think the Broken Dam people would use that line, or would they continue to go into Temora? I think they would continue to go to Temora.
4735. So that it would not draw any traffic? I do not think so.
4736. You know the projected line from, say, Ariaah towards Gunbar, and the general route which it follows? Yes.
4737. How far on an average would that line be from the Hay-Narrandera line? At some points it is nearer; but taking an average, I think, you will find that it is 40 miles.
4738. Taking the distance between Narrandera and the point where it passes your place, the line on the wall map is 10 miles out, according to this scale? It is.
4739. And it is very likely that is 10 miles out further up? It is.
4740. If you cannot trust the map in that respect, it is dubious whether we can trust to it with respect to the angle of projection between Temora and Wyalong, and Temora and Ariaah, I should imagine? I think it has been carried a little too far to the south; that is all.
4741. You think that if the line is taken from Temora towards Ariaah it would be payable? Yes.
4742. *Mr. Shepherd.*] The place where you are situated is almost equi-distant from Temora, Narrandera, and Wyalong? It is about the same distance to Wyalong and to Temora, but it is 10 miles further to Wyalong and Temora than it is to Narrandera.
4743. Do you ever deliver timber or grain at any other station than Narrandera? At Narrandera and Grong Grong, which are the same distance from us.
4744. Not at Temora or Wyalong? No; we could not look at it.
4745. Neither the Grenfell-Wyalong line nor the Temora-Wyalong line will assist you? No.
4746. It is in the interests of the country generally that you believe that the Grenfell-Wyalong line would be better than the Temora-Wyalong line? Yes.
4747. Why? Because I think there would be more probability of the Government carrying the other line along, and it would improve a larger area of country and benefit a much larger number of settlers.
4748. And by running out these parallel lines some time hence, the Temora line may be continued on to Gunbar, and the Wyalong line up to Hillston, and then pretty well the whole of the country between these two lines would be served, and also this lower line? It would put anybody who could settle on that land within 20 miles of a railway.
4749. You think those parallel lines are better than these cross lines? There is no doubt about it. It serves a larger area of country, and, of course, a larger number of settlers.

4750. Does it pay you to grow wheat and deliver it at Narrandera, 45 miles distant? No. I began cultivating there because I found it was necessary to grow food for the horses that were carting timber; and then bit by bit the timber trade has got knocked down to such an extent that we can hardly cart anything at all. What with the bad seasons and the competition by those who are able to pick up a few logs near the railway, and that kind of thing, it led me to go into farming. I cleared 200 or 300 acres, and got it in. But there is about half-a-crown to pay on every bag of wheat you can send to the railway, and it is a question whether it would pay—in fact, it would not pay to grow it to send in there.
4751. You say that in a good season you produce as much as nine bags to the acre? I have never done it, but my neighbours have.
4752. It is the best return we have had yet? I can name a neighbour who took 900 bags off 100 acres.
4753. Is the country all round you for the same distance equally good? It is similar country.
4754. And onward as far as you are aware, the land towards Gunbar seems to be good? Yes. On North Barallan, where there is a very large tract of Crown land available for settlement, I believe there is some of the finest agricultural country in New South Wales. It is spoken of by the Government officer, Mr. Thompson, as magnificent wheat-growing country, and in his report he states that if a railway were run into this district he believes it would be one of the most prosperous in New South Wales.
4755. What does it cost you per bag to deliver your wheat at Narrandera? It would cost half-a-crown a bag.
4756. That is rather too much to pay to compete with those who are living nearer than you? It is.
4757. What does it cost you a ton for timber? Twenty-five shillings.
4758. If it could be brought within 20 miles of a railway you would be able to carry on more successfully? Yes; it would reduce the rates by one-half, and one could work at a profit then.
4759. Is the country pretty well watered about Warri? Only by means of dams.
4760. There is no natural, running water? No; that has been a fearful drawback, what with the drought and the bad roads, to the poor unfortunate carriers. One-half of their load has been tanks of water which they have had to carry during the last year or two.
4761. You think the gilgai country, as a rule, is not good for agriculture? I would not like to say what the nature of the soil is; I would not like to touch it. I would rather go and clear the despised mallee country than go on to the gilgai country.

William Boyd, farmer, near Warri, sworn, and examined:—

4762. *Mr. Trickett.*] What are you? I am a farmer, residing near Warri, a little south-west of Ariaiah.
4763. You have come here, I believe, to advocate that, in any scheme of railway extension to the west of Temora, your district should have consideration? Yes.
4764. What grounds do you advance in support of your claim? I think that if this proposal were carried out to construct a railway from Temora to Wyalong it might injure our chances of getting the line carried from Temora westward.
4765. The Temora-Wyalong line would be utterly useless to you? It would be of no use.
4766. Instead of carrying the line at an acute angle from Temora to Wyalong, you advocate that a line somewhat parallel to the Hay line should be constructed in the direction of where you live? Yes.
4767. What claim has the country out your way to a railway? It is all good agricultural country. There is a great deal of farming going on round about Warri; there is a lot of land under cultivation.
4768. When you were examined on the Coolamon-Ariah proposal you gave some figures showing that agriculture had largely increased from year to year in that district? Yes.
4769. On that occasion you said that in 1895 there were 10,225 acres under cultivation, and in 1897, 14,250 acres;—do you know what the area under cultivation is at present? I could not say. We have collected no statistics on the same area of land since that year.
4770. Has it increased, do you think? It has increased. I should think there would be a 10 per cent. increase, anyhow. We have increased our own area since then.
4771. What do the farmers about Ariaiah and Warri do with their wheat? It goes to Grong Grong and Devlin's Siding, on the Hay line.
4772. That is a distance of about 40 miles? It is about 35 miles.
4773. Do they find that rather a prohibitive distance to go? It is expensive. From where we are situated it costs us 1s. a bag, that is 3d. a bushel, to cart wheat to the railway siding, and we are south of Warri a few miles.
4774. I notice that a number of you gentlemen have come to Sydney to interview the Minister on the subject;—what districts do the deputation represent? They represent the branch leagues from Broken Dam right through to Gunbar. I represent Warri and Mumbooldool.
4775. Do you regard the whole of that tract of country as agricultural? I cannot speak of the country beyond Mumbooldool, which is about 15 miles west of Ariaiah.
4776. What is the country like as far as Mumbooldool? It is good agricultural country. I suppose nineteen-twentieths of the country would be put under the plough. There are a few ridges, but nothing to speak of.
4777. Do they get fair average crops there? They average about 4 bags; that is about 15 or 16 bushels to an acre.
4778. That is looked upon as a pretty good average? It is a pretty good average.
4779. Has it given that average, notwithstanding the dry weather, for the last three or four years? No. Last year it was almost a total failure. It ran from about half a bushel to a bushel to the acre last year, and the previous year from about two and a half to three bags to the acre. Before that time we had averaged up to five bags to the acre. The seasons of 1892, 1893, and 1894 were all good seasons.
4780. Will there be much Government land available there for farming at the end of this year? Yes. I have some statistics. Starting at a point about 10 miles west of Temora, I have some statistics in relation to the country for a distance of 40 or 50 miles along our suggested line, and extending back from the line 15 miles on either side.
4781. Can you state what lands will be available for close settlement within that area? Within that area the freehold, conditional purchase, and conditional lease lands total 403,934 acres, and the Crown lands 276,943 acres.

4782.

- W. Boyd. 4782. Do you regard the bulk of that land as fit for agricultural purposes? The bulk of it is fit for agriculture.
- 31 Aug., 1899. 4783. Among how many holders is the conditional purchase land distributed? I could not tell you without reference to my books.
4784. Can you tell us how much of that land will be available for selection within a short time? I think the bulk of these leases fall in next year. They are all in the Central Division. I notice that the cultivation lands in that stretch of country measure 45,843 acres.
4785. When you were examined before a former Committee you said that about 225,000 acres held by pastoralists would be available for settlement at the end of 1899;—are they included in the area which you have just described to the Committee? No; those figures refer to a different area. The figures I have just given refer to this tract of country on the map, beginning at a point 10 miles west from Temora, and extending west for a distance of 40 miles, with a total width of 30 miles, whereas the other figures were collected for the area between Coolamon and Ariah, including the country on either side of the Coolamon-Ariah line for a distance of 15 miles. Some of the figures I then collected are included in the statistics I have given to-day.
4786. Some of the country which is included within the influence of the suggested line from Coolamon to Ariah is not included in the country which you have just mentioned? That is so.
4787. As regards serving the greatest quantity of agricultural land, which do you think will be the better line to construct—the Temora-Ariah line or the Coolomon-Ariah line? I think the Temora-Ariah line will be the better one to construct in the interests of the country.
4788. Why? The Coolomon-Ariah line goes out at an angle, whereas the Temora-Ariah line divides the country up a great deal better, although personally the former would suit me a great deal better than the latter.
4789. Which of them is the shorter line? I should think the distance is about the same.
4790. If a line were proposed from Temora to Ariah, would you go on in a straight line to Gunbar, or would you go a bit north of the line marked on the wall-map? It appears to me that it is really too close to the Hay line. I think if it went a little further to the north it would be better, although I have no knowledge of the country.
4791. Is there a considerable area of Crown lands to the north-west of Ariah suitable for agriculture? There is a good stretch of Crown lands.
4792. How far does it go up? I suppose it goes pretty well up to the Lachlan. I suppose there are more or less Crown lands right through there. I cannot speak of the country beyond Yalgogrin going north.
4793. As regards lands which have been thrown open from time to time in your district, have they been well balloted for when thrown open? Yes; in a few instances there may be odd blocks not taken up; but the bulk of them have been taken up.
4794. Has any land been thrown open lately? There was some land thrown open at Yarrenjerry a short time ago under settlement lease. The area was about 7,000 acres, and it has all been taken up.
4795. Are the farmers improving the land? They have not got on to the land yet; it was only taken up a couple of months ago.
4796. The last witness was asked what he thought would be the minimum area which a farmer could do with in that district;—what is your view on that point? I put it down at 1,000 acres.
4797. Would the settler require to till all the land, or would he use some for agriculture and some for stock? He would have to combine agriculture with grazing.
4798. You think that 500 acres would be too small an area? I think so.
4799. If he had 500 acres he would want to cultivate pretty well every bit of it? Yes.
4800. It would not leave him any grazing ground at all, and that, you think, it is necessary for him to have? Yes.
4801. How many sheep to the acre can you run on improved land? About a sheep to an acre and a half.
4802. Is the country about Warri and Ariah well improved;—is it held by squatters, or is it becoming worse by reason of the scrub? It is fairly well improved. All the secure lands, of course, are well improved.
4803. What is the condition of the Crown lands held under lease? Owing to the shortness of the leases there have been no improvements made on those Crown lands for a number of years. They have been gradually getting worse.
4804. Owing to the shortness of the leases, and to their having no tenant right, [it has been getting worse? Yes.
4805. Have you any figures relating to the wheat production in your district? Yes; in that area I spoke of we produced 145,546 bags of wheat in one year. These figures were collected on the 16th March, and we allowed four bags to an acre. Last year the wheat crop was a failure.
4806. Will you hand in the return which you have compiled? Yes; it is as follows:—

STATISTICS collected, *re* Temora-Gunbar railway, on 16th March, 1899. Commencing at a point 10 miles west of Temora to a point 50 miles west of Temora and 15 miles on each side of the proposed line.

Freehold and C.P. and C.L. lands.....	403,934 acres.
Crown lands .....	267,943 „
Cultivation .....	45,843 „
Number of sheep .....	214,115
„ horses .....	1,535
„ cattle .....	1,120
Bags of wheat.....	145,546
Bales of wool .....	3,715
Average amount of goods received yearly .....	1,396 tons.
Quantity of other produce—hay, chaff, hides, skins, &c.....	3,716 „
Number of fat sheep yearly .....	41,350
Probable increase in cultivation if a line is constructed .....	97,670 acres.
Population .....	947

4807. Will you tell the Committee how these statistics were collected? The statistics were collected by my brother, who was employed to visit the whole of the settlers in that area.

4808. You put down the probable increase in cultivation, if a line is constructed, at 97,670 acres;—how do you arrive at an estimate of that kind? The settlers promised my brother when he went round to collect the statistics that they would put in that additional area if the line were constructed.



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4809. Have they brought into the railway most of the wheat which they have grown? I think so.
4810. Or has it been used largely for hay? A great lot had to be cut for hay last year.
4811. But in a favourable season was it taken to the railway? It was all brought in to the Hay line.
4812. A portion of that traffic would go into Temora? From about Broken Dam; but as you get further along there, it all goes in to the Hay line.
4813. Notwithstanding the fact that they have to cart their wheat such a long distance, the farmers as a rule have managed to keep their heads above water? They have been going back every year for the last four or five years.
4814. That is owing to the successive droughts? Owing to the droughts, and to the long haulage.
4815. Have you heard the farmers say what they would consider to be on an average a payable price to receive for their wheat in bags on their farms? My opinion is that about 2s. 6d. on the farm is about the lowest rate.
4816. Some witnesses have stated 2s.;—do you think that is cutting it very fine? It is cutting it fine.
4817. Do you know anything of the features of the country between Temora and Aria;—as regards railway construction, are there any difficulties in the way? I have not travelled that far. I can only speak of the country 10 miles east of Aria up as far as Broken Dam. It could be easily constructed as far as Broken Dam, which is about 18 miles from Temora.
4818. From Aria to Broken Dam, would it be an easy line to construct? Yes.
4819. Which would be the shorter route to Sydney—the Aria-Coolamon or the Aria-Temora? The Aria-Temora.
4820. Then I understand with regard to the broad question, you agree with the former witnesses that, in the interests of your district, and in the interests of the country generally, a line parallel to the Hay line, and going from Temora to Aria, and out west, would be more advantageous than a line from Temora to Wyalong? That is my view.
4821. *Mr. Dick.*] Do you think an extension from Temora, say 50 miles along that proposed route to Gunbar would, of itself, prove a payable line within a very short time? I think so.
4822. If that line were constructed, do you think the further construction of the Temora-Wyalong line would interfere with its revenue-producing capacity? I do not know the country, but I understand that it is not developed to the same extent as the country for the first 50 miles is.
4823. Presuming that a line is constructed from Temora, 50 miles out towards Gunbar, and that an agitation were got up to construct a line from Temora to Wyalong, do you think the construction of the Temora-Wyalong line after the construction of the first section of the Gunbar line would interfere with the revenue-producing capacity of the first line? I think it would to a certain extent, till we got outside the influence of the Temora-Warri line.
4824. Say outside Barmedman? Yes; it would interfere with it to that extent out in that direction.
4825. Do you mean that the Barmedman people would probably take their stuff to Broken Dam if the Gunbar line were first constructed? I do not know the exact distance; I suppose it would depend upon the distance.
4826. The distance is about 17 miles;—is it not a fact that even now both Mandamah and portion of the distance from Temora to Wyalong are already within the influence of the Temora terminus? I think so.
4827. And for the first 15 miles of the proposed Gunbar extension very little new traffic would come from that line? That is right.
4828. So that it is the part beyond, say Broken Dam, and out towards Gunbar, which would bring new traffic to that proposed extension? Yes.
4829. How could the two lines in any way interfere with one another if that were the case? I was afraid that the extension would interfere with it.
4830. You think the angle between the Temora-Wyalong line, and the Temora-Gunbar line is too acute? Yes.
4831. Is it not a fact that, no matter at what angle the line went, both the Temora-Wyalong line and the Temora-Gunbar line, for 20 miles at least, would still be within the influence of the present Temora terminus? Yes; I suppose the traffic would still go into Temora.
4832. Do you think the Gunbar extension can stand on its own bottom as a developing line, or a profit-producing line? I do.
4833. You do not think it is rather close to the Narrandera line? I do not think so.
4834. Do you know the surveyed route for some distance? Yes.
4835. How far on an average do you think it is from the Narrandera-Hay line? From Aria it is about 38 miles, I should think.
4836. Do you know the country 20 miles west of Aria? Yes.
4837. How far do you think a point on the proposed route 20 miles west of Aria is from the Narrandera line? About 35 miles, I think.
4838. That does not leave room between the two lines to enable each to have a sufficiently large area from which to draw traffic? I think so. I think the development will be sufficient; I believe that if that land were all thrown open there would be sufficient settlement there to provide traffic on both lines.
4839. For agricultural purposes, how far from a railway do you think a new line stimulates production? From 15 to 18 miles.
4840. No further? Twenty miles, I suppose.
4841. It stimulates active agricultural expansion for that distance? From 15 to 18 miles is about a reasonable distance to cart wheat. Of course, production would go on further out again. At the present time it is going on 35 and 40 miles back from the railway; but at a disadvantage. Wheat-growing is carried on 40 and 45 miles back.
4842. *Mr. Watson.*] You said you thought the acute angle at which the two lines might go out from Temora—the one towards Wyalong and the other towards Aria—would minimise the amount of traffic available for each? Yes.
4843. If you come too close to the Hay line with your railway, further on, the area available for each line would be smaller? Yes; it reduces the traffic on the Hay line.
4844. Suppose there were no railway between Temora and Wyalong, and there were a railway from Temora to Aria, would not Barmedman still take its traffic in by the main road to Temora? I suppose it would, as Temora is the largest town.

- W. Boyd. 4845. It is about the same distance away as to Mandamah, and they would be nearer Sydney by going to Temora? Yes.
- 31 Aug., 1899. 4846. They would be nearer their market, and consequently, they would be more likely to go to Temora? Yes.
4847. In the same way, if the Temora-Wyalong railway were carried out, and no railway were made to Ariah from Temora, the Broken Dam traffic would still go to Temora? Yes.
4848. So that the run of traffic from either of those places would not be interfered with by the construction of a line to the other? I do not think it would.
4849. Admitting that it is an unwise thing to start at an acute angle, if you can avoid it, with a second line of railway, would not the wisdom of that to some extent be governed by local circumstances? Yes.
4850. Supposing you had a tract of country to pass over on the alternative route, which was unproductive from a railway point of view, which was not agricultural land, would it still be a wise thing to follow blindly your map projection? I do not think so.
4851. In that case, I suppose, you would think it wise to modify it in order to fit local conditions? Yes, to a certain extent.
4852. We cannot always be guided by the map alone? No.
4853. You admit that the traffic from the direction of Barmedman and Broken Dam respectively is so far distinct that each will continue to work independently of the other, probably towards Temora? I think they will draw in towards Temora without any railway extension.

John Holloway, pastoralist, Mumbooldool, sworn, and examined:—

- J. Holloway. 4854. *Chairman.*] What are you? I am a pastoralist, residing at Mumbooldool, which is 35 miles almost due north of Narrandera.
- 31 Aug., 1899. 4855. How far is it from Temora? I think it is 47 miles by the railway survey-peg from Temora to Mumbooldool.
4856. Are you a member of the deputation sent here to ask for an extension of the line from Temora out towards Gunbar? Yes.
4857. Will you state as concisely as you can your reasons for advocating that line? My reason is that there is so much good agricultural land, which may be made profitable to the country, and will carry a big population if they have means of getting their produce to market. I think there is no better land anywhere in New South Wales for wheat-growing than a good deal of that country. Another reason is that nearly all the leases will fall in next year, and unless they have a railway it is better to leave the country in the hands of the original occupiers.
4858. Keeping the line you advocate 40 miles distant from the Hay line, do you think there will be a sufficient area of good land to justify the construction of a light railway in that direction? I think there would. The railway could be made very cheaply, as it is very level country; there are no cuttings in that neighbourhood.
4859. Keeping 40 miles away from the Hay line, would that secure sufficient good land to the north of the line to pay for its construction—that is, in conjunction with 20 miles to the south? I think so. There is a good deal of Crown land available, and if a bit of money were put on to the land nearer to the railway—which people would be very willing to pay—it would help to pay for the railway very much indeed.
4860. You have no hesitation in saying that there is sufficient good land 20 miles north and 20 miles south of the line you advocate to warrant its construction? That is my opinion.
4861. Do you know the country between Grenfell and Wyalong? I have been over it, though I do not know it very well. I have a general knowledge of the country between the Lachlan and the Murrumbidgee. I have passed over it a good many times in different directions, and I have passed over the country between Grenfell and Wyalong, but it is a good while ago since I did.
4862. Do you know the country between Wyalong and Hillston? Fairly well.
4863. Would not a line going west from Grenfell in that direction serve an equally good tract of country? I think it would. I think the land is nearly as good; there may be some ironbark hills. I would advocate two lines myself to serve all the country between the two rivers, or nearly all of it. I think it would be better policy for the Government to have two lines running parallel nearly west—nearly the same way as the Lachlan and Murrumbidgee run—to get the traffic of all the land between the two rivers.
4864. You think it would best serve the interests of the country to have those two parallel lines, in order to develop the whole of that country? Exactly; I think short cockscur lines would be of very little use, and eventually would not be a success.
4865. Do you think the traffic would justify the construction of two lines in that way? I do, as I have such faith in the land, which is very good, indeed.
4866. Do you usually get sufficient rainfall, and at the proper time of the year, to successfully grow wheat? Until the last four years it has been. The rainfall has averaged about 20 inches, and the crops have been very good until the last few years. I have known over eight bags to the acre to be grown on Mumbooldool. I have cultivated one piece of land for hay for nearly seventeen years. It is a small bit, certainly. We only use it for hay; it grows a very good crop.
4867. From your knowledge of the country you think that the construction of two lines, running west from our present system, would be justifiable? I do. There is a great deal of very good land which would be tapped by the line from Grenfell to Hillston. I have been over there a good many times about Bygalorie and what they call the Humbug Creek. It is beautiful land. Bygalorie is all basaltic rock country, and very good formation. It is 40 miles nearly south from Condobolin. It is not far from Ungarie. There are over 30,000 acres of basaltic country. I have seen that country when I have been going through to see my son at Kiacatoo, which is 20 miles south of Condobolin.
4868. How would you describe the whole of the country which you have been across? The whole of it is very good land indeed. On North Yalgogrin there are some ironbark hills, but that is the only poor land there is going across there.
4869. What percentage would there be of good agricultural country? It is nearly all good, I should think. Only about 3 or 4 per cent. is not good.
4870. Would you care to express an opinion as to the advisableness, or otherwise, of continuing the line from Temora to Wyalong, and then going out towards Hillston? I do not think it would be good policy to build a railway from Temora to Wyalong, and then to Hillston.
4871. Why not? I think it is better to have two parallel lines.
4872. You have no doubt about that? That is my conviction, and I have lived in the neighbourhood there for nearly twenty-seven years.

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4873. Have you grown wheat? Yes, but not to any great extent. We have grown wool mostly.
4874. *Mr. Watson.*] You seem to favour the construction of a line from Grenfell to Wyalong, as far as the present proposal is concerned? Yes, and to carry it on then towards Hillston by all means.
4875. Because you think that will split the country up better? There is some beautiful country out that way.
4876. Where is it? I think it is on the Humbug Creek.
4877. That is west of Wyalong; but the Committee are considering the best method of reaching Wyalong, keeping in view an eventual projection in any direction which it may be thought fit to adopt;—do you know the country between Grenfell and Wyalong? Yes; but not very well. I would not speak very positively about it now. I knew it before it was occupied—before it was improved in any way.
4878. The District Surveyor, when he gave evidence here a few days ago, stated that that line between Grenfell and Wyalong would, for 25 miles, pass through country absolutely unfitted for agriculture, good pastoral country, but country absolutely unfitted for agriculture;—that would not be so remunerative from a railway standpoint, I suppose, as country which would produce wheat? I do not think it would.
4879. It has been stated by engineers, in their evidence, that the line from Grenfell to Wyalong will cost nearly £50,000 more than the line from Temora to Wyalong, and I want to know whether, if the statement as to the land is true, bearing in mind the fact of the extra cost, those points might not weigh against the appearance of the map projection? Possibly.
4880. Is it not a fact that the only objection which the people along the Temora to Gunbar route have to Wyalong being reached from Temora is that they are afraid that it will prejudice the chance of an extension in their direction from Temora? Undoubtedly that has some weight.
4881. Is it not a fact that the Sectional Committee, when the Coolamon-Ariah proposal was under consideration, intimated that they were in favour of a projection from Temora to Gunbar, and from Koorawatha to Wyalong, and led the people at Ariah to understand that that is the way they are likely to get a railway? That was proposed, I think, by that Sectional Committee; but, independently of that, I think that is the best way to occupy all that country.
4882. I do not suppose we should have seen any of you gentlemen here, but for the fact that you were afraid that it might prejudice your chance of having the line extended in your own direction? I came here, not because I was afraid, but because I was requested by the Chairman to come. I came here as an old resident to assist you with information as far as I could. I did not volunteer to give information.
4883. Some members of the deputation which was appointed to wait upon the Minister volunteered to give evidence on a question which is not directly before the Committee, but which is within our purview; I think you stated just now that you think the main objection to any line going from Temora to Wyalong, as far as the Ariah route is concerned, is the fear that it will block extension in their direction from Temora? It is very likely.
4884. *Dr. Garran.*] You have been growing wool, I understand, but you have also grown a little wheat? Yes.
4885. With your knowledge of the soil, which do you think is the best use to put the land to—to grow wheat or to grow wool? To grow wheat, if we can get it away.
4886. Given adequate transit, wheat is the most profitable use to which to put the land? Undoubtedly.
4887. And although, as a pastoralist, it is not to your interests to break up pastoral occupancy, you agree with all the people who say that it is a fine agricultural district? Yes.
4888. And your opinion is, that the settlement will be close enough to make a cheap line remunerative? Yes.
4889. And that, in the interests of the country, it will be best to run these lines from east to west in preference to having short cockspur lines from the Hay railway? I think that would be more profitable with wheat in the first place. Later on, perhaps, there might be a necessity to join them by short lines.
4890. Is your land secured, or leasehold land? We have 18,000 acres of secured land, and about 60,000 acres of leasehold land, which will fall in next year.
4891. The leasehold land will, perhaps, pass from you? It will not next year, because the Government have resumed 20,000 acres, and it is available for settlement now.
4892. *Mr. Watson.*] That gives you an extension for the balance? Yes; an extension of fifteen months.
4893. *Dr. Garran.*] You are aware that we have made some railways, notably the Narrandera-Hay line, in the hope of inducing agricultural settlement, and have failed? Yes; but that is very easily accounted for. It is not agricultural land which it passes through. It goes through large pastoral freeholds. Had half that money been spent in constructing a railway between the two rivers—the Lachlan and Murrumbidgee—it would have paid over and over again.
4894. Is the land itself agricultural? Not on the Hay railway.
4895. So that if the pastoralists wanted to break it up into farms, it is not suitable for farms? It is not, near the Hay line.
4896. But this line you are speaking of from Temora towards Gunbar would run through agricultural land? It will run through good agricultural land.
4897. You do not think it would be a disappointment? No; I am sure it would not be, as far as the land is concerned. Wheat-growing has got beyond the experimental stage out there.
4898. Has the line from Cootamundra to Temora induced smaller settlement? Yes.
4899. As much as you expected it would before it was made? I think so. I do not know very much about that country. I know some gentlemen who live there.
4900. Yet it is not a remunerative line? I think it is a remunerative line, and if it is not, it is simply because it has not been carried far enough. I think an extension of 50 miles would have made it remunerative.
4901. You think it is too short a cockspur line? Yes.
4902. If you carried that line on to Binya, the engine could go to Cootamundra one day and come back the next? Quite so. I think it would pay very well.
4903. I suppose if it went on to Gunbar the engine could go the whole distance one day and come back the next? I dare say it could.
4904. So that we have been too timid rather than too bold in that direction? I think so. I think if we had gone another 50 miles it would have been very much better.
4905. *Mr. Watson.*] Do you know how far Binya is from the Hay line? Speaking from memory, I think it is 26 miles.

- J. Holloway. 4906. Do you know that range where Mount Elliott is marked on the map? Yes; Binya Range.
- 31 Aug., 1899. 4907. Is there any necessity to go south of that range? I do not think there is. I think they could worm a way through the hills very well. There is beautiful land in what they call Pleasant Valley, amongst those hills.
4908. How wide is it from east to west? I do not know. It is broken hilly country for some miles; but between the hills it is very good land indeed. There is a great deal of settlement there too.
4909. Apparently the line was brought so far south with the view of getting round the southern end of Binya Range? I know no other reason why it did not go 10 miles further north.
4910. *Chairman.*] You said, in answer to Mr. Watson, that your main objection to the construction of the Temora-Wyalong line is, that it would probably interfere with the construction of a line from Temora out towards Gunbar;—we are to take it that you are speaking personally when you make that statement? Yes.
4911. The objection you would have to running a line from Temora to Wyalong would be that it would not properly split up all that western country? Exactly; and it would keep a lot of that country back from having a railway for many years.
4912. Which country? The country towards Gunbar. I think it would be detrimental to a great part of that country for years to come, and the benefit which would enhance the other country is problematical.
4913. The line crossing that country in a northerly direction, you think, would not be in the interests of the Colony? I do not think it would.
4914. Suppose there were a proposal to run a line from Ariaah out north towards Yalgogrin, do you think that would be a good proposal? I do not see what object there would be in doing that. There is a great deal of country there, which is abandoned for the present anyway. All Buddigower is abandoned; it is a big scope of country, and on North Yalgogrin there is some of the worst land to be found out there.
4915. *Mr. Trickett.*] You were asked about the country between Grenfell and Wyalong, and I understood you to admit that for about 25 miles out of Grenfell, it is fairly good agricultural country? I do not know much about it.
4916. Do you think if a projected line is proposed to be run through good fattening pastoral country, that should be a reason for blocking the railway from going through that pastoral country;—do you think the pastoralist has got to a stage when he should be ignored in our railway construction? No. There seems to be very little money available for railways; it is very hard to get them. We should get them in country which would enable them to pay their way the quickest, and they will only do that in red pine and box soil. They will not in that black country on the Bland.
4917. And let the squatter get his stuff to market in the best way he can? He has so little to get to market. A 320-acre farm would produce as much weight for a railway as a squatter will off his 60,000 acres.
4918. Supposing there happens to be a great tract of suitable agricultural country beyond a stretch of 25 miles of good pastoral country? By all means go across it.
4919. You would not cut off the agricultural country out west from a railway, because it would have to go through 25 miles of pastoral country? Certainly not.
4920. You would not go so far as that? Certainly not. A pastoralist wants a show as well as a farmer; but I think a railway is so hard to get that it should be made where the land will give the best returns to the Department.
4921. *Mr. Levien.*] I suppose these farmers are pastoralists too? Yes. As far as I am concerned, I would put every acre we have under wheat if we had a railway.

Charles Snell Chauncy, surveyor and farmer, sworn, and examined:—

- C.S. Chauncy. 4922. *Chairman.*] What are you? I am a surveyor and a farmer.
- 31 Aug., 1899. 4923. Were you one of the deputation appointed to wait upon the Minister in reference to railway extension to Gunbar from Temora? Yes.
4924. Will you shortly state your reasons for advocating that proposal? Because of the distance we are from the railway line, making it unprofitable to grow wheat; and because the line will pass through nearly all good agricultural land. Nine-tenths of the land is fit for good wheat culture.
4925. Do you know the country generally north of the line you suggest? I know the country north from Ariaah to a little above Mount Elliott, and round Yalgogrin, and down towards Narrandera.
4926. Do you see the line marked broad red on the map from Grenfell to Wyalong? I have never been to the east of this line from Ariaah to Yalgogrin.
4927. Would the railway which you suggest split in halves a fair amount of good agricultural land if constructed? I think so.
4928. Have you any knowledge of any railways which have been constructed in order to promote agriculture? No, except from hearsay.
4929. So that you could not say whether the construction of railways has stimulated agriculture? Not from personal knowledge. I believe it would stimulate agriculture if we had a railway.
4930. Is much of the country you are acquainted with heavily timbered? Yes; it is nearly all heavily timbered with box and pine and pine scrub.
4931. Is that the country which they are clearing for wheat? Yes.
4932. It is not quite so heavy as the big scrub in the north? No.
4933. You have heard the evidence which has been given by the other witnesses this afternoon? Yes.
4934. Generally, do you corroborate their evidence? I quite corroborate all I heard.
4935. *Mr. Shepherd.*] As a surveyor, if you were employed to make trial surveys there of your own option, without any direction whatever, how would you start to work to reach the western country from the present railway? I think I would about follow the route which is shown in red on the wall map. I think it is taken by about the best place. I think that is shown to be a little nearer to the Hay line than it really is in places.
4936. Do not you think a system of parallel lines from the main line from 30 to 40 miles apart, right into the country you want to reach, would be the better plan to adopt? I think so. Parallel lines, I think, are the best.
4937. That would serve the whole country, then? Yes.

4938. You would be within 20 miles of a railway through the whole of that country? I think so. More than 20 miles from a railway is too great a distance to cart wheat payably.

4939. And the fact of a block of pastoral country happening to come in, you would not consider a sufficient reason for blocking the railway altogether? I think not.

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Samuel Harrison, farmer and grazier, Broken Dam, sworn, and examined:—

4940. *Chairman.*] What are you? I am a farmer and grazier, residing at Broken Dam.

4941. Were you also one of the deputation appointed to wait upon the Minister? Yes.

4942. Will you please state your reasons for making the suggestion to the Minister? Now that these railways are before the Committee, we thought it was a very good time to get this line submitted. We have been advocating for a long time an extension from Temora westward, and I think it is a very good time to bring it before the country. It would open up a lot of country through there. The Broken Dam Railway League, which I represent, is a very old league. For 20 miles north of Broken Dam there are a number of settlers, and I consider that in the interests of that part of the Colony, and in the interests of the country generally, the line should be extended from Temora out west.

4943. Have you any further statement to make? No; except to say that we did not take any statistics for the country within 10 miles of the present line at Temora. We made an allowance for that stretch of country.

4944. You have heard the evidence given by previous witnesses? Yes.

4945. Are you able to corroborate what they have stated? Yes; a lot of what they said about the Wyalong line. My league does not interfere with the Wyalong line or the Grenfell line; we do not care if you put a line to both places.

4946. *Mr. Trickett.*] You would not mind if they had a line to Wyalong, so long as you got a line to Arianh? No; we would not mind, whether or not, as far as that goes.

4947. *Chairman.*] How long have you been at Broken Dam? Fifteen or sixteen years.

4948. Have you a general knowledge of the country that will be served by the line you propose from Temora towards Gunbar? Yes.

4949. How would you describe the country about there? There is a lot of very good country. There are patches of bad country, but not much.

4950. Is it better or worse than the land which is now served by the railway from Cootamundra to Temora? It is much about the same, I think—better, if anything.

4951. Have you any doubt as to whether ultimately wheat-growing out in that direction will pay, provided that they get cheap means of conveyance? I have been growing wheat ever since I have been there.

4952. Have you done pretty well? I have made a living at it.

4953. You have had pretty bad times of late? Yes; for the last four or five years.

4954. Since the railway to Temora has been constructed, you have had a majority of bad seasons? Yes.

4955. *Mr. Shepherd.*] I suppose all you gentlemen who have attended on this deputation were appointed by the residents in the immediate districts from which you come? We were appointed by our different leagues.

4956. *Mr. Levien.*] I suppose you would sooner have the proposed line from Temora to Wyalong than a line from Grenfell to Wyalong? It makes no difference to me.

4957. Suppose you had to make a choice between the two lines, which of them would you sooner have? In that case I should go for the Grenfell line, because it is the most direct route to Hillston.

4958. Neither of the two lines is of any use to you? No; it would not affect us at all.

4959. You want a railway for yourself? That is it.

4960. *Mr. Watson.*] You said that if you had to choose you would take the line from Grenfell to Wyalong, because it goes more direct to Hillston. Do you know the country between Grenfell and Wyalong? I have been across it; I have been to Grenfell and across there.

4961. By which way did you go when you went across? I went right through from Temora to the Bland.

4962. You never went across direct from Grenfell to Wyalong? No.

4963. Do you view the Bland as agricultural country? It is very good grazing country.

4964. You do not think it is agricultural country? No; but when you get towards Grenfell it is good agricultural country.

4965. Do you think that the construction of a line from Temora to Wyalong should prevent the construction of a line from Temora to Arianh? No.

4966. You live at Broken Dam, and at present you take your produce to Temora? Yes.

4967. Where would you take your produce if a line from Temora to Wyalong were constructed? To Temora.

4968. You would not take it to Reefton, or any place like that? No.

4969. If a line were constructed from Temora to Arianh, where would the Barmedman people probably take their produce to? To Temora.

4970. So that these lines would not attract traffic one from the other in the event of both being constructed? No.

S. Harrison.  
31 Aug., 1899.

TUESDAY, 5 SEPTEMBER, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

Charles Henry Hayward, secretary, Smelting Company of Australia, Ltd., Dapto, sworn, and examined:—

4971. *Chairman.*] What position do you occupy? I am Secretary to the Smelting Company of Australia, Dapto.

4972. Have you any figures showing the number of tons of ore brought from Wyalong and treated at your

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Hayward.  
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- C. H. Hayward.  
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- your works? Yes. For the six months ending 31st December, 1897, 465½ tons; for the twelve months ending 31st December, 1898, 560 tons; and for the eight months ending 31st August, 1899, 205 tons.
4973. Was that all received from Wyalong? Yes.
4974. Do you know anything of the nature of that ore? Yes. The contents of the whole of the tonnage I have mentioned are 10,165 ounces of gold, and 1,116 ounces of silver.
4975. What was the railway freight paid on those 1,231 tons of ore? £889 14s. 7d.
4976. What was the value of the ore? The Smelting Company paid for the ore, £36,228 10s. 9d.
4977. Do you know whether there is anything in the nature of that ore which would preclude it from being successfully treated on the field? No; I think it could be treated on the field.
4978. *Dr. Garran.*] Did your company buy that ore on its own account? Yes.
4979. It was not sent to you for treatment? It was sent to us for purchase. We do not treat any ore for anybody. We buy all ore.
4980. It was your ore when you treated it? Yes.
4981. Was there any difficulty in treating it? From our point of view, no.
4982. Did you have to blend it with other ores to treat it successfully? Yes.
4983. Then it was more easily dealt with by you, where you had a blend, than it would have been on the ground, where you could not have blended it? I should certainly say so.
4984. For you said just now that there was no difficulty in treating the ore on the ground? Perhaps I was wrong there; there may be some difficulty; but I understand that it could be treated.
4985. But it is advantageous, in treating that ore, to blend it with some others? Certainly.
4986. Then, on the whole, it will be more successfully dealt with in a large establishment like yours than on the ground? I should think so.
4987. Suppose there were a railway to Wyalong, would it facilitate greatly the sending of the ore to Dapto? Most certainly.
4988. And in the absence of the railway, it might be cheaper to deal with it at Wyalong? Yes.
4989. So that the tendency of a railway would be to send the ore to the place where it could be best dealt with? Certainly.
4990. Then, in that case, the railway would be a benefit to gold producers, and also a benefit to the smelters? Certainly.
4991. You do not find it in any way a specially difficult ore, I suppose? No, nothing out of the ordinary. I may say that nearly all the ores we have are refractory ores.
4992. It was concentrated before you got it from Wyalong? The great bulk of it was not.
4993. Then it was what we may call crude ore? Yes.
4994. Was not a great deal of unnecessary carriage paid on waste material? There must have been.
4995. Would it not be far cheaper to give it a first treatment on the ground—to concentrate it? Yes.
4996. If there were a railway would the effect probably be that it would be dealt with first on the ground, in the way of concentration, and then the smallest possible bulk sent forward for treatment? Yes.
4997. Have you had ore from different mines at Wyalong? Yes.
4998. Is there much difference in the different mines, or are they very much alike? It is pretty well all the same class.
4999. If you could get more of that kind of ore you could advantageously deal with it? Certainly.
5000. *Mr. Watson.*] Do you require fluxes other than different kinds of ore in your treatment at Dapto? Yes; we use iron flux and lime flux.
5001. Have you got these fluxes in close proximity to your works? No; they are brought from about 130 miles. The ironstone mainly is brought from Carcoar, and the limestone is brought from Portland Siding. It is a marble lime.
5002. Do you know of any smelting works in Lithgow? Yes.
5003. Do they treat ores at those works? I believe they do; but mainly they draw from some mines controlled by themselves in the vicinity. They are not so much smelting works as our own are, although they work somewhat on the same lines.
5004. Do you think their facilities for getting varieties of ore, and, consequently, cheapening the process, would be eventually as great as your own? That depends upon what facilities there are for getting such things as coke, flux, and coal. I do not know the Lithgow works sufficiently well to know what the facilities are for this purpose. Our strongest point is that we get our coal so cheaply, and get our coke so close at hand.
5005. At Lithgow they have coal, and, possibly, they can get coke cheaply, so that the only question would be whether they could get the flux as easily as you could? I could not say that.
5006. Do you think you have as large a chance, or a larger chance, of getting varieties of ore from different parts of the colonies as the Lithgow people would have? I fancy so, because we bring large quantities of ore from South Australia. We bring large quantities from New Caledonia, and, of course, we get large quantities from West Australia. They are all discharged at Sydney, and the freight is not very heavy from Sydney to Dapto.
5007. When you speak of ores from South Australia, do you include Broken Hill ore brought from South Australia? Yes; I mean Broken Hill ore.
5008. The great varieties of ore which you get I should imagine would afford an easier method of getting the same result? Yes; it cheapens the cost of treatment, certainly, because what is good in one ore will help what is bad in another.
5009. So that the probabilities are that from your position you would be able to compete successfully with any works established at Lithgow? I think so.
5010. Will the harbour at Port Kembla, when it is completed, assist your company at all? Greatly.
5011. From Sydney to Dapto the distance is 56 miles, and from Port Kembla to your works at Dapto, would be how far? The distance from Port Kembla to our works direct would be about 4 miles.
5012. That is a material saving as far as sea-borne ores are concerned? Yes.
5013. It increases your chance of successful competition with any similar works which might be erected inland? Certainly.
5014. During this inquiry we have been told that it might be of advantage to the people of Wyalong to be more closely connected with Lithgow with a view of sending ores there;—what I wish to get at is whether you would be able to compete successfully with Lithgow, even if there were a railway nearer the
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the point from which you get the ore? I think so, because it is not only the matter of bringing the ore, but the getting of your produce away too, which has to be considered.

5015. With your works within 4 miles of Port Kembla Harbour, you would have a big advantage in that respect? Certainly, the freight on the products is very much higher, proportionately, than the freight on the ore.

5016. They charge a high freight on valuable goods, whereas on crude ores the freight is very low? Yes.

5017. A saving of 50 or 60 miles in the carriage of ore after once being trucked towards the smelting works would not make a great difference in the cost of carriage, would it? Fifty miles would only mean a trifle.

5018. Taking a run of 350 miles? It would make a difference of about 2s. a ton in the railway freight on the ore alone.

5019. So that in taking ores from Wyalong to Lithgow, they will save a certain amount on the ore as compared with your firm; but they will lose a certain amount of carriage on the bullion, because it has to be carried 96 miles towards Sydney? Yes.

5020. They will not be in any worse position then? They would, because the freight on the bullion would be so much higher than the freight on the ore. They may gain a little in the freight on the ore, but they would lose that in getting their produce away. For instance, the freight on ore from Sydney to Dapto is only 2s. 4d. a ton, but the freight on the bullion is 10s. a ton.

5021. I suppose it is because of the extra care which has to be exercised in the carriage of bullion? It is a different class of traffic under the regulations.

5022. There is no doubt in your own mind as to your ability to compete with places situated such as Lithgow is, even in respect of treating ores from the interior? I think so, because our works are very large.

5023. You know that at present they are treating a very large proportion of Wyalong ores on the field? That is on account of the absence of the railway, I take it.

5024. They pay an average of £1 per ton freight between Wyalong and Temora by road, and about 14s. 6d. per ton from Temora to your works, so that the 40 miles carriage between Wyalong and Temora costs more than the 300 miles carriage from Temora to Dapto? Yes; if that freight can be done away with to Temora, it means that the lower grades of ore which we do not get now would get down. This statement which I have shows that the average grade of the ore we get from there is 8 ounces.

5025. That is a high grade? Yes; on account of the expenses. If these freights were done away with, or were very much reduced, I think we should get a larger quantity of low grade ores.

5026. To that freight of 14s. 6d. between Temora and Dapto, may we assume that the Railway Commissioners, for the extra 40 miles, would put on another shilling? Presuming that the same rate would apply, it would be 1s. 8d.

5027. With a freight of 16s. 2d. a ton from Wyalong to Dapto, do you think you could compete successfully with works on the field with regard to treating refractory ores? I am sure we could.

5028. Why is that? Because of their smaller opportunities of getting ores for blending and so on, and the extra expense of working up there on a small scale? I know the rate they charge, and we can compete with them now in ores of fairly good grade. It does not pay them to send to us ore of 2 or 3 ounces.

5029. At present on the field they are doing most of their reduction, as far as I can learn, by battery treatment, by chlorination, and by cyaniding? Yes.

5030. Do you think the smelting would give better results in regard to the general class of Wyalong ores if you could get a cheap freight to your works? I think so; but apart from that the treatment is not at the risk of the persons owning the ore at all—that it is at the risk of the smelting company.

5031. What I want to get at is whether their present methods would be able to compete with smelting at the distance you are from Wyalong, or whether smelting being so much cheaper, or giving a better result, it would be to their advantage to send the ore away, and not treat it by cyaniding and chlorination? I think it would be an advantage to send the ore to us, because I know the deductions which the works up there make for loss in treatment, are greater than what we make. That seems to show me that they have a greater risk of loss, and not such good extraction as we have in smelting. We lose no gold at all in smelting; every bit of gold is got out; but by their system of chlorination there is a certain loss in the gold.

5032. You think with railway communication it would pay the mine-owners of Wyalong to sell to your company rather than treat their ore by the present method? I think so, unless that may be on a pretty low-grade ore, such as an ounce ore—they probably would always treat that on the ground.

5033. That would be too low to send to you? Yes, perhaps.

5034. Do you think with the quantity of ore available at Wyalong—all of one class—it would be worth anyone's while to erect smelting works there; I mean in the face of certain competition with companies such as your own and that at Cockle Creek? I do not think so, for this reason—that to smelt you must have lead ores, and they would have to carry their lead ores all the way up there.

5035. You do not think they could profitably smelt with their own ores and coke and flux only? I am sure they could not; they must have lead for smelting.

5036. Supposing smelting to be necessary for the future development of Wyalong, we might almost dismiss the probability of it being done on the field, and of their needing coal for that purpose? Yes; I do not think they would ever smelt on Wyalong field.

5037. We can reasonably dismiss it from our minds if it means the taking of lead ores there? Yes.

5038. *Mr. Shepherd.*] There has been a considerable falling off in the quantity of ore taken from Wyalong to Dapto? Yes; this year.

5039. Can you account for that falling off? I take it that it was due to the increase of the chlorination works on the field, and, it may be, to the falling off in the grade of the ore. The richest ore has nearly always come away, but, of course, the poorer grade ore does not. I understand that during the last twelve months they have been doing a great deal of exploration work there, and have not been putting out a high-grade ore. The lowest grade which has been met with in driving has been sent right into the plants on the field.

5040. You attribute the falling-off to the improved mode of dealing with the ore at Wyalong, I suppose? No; I think the rich ore, such as was previously sent to us, has not been mined during the last six or nine months in such quantities as it was before.

5041.

C. H.  
Hayward.  
5 Sept., 1899.

C. H.  
Hayward.  
5 Sept., 1899.

5041. Do you think it is likely that if a railway were made from Wyalong to Temora there would be a greater inducement to send quantities of ore? I do, if the freight is suitable.
5042. The freight would be considerably less? Yes.
5043. I think you said that your company purchase the ore, that you do not crush it? We crush a portion of the ore for the purpose of sampling. We establish what is in the ore, and we buy it on that. The seller has nothing to do with what we get out of it. We simply prove to him what there is in it, and pay for it.
5044. It would really depend upon your company as to the quantity of ore which would be obtained from Wyalong? It depends upon what rates we would give them for the purchase of it.
5045. It would be a matter of business, I suppose, between you and the mine-owners at Wyalong;—the mine-owners do not send the stone there to be crushed on their own account, do they? Yes.
5046. I understood you to say they did not? We buy it on our sampling at our works; we do not buy it on the field. They send the ore to us, and very often send down a man with it to see it proved, perhaps at first, until they are satisfied, and then they will send consignments along without sending anybody with them.
5047. The mine-owners are really responsible for the stone which is sent from Wyalong—they send the stone at their own risk? Yes.
5048. There would be an inducement to send ore of less value if they could get a lower freight? It is entirely a matter with them whether they can treat the ore to better advantage up there than with us. They will go where they can get most money for the ore.
5049. Do you not think, as time goes on, their mode of treating stone at Wyalong will be more perfect, and render it less likely that they will care to send the stone away from there? I can hardly say how they are likely to treat it in the future. There is no cheaper way of treating ores than by smelting in large quantities; and I think they are not likely to smelt there on account of the difficulty of getting lead ore. Smelting is the cheapest way in which you can treat ores.
5050. Is coal superior to wood for smelting? It is.
5051. That would be a considerable item as against Wyalong if they had to use wood instead of coal? You can use wood for smelting; but it is not so good as coal.
5052. So that they really would be in favour to some extent of sending the ore to Dapto as before? Yes.
5053. *Mr. Trickett.*] What ingredients do you use for smelting at Dapto? Coal, coke, limestone, ironstone, scrap iron, and the ore itself.
5054. *Mr. Watson.*] And the lead ores? I take it that you would put that in with the ores themselves.
5055. *Mr. Trickett.*] The coal you get locally? Yes.
5056. What are you paying per ton for your coal? We have three different kinds. We have small coal, which costs us at the works about 4s. 6d. a ton. The coal which we use in our boilers for steaming will cost us about 5s. 6d. a ton, and the large coal, which we use for better class work, will cost us about 7s. a ton.
5057. What is the better class work? We use large coal mostly in our refining operations, where we want cleaner coal.
5058. Where do you get the limestone? It comes from Portland, on the Western line.
5059. You have a contract with some people at Portland to supply your limestone? Yes.
5060. Where does your ironstone come from? From Carcoar.
5061. I suppose, if it has been sworn that small coal can be got at Lithgow at 2s. a ton, you would not care to dispute that fact? No; I do not know.
5062. If it has also been sworn that the average price of coal at Lithgow is from 3s. 9d. to 4s. a ton, I suppose you would also admit that fact? I do not know.
5063. Do you know as a fact whether the coal at Lithgow, taken altogether, is not cheaper than the Illawarra coal? If the average price is as you say.
5064. You do not know, as a fact, that it is? No; I do not know what the coal costs.
5065. Is there any scarcity of water at your works, or have you an abundant supply? We have an abundant supply of water.
5066. From your own catchment area? We have our own reservoirs, and we use salt water for the smelting operations proper.
5067. With regard to the treatment of ores at your works, and the treatment of ores at Lithgow, if extensive works were established at Lithgow, with limestone within a distance of 14 miles, with coal at the lowest price, and with ironstone at Carcoar, which is nearer Lithgow than Dapto, in all probability smelting operations could be carried on there as cheaply as, if not cheaper, than at Dapto? You forget that they have to take their lead ores all the way there and bring their bullion back. They might get their fluxes cheaper, but the smelting works could not run Wyalong ore by itself.
5068. Are there districts in the interior of New South Wales where lead ore is procurable? The whole of the lead ore comes from South Australia.
5069. Lead ore, apparently, would be the only ingredient which would have to be taken to Lithgow, if the facts are as I have said? No; they would have to take other ores to mix with the Wyalong ore, besides the lead ore.
5070. What ores do you mean? All sorts of ore.
5071. Where do you get your all sorts of ore from? From New Caledonia, Tasmania, and West Australia.
5072. How do they reach Dapto? From Sydney, by train, at a cost of 2s. 4d. per ton.
5073. How much would it be to Lithgow? That would be 4s. a ton.
5074. Suppose you save 3s. in coal on every ton of ore treated, that would soon make up that difference, would it not? You are assuming that you use a ton of coal to a ton of ore.
5075. No; 3 tons for every ton of ore; an expert before a former Committee said that it takes about 3 tons of coal for every ton of ore? That was a different proposition from the present one; that was a question of treating Broken Hill sulphide ores by themselves as ores; but the company's proposition now is different from what it was originally.
5076. Does it not take as much coal? No.
5077. Is there very much difference? Yes. I cannot remember the figures just now.
5078. What does it cost you to bring your limestone from Portland to Dapto? The freight on the limestone is about 10s. a ton.



5079. So that, with smelting works at Lithgow, which is only 14 miles from Portland, they could effect a considerable saving in that item? As far as limestone is concerned.

5080. Limestone is a considerable item in smelting? Yes.

5081. In answering a former question as to the comparative cost of the treatment of the Wyalong ores at Dapto and at Lithgow, had you considered all the figures which I have now put before you as regards Lithgow? Even at the reduced price of the flux and the coal, I still think our position at Dapto would enable us to treat ores as a whole more cheaply than they could be treated at Lithgow.

5082. What do you mean by your position as a whole? I mean our proximity to Sydney, chiefly, our being in the middle of the coal, and our having to bring lead ores such a short way. The ores which come from West Australia have only to be carried a short way too, and our Tasmanian ores have only to be brought a little way. If Lithgow started smelting, in all probability they would have to carry all these outside ores to their works, and bring the bullion all the way back to Sydney.

5083. That would only mean a difference of 1s. 4d. a ton carriage? On the ore going up, but not on the bullion coming back. Then, again, we are relying a good deal on Port Kembla Harbour. With a harbour close to us like that, we should be saved a great deal of expense.

5084. You will get everything brought to your place? Yes; the limestone and the ironstone, instead of coming by rail through the Colony, as they do at present, will probably be brought round the coast from other places.

5085. You will have to pay harbour dues there? There will certainly be some harbour dues payable; but, of course, on ores we have to pay these dues in Sydney now.

5086. I understand, then, that the reason why you think you can work this stuff more cheaply at Dapto is because you are in a larger way than they would be likely to be at Lithgow by reason of your getting South Australian ores to deal with;—if it be a question of only treating the Wyalong ore, do not the circumstances at present seem to be in favour of the Lithgow place? But is not the question of treating Wyalong ore bound up in the matter of what other ores you may receive to treat with them.

5087. Is it because you work your establishment as a whole, and blend all kinds of ores together, that you think you can carry on better than they can? Probably the source of our cheap treatment is the great mixtures of ores we have, and the large quantities we have.

5088. But if large works were established at Lithgow, and they could get hold of the stuff, I suppose they could do very much the same as you do? I do not think you would be able to have as large workings further away from the coast as you would at the coast. I think that if it had not been for the idea of having a harbour at Dapto, the smelting company would probably never have gone there; they would have established their works round the harbour at Sydney. The nearer you can get to the coast for smelting works, the better it always is, even if you have to go inland for your flux; but as a rule you can bring this round the coast. If our works were on Sydney harbour, we should not bring our limestone from the country at all; it would come round from South Australia.

5089. Do you think, now that Federation appears imminent, in all probability there will not be large smelting works started down at Port Pirie;—do you not think they are likely to enlarge their smelting works, as coal transit is very cheap? The freight on coal is not very heavy; but that would not effect any ores mined in New South Wales.

5090. No; but I suppose the strength of your position at the present time at Dapto is the large amount of ore which you get from Dapto, from the south, and from Broken Hill? Probably.

5091. Where does the bulk of the stuff that you treat come from? The bulk of it comes from Broken Hill.

5092. Are you able to say whether the coast coal has any superiority over the Lithgow coal for smelting purposes;—have you had any tests made? No.

5093. You are not able to tell us how many tons of coal are now required to smelt a ton of ore? No.

5094. *Mr. Watson.*] Is there any objection to disclose how much coal you use? No.

5095. *Mr. Trickett.*] Perhaps you will be good enough to send in the information? Yes, I will.

5096. Is the bulk of coal used greater than the bulk of material used? No; we use, roughly, about 200 tons of coal per week, over 100 tons of limestone per week, and between 100 and 150 tons of coke per week, so that the coal is not more than the other things.

5097. But then with regard to the stuff treated? The quantity of ore treated is very large. For instance, during the last twelve months we treated about 30,000 tons of ore.

5098. Are you able to answer this general question: Is it cheaper to take the ore to the coal to be treated or to bring the coal to the ore? It has always been said by metallurgists that it is cheaper to bring the ore to the coal than to carry the coal to the ore.

5099. If that were so, and if the coal were cheaper in a certain locality, and also the other materials, it would seem as if it would be an advantage to take the ore to the place where all these things can be conveniently got? I am not a metallurgist, so that I cannot say much on that point.

5100. *Chairman.*] Is it your opinion that the ores of New South Wales, to be economically treated, must be blended with ores from New Caledonia, Broken Hill, or South Australia? Yes. I think the more you mix the ores the more economically you treat them. At Dapto we have very large beds of ore. All the ore coming in is put into a bed containing, perhaps, 5,000 tons. All that is spread out in layers: that stuff is thoroughly mixed, and is broken down from the front, and it all mixes itself. You may get a certain percentage of limestone flux in the ores which you do not pay for, but which has a general effect on the mixture, and you get some of your fluxing material, iron and lime, for nothing. We certainly have to buy a certain quantity of lime and ironstone, but a lot of the ores contain a certain amount of flux. Therefore, the more you mix your ores, the more cheaply it seems you can work them.

5101. So that the advantage to Lithgow, apparently by reason of its proximity to coal, iron, and limestone, is more than counterbalanced by the necessity there is to bring ores from the other countries you spoke of, and the fact that these ores contain fluxes as well as fuel;—I suppose some of them do. There would be no fuel in them.

5102. Do not some of these sulphide ores contain a certain amount of fuel? Sulphur fuel; but we burn that off before we treat them. The Wyalong ores are carrying a larger quantity of sulphur than they did at first, and that renders their treatment more difficult.

5103. From the experience of your company, then, you do not fear any competition from Lithgow? No; and if you give us a harbour we shall not fear competition from anybody.

- C. H. Hayward.  
5 Sept., 1899.
5104. If there were smelting works established at Lithgow, you would still be able to compete for Wyalong ore? I believe so.
5105. *Mr. Watson.*] Taking 450 tons of flux and fuel as against 600 tons of ore treated, do you think that would be a fair approximation of the relative bulk of the two main elements? I should think so.
5106. That is a very large reduction as compared with what was mentioned in connection with the treatment of Broken Hill ores? Yes; but it is a different proposition altogether now.
5107. I presume that your company, when casting round for a site, as business men, considered other places where coal was in abundance? I think there were certain matters of policy which determined the site.
5108. Such as getting near the sea-board? Yes.
5109. In any case you will be materially better off as far as competition is concerned when the Port Kembla Harbour is completed, bringing you, as it will, within 4 miles of the water? Undoubtedly.
5110. Do I understand you to say that the sulphide ore from Wyalong, and similar ore from other parts of the country, are treated more cheaply if mixed with lead ores which come from New Caledonia or Broken Hill? Yes.
5111. *Chairman.*] You have brought a return? Yes; it is as follows:—

ORE received from Wyalong in periods as shown below.

Year.	Weight of Ore.	Contents.		Rail Freight.	Cost of Ore.
		Silver.	Gold.		
	tons.	ounces.	ounces.	£ s. d.	£ s. d.
1897 .....	465·50	.....	2,589·26	338 3 4	8,769 13 7
1898 .....	560·28	684·21	5,829·34	426 11 7	21,123 14 0
*1899 .....	205·71	432·75	1,747·24	124 19 8	6,335 3 2
Total received...	1,231·49	1,116·96	10,165·84	889 14 7	36,228 10 9

\* To 31st August.

Charles McDonnell Stuart, Supervising Engineer, Railway Construction Branch, Department of Public Works, sworn, and examined:—

- C. McD. Stuart.  
5 Sept., 1899.
5112. *Mr. Trickett.*] You accompanied the Committee during the month of August in their inquiry into a railway from Grenfell to Wyalong? Yes.
5113. And after leaving Grenfell you accompanied two Members of the Committee; with a view of inspecting the southern route, generally known as the Bimbi route? Yes.
5114. Upon arriving at Wyalong they brought up a description of the route, of which you have a copy? Yes.
5115. Will you kindly read that description? It is as follows:—

RAILWAY FROM GRENFELL TO WYALONG.

On Monday afternoon, 21st August, 1899, Messrs. Trickett and Dick left Grenfell to inspect and report on the Bimbi route. Leaving Grenfell, and passing the railway-station site, they followed the main road in a southerly direction about 8 miles, and close to the proposed railway line—the country, on either side, was of a rich agricultural character; here and there, there being patches cleared, and under wheat. They then kept on, in a southerly direction, and wide of the railway line, for about 3 miles, to Tyagong Creek, and, on Aramagong station, saw a large tract under wheat—all red soil. They then turned to the west, down the creek to the junction of Tyagong and Burrangong Creeks, about 11 miles from Grenfell and near to the proposed line. They then proceeded westerly, close to the proposed line, until reaching Bimbi. On Aramagong West, they saw a large tract under wheat, about 800 acres, and also various other large patches of wheat-cultivation along, and within sight of, the route. It was pointed out that the whole of the country, on either side, was suitable for agriculture. Many wells were seen, providing ample water at slight depth.

After leaving Bimbi (on the 22nd of August), they made a divergence in a southerly direction through Mr. Caldwell's property, passing large areas under wheat, and some in preparation for crops; thence they passed through Euroka station, on to the main road from Bimbi to the Bland Creek, due west; crossing the T.S. route from Marsden to Morangarell (about 41 miles from Grenfell and 20 from Bimbi), and nearly midway between the northern and southern surveyed lines; thence crossing the low country between the Bland and Back Creeks, a direct westerly course was followed on to Wyalong, and in close proximity to the two surveyed lines.

As before stated, the country between Grenfell and Bimbi is suitable for agriculture, and of a reddish, sandy loam, limited, on its northern side, by the Weddin Mountains, but stretching out indefinitely on the south and east, and large areas of country under wheat were passed. After leaving Bimbi, more wheat and the same class of good agricultural country were seen for about 5 miles up to the Bland, where the soil changed to a greyish colour and of a slightly clayey consistency, and suitable for pasture. After leaving Back Creek, about 14 miles from Wyalong, agricultural country was again encountered, extending up to Wyalong, and varying somewhat in character and consistency.

W. J. TRICKETT.  
W. T. DICK.

24th August, 1899.

5116. Having accompanied myself and Mr. Dick, do you agree with that description of the country on the route which we travelled? Yes.
5117. Independently of the features of the country as regards its natural advantages, are there any difficulties, from a railway construction point of view, on that southern line? I do not consider there are any.
5118. From Grenfell to Bland Creek, about 40 miles from Grenfell, it is all fairly good country for railway construction? Yes.
5119. It is more favourable on red-soil country than on the Bland Plain country? Yes.
5120. Would there be any great difficulties in constructing a line on the Bland country? I do not anticipate any very great difficulty, if you allow sufficient waterways to take the flood-waters away; the flood-water is no great depth.
5121. Would you have to raise the permanent way there to any considerable height? Not to any great extent.

C. McD.  
Stuart.

5 Sept., 1899.

5122. What height of an embankment do you think would be a fair thing to contend against ordinary falls of rain? I should say 2 feet at the shallowest places. Of course, it would be a little more where the water is deeper. Two feet, as a sort of average of the plain, would, I think, be a fair thing.
5123. The embankment would be made of earth itself? Except in the case of the hollows, where you would put sufficient bridges to carry the water away.
5124. Would you require the sleepers to be very close together? Not more so than usual—about 2 feet 4 inches apart. We use 2,464 sleepers to the mile right through.
5125. From your knowledge of that class of country, you think that with an earth embankment 2 feet high, and with sleepers at that distance from one another, and with waterways at frequent intervals, it would be sufficient to resist any ordinary fall of water there? I do.
5126. Without danger to the line? Yes.
5127. That class of country known as the Bland country, as regards the construction of a line, is common to both the northern route and the southern route? Yes; they are so close together that there is not much difference between them.
5128. So that this does apply to both lines? Yes.
5129. Then, after crossing the Bland Creek, and going to Wyalong, the two lines are so close together, coming actually together at a place about  $3\frac{1}{2}$  miles west of the line, that, as regards that end of the line, the mode of construction would be the same? Practically the same.
5130. As regards that half of the line, did you see anything which would be very costly in the way of construction? I did not.
5131. As you approach Wyalong by the road which we went you encounter a few gravelly ridges through the mallee country—are these avoided by the line? Yes.
5132. And the ruling grade all through will be still maintained at about 1 in 100? Yes.
5133. That also applies to both lines? Yes.
5134. So that, taking the southern route as far as Bimbi and the northern route as far as Piney Range, that is the only part of the country where really a kind of conflict comes in as to which way the line should go? That is right.
5135. And that conflict is governed, not by reason of any difficulty in railway construction, but by the question as to which is the better route to adopt to serve the larger area of country? Yes.
5136. On these questions you do not wish to express an opinion? No.
5137. Have you had any experience of railway construction on country similar to the Bland country? No.
5138. Do you know if the Department has had any? I do not know many cases where they cross directly flooded country. On the Byrock-Brewarrina line they will have a great deal of that sort of country to cross between the Bogan River and the overflow of the Barwon.
5139. Do you remember that when we were in Grenfell some of the settlers out towards Piney Range suggested that by keeping more southerly than the Departmental route, indicated by a broad line on the wall-map, a considerable saving of distance could be effected; but you pointed out as an objection to that that there would be some tunnelling required? Yes.
5140. Will you state your views on that point? The place they mentioned is the foot of the range which you cross immediately after leaving Grenfell.
5141. By taking the course which they suggested, you would shorten the distance by about 2 miles? You would be on the same level at the foot of the incline, and on top of the range you would have an extra depth of 100 feet, owing to the shortening of the distance.
5142. There would probably be a cutting of 100 feet deep on the top of the hill;—that means a tunnel? Yes.
5143. Would that give you the same grade? Yes; if you put in a tunnel.
5144. At Grenfell you gave a rough estimate of what it would cost? From £20,000 to £25,000 with approaches. You would save 2 miles in length, and over £2,000 a mile, and against that you would have an extra expenditure of £20,000.
5145. Mr. Shepherd wants to know whether, instead of the deep cutting, you could not construct a tunnel;—would that be expensive? A tunnel would be the same price as a cutting 60 feet deep. If it came to cutting 100 feet deep, it would be much more expensive than a tunnel.
5146. *Mr. Trickett.*] A cutting would mean considerably extra expense? Yes. A cutting 60 feet deep is at the same rate per yard as a tunnel.
5147. You said that if you made a 100-foot cutting you would still have a grade of 1 in 100? Yes.
5148. In making a line through that class of country, it would not be desirable, in a short length like that, to make a comparatively steep grade? No.
5149. You would upset the whole theory of the project? Yes.
5150. Would the crossing of Bland Creek involve any difficult railway construction? I do not think so. It would be a little more expensive per mile for that short distance—that is all—owing to the extra waterways.
5151. And the approach would have to be a kind of viaduct for a considerable distance? There are no very long bridges on it.
5152. It is not a broad creek? No.
5153. From our observations there after rain, and from evidence we heard, you are not very likely to be very often troubled with excessive floods over that country? I should not think so.
5154. It is proposed to have two stations, one at the Government township of Wyalong, and the other at the mining township of Wyalong, the terminus being at the mining township? Yes.
5155. If it were contemplated by the Committee to recommend the Grenfell line, and to go by way of Bimbi, do you, as an engineer, see any objection with regard to the approach to Grenfell and leaving it? Yes. The position of Grenfell at the present station site is only suitable for a northern line leaving it. If you keep the station site in the same position and go by Bimbi you go out by a back shunt; you go out from the wrong end of the station.
5156. You would have to approach Grenfell from Kooravatha with the engine in front, and you would have to back out? Yes, with a back shunt.
5157. Is that a very undesirable thing? Yes.
5158. If that were not done, and the Bimbi route were adopted, your station would have to be altered to the south of its present position in Grenfell, or possibly considerably to the south again, and avoid Grenfell

- C. McD. Grenfell altogether? I do not think it would necessarily avoid Grenfell. You would have to alter the position of the station.
- Stuart. 5159. Do you think the best site has been selected in Grenfell for the station? I think so.
- 5 Sept., 1899. 5160. The Committee, accompanied by yourself, came to Temora. Will you give us a description of that suggested connection; say from Wyalong to Barmedman;—how does that line strike you as being suitable for railway construction—that is, from the engineering point of view? There are practically no difficulties. It is a surface line, you may say, nearly all the way.
5161. With good hard country to construct your line on? Yes.
5162. From that point there is no difficulty at all? No.
5163. Now, from Barmedman to Reefton, what is it? It is the same.
5164. And from Reefton to Temora, what is it? It is the same.
5165. There are no difficulties in the way at all? There are no difficulties with the exception of that belar swamp between Wyalong and Barmedman, where the gilgai country is. That would be a little difficult; but not very much.
5166. How long is that? I do not think it is more than 3 or 4 miles. There would have to be a little extra care there.
5167. But taking the line as a whole, it is one which presents no engineering difficulties at all? Yes.
5168. From your observations, which line struck you as the better one for procuring water for the engine—the Grenfell-Wyalong or the Temora-Wyalong? I do not think there is much difficulty on either line; it is a matter of tanks.
5169. Tanks will have to be constructed on either line? Yes.
5170. So that they are about equal in that respect? Yes.
5171. The Bland Creek, on the Grenfell line, cannot be looked upon as a permanent water supply? No.
5172. So that in that respect tanks would have to be constructed at convenient distances on the line? Yes.
5173. The same, in fact, as had to be done on the Cootamundra-Temora line? Yes.
5174. That was an expensively-constructed line? Yes; it was constructed on the old system—it was a fenced line.
5175. Unnecessarily so for the amount of traffic? To a certain extent. It is a very good line, and very well constructed. It is ballasted right through.
5176. If either of these lines were constructed, no such expensive construction could take place? I think not.
5177. *Dr. Garran.*] If you avoided Grenfell altogether, could you cut off any distance by going from a point on the Koorawatha line to the Bimbi line, leaving Grenfell to the north altogether? I do not think it would be advisable to do so.
5178. You could make a saving in distance? You might.
5179. How much? I could not say. The country has not been examined, with the exception of the line going through Grenfell.
5180. Would it be a desirable thing to do? I do not think it would, because Grenfell is a flourishing township.
5181. Which route do you prefer? I would rather not express an opinion upon that point.
5182. On engineering grounds, is there any great difference between the direct route and the Bimbi route? No.
5183. By the route you have adopted to get over that spur, you cut out a bad grade on a bad curve? Yes.
5184. There is a slight increase in the distance on the northern line? No; the Bimbi line is the longest.
5185. But there is a slight increase of expense on the northern line? Yes.
5186. How much? It is £700, and the Bimbi line is 3 miles 16 chains longer than the other.
5187. And the crossing of the Bland is not more expensive on the northern than on the southern route? No; it is about the same.
5188. Have you gone into the cost of this extension yourself? Yes.
5189. Has your experience of other cheap lines been sufficient to make you feel pretty certain about the cost of this one? Yes.
5190. What lines are you being guided by? The Jerilderie-Berrigan, Berrigan-Finley, and the Nevertire-Warren. These are all cheap lines, and the estimate for this line is made out on the same principle. I think we may fairly say that the estimate is a fair thing.
5191. Do you think you have had experience enough now in the construction of cheap lines to enable you to state within a very moderate degree of error the cost of a line? I do.
5192. *Mr. Dick.*] In any case, whether the Bimbi route or the northern route be adopted, will not the line practically act as an embankment against the flood-waters of the Bland? I do not think so. The flood is not more than 6 inches deep over the highest point of that plain, and there will be a water-channel cut on each side parallel to the line to make the embankment, and there will be waterways in all these hollows. I think the water will get away as quickly as the water comes down.
5193. The water-channel cut parallel to the line will be at right angles to the flood-water? Yes; but it will lead the flood-water into the openings.
5194. The country being so level, and the flood-water moving so slowly, will not the line tend to keep the water on these flats still longer? I do not think so. If I remember rightly there is a fall in the country—in the direction of the creek—of 2 feet to the mile, so that the water cannot lie very long on the ground except in the hollows.
5195. I suppose you have heard it stated that on some occasions it is possible to sail in a boat from close to Barmedman right up to Lake Cowal? Yes.
5196. That must be back-water—that is water which is dammed by the lake? It must be if they can do that.
5197. The watershed at Bland Creek is a pretty large one? Very large.
5198. You do not anticipate that this line will in any way tend to back the waters up? No.
5199. Will it be necessary to construct a viaduct along any portion of these two routes? No.
5200. Not to carry the line on piles at all? Only in the hollows. You will have to bridge the different hollows to let the water through; but they are not of any great extent.
5201. Can you give the length of these pile viaducts which will be necessary? I will obtain the information for the Committee.

C. McD.  
Stuart.

5 Sept., 1899.

5202. In answer to Question 58, "What have you allowed in the way of bridgework for the crossing of the main Bland Creek?" Mr. Deane said in his evidence: "I have not worked it quite out in that way, but I think it will come to about 1,000 feet of viaduct and bridge. For the main opening there, I have about 240 feet, and then a viaduct on each side would probably be between 700 feet and 800 feet altogether?" That is made up of several small bridges. It is not a continuous viaduct. It is the accumulation of the small openings on the flat. The main bridge is 240 feet long.

5203. From an engineering point of view, do you think the Bimbi route, by reason of its avoiding the necessity for crossing the Weddin Range, is an easier route—a more suitable route than the northern one? I will not say that is a more suitable route, but it is slightly easier.

5204. Would you care to offer any opinion as to the amount of agricultural land served by each of these lines? No; I could not do that, as I only saw the land as I drove through. I do not know the quantity.

5205. In answer to a question by Dr. Garran, you said you thought it would not be advisable to tap the Grenfell-Koorawatha extension some distance east of Grenfell, and thereby get a straight line? I do not think it would be advisable to leave Grenfell out.

5206. For what reason? Because it is a township.

5207. From the railway point of view, what advantage does that offer? I think you must consider vested interests to a certain extent if you can possibly do so.

5208. From the point of view of railway revenue, would it make any difference? I do not suppose it would.

5209. *Mr. Watson.*] Have any of your officers been across that Bland country during wet seasons? I do not think so.

5210. Consequently, as regards the height of previous floods, they have had to rely on information supplied by local residents? Yes.

5211. All these local residents on the Bland are in favour of the railway? I suppose they are; but still I think they would give reliable information.

5212. There would be a disposition, I suppose, to minimise the difficulties amongst the majority who are most immediately concerned? I do not know. You do not go at it in that way.

5213. How do you get at it? You generally go to an old resident who knows the district, and you get the most reliable information you possibly can from inquiry. You try to get him to show you marks on the trees.

5214. I think you said that at the highest point on the plain the water in flood-time does not exceed a depth of 6 inches;—do you think it would be likely to be higher at Morangarell than it would be lower down the creek? I think the further you go down the creek the higher the floods are likely to be.

5215. Some of the witnesses at Temora, including one or two who were not interested in the proposed line by one route or the other, seem to be of opinion that the engineers have underrated both the area of the watershed and the depth of flood-water on the Bland? Yes.

5216. When the district surveyor from Forbes, whose district the projected line traverses, was before the Committee the other day, he pointed out on the wall-map how far the watershed extended, and stated that he thought a flood would be a rather severe test of a very low embankment. There is another possible deviation incidentally mentioned in reply to Question 155 by Mr. Deane, where he refers to that middle route running out from Grenfell, and rejoining the northern, or more direct route, as you term it, some miles out;—he states that that can be constructed at a reduced cost of £5,450, as compared with the northern route, or about £5,000 less than the Bimbi route? That is right.

5217. I understand that the reason for not adopting that is that it is desired to get as far towards Forbes as possible? That is it.

5218. Can you tell the Committee how that central route compares with the other, leaving out the Forbes aspect of it? As far as curvature is concerned, it is about the same as the northern route; but there is more earthwork on the northern route, which is the reason of the saving of £5,450; and, of course, the northern route for  $4\frac{1}{2}$  miles is common to a line towards Forbes.

5219. Supposing you wanted afterwards to bring a line from Forbes towards Koorawatha, would it not be as easy to junction on the western side of Grenfell, where this middle line rejoins the northern survey, or is it too far away from Grenfell? No. If you go off the middle line, and that line were made to go towards Forbes, you would have to run across the country for about 5 miles in a northerly direction, and then join on at the foot of the incline. You would not attempt to go over the range a second time.

5220. If the middle route were adopted, would it not be possible then to make the Forbes connection sufficiently far west of Grenfell to avoid having a duplication of lines? You could do so; but it would increase the distance from Forbes to Grenfell by rather more than was advisable.

5221. You state as a reason against the adoption of the middle route that the northerly line more equally divides the country? Yes.

5222. What distance would the middle route be from the mountains on each side while it was going through the gap? The distance would be practically the same for both lines.

5223. I think you stated that the only objection, from an engineering standpoint, to the Temora-Wyalong line is that you have to cross a bit of belar and gilgai country before you get on to Barmedman from Wyalong;—is it not a fact that you also have that, to some extent, on the Grenfell-Wyalong line, between Back Creek and Wyalong? There is a little bit. I do not think the other thing is worth putting down as an objection against the line.

5224. *Mr. Shepherd.*] This Bland country seems to have been a stumbling-block in the way of a line from Grenfell to Wyalong all along? Yes.

5225. You say that you see no difficulty whatever in crossing it? I do not see any difficulty; you must expect to meet something.

5226. Some witnesses have gone so far as to say that it will have to be piled right across? I do not think so.

5227. And that the country is so flat that there would be no rush of water to injure any embankment there? That is right.

5228. Do you think a cheaper kind of sleeper could be used on such a line? I do not know that it would be advisable. We hand the lines over to the Commissioners, and we would not like to give them an inferior sleeper.

5229. If a less speed were required, I suppose a cheaper sleeper would answer the purpose? Yes; but it is a shorter-lived sleeper.

5230.

- C. McD. Stuart.  
5 Sept., 1899.
5230. There is no doubt that an immense saving could be effected by simply having split sleepers? Yes.
5231. I think the cost of the sleepers is estimated at £21,806, and I should imagine that split sleepers could be purchased for about a third of that price—that is, for about 1s. each? Very probably. There is not much good timber in the immediate vicinity of the line.
5232. Split sleepers could be procured at much less cost than ordinary sleepers? Yes.
5233. If a less speed were required, I should think they could be used with safety? Yes; but the Commissioners would object, because it would cost them so much more for maintenance, which is a very serious consideration to them.
5234. *Mr. Trickett.*] The cost of a tunnel would be about three-fifths of the cost of a cutting 100 feet deep? Yes.
5235. *Mr. Watson.*] Are you aware that the sleeper-getters around Temora, after a short experience, say that box sleepers are more difficult and expensive to get than ironbark sleepers in that district? I have no doubt that they are hard to work.
5236. A box-tree seems to yield so few sleepers? Yes.
5237. *Chairman.*] How long have you been in the Railway Construction Branch? Seventeen years.
5238. Taking a stretch of country 20 or 25 miles across, and that country being described as excellent fattening country, do you consider that would be a bar to the construction of a railway the length of the one proposed? I do not think so.
5239. Do you know of any railways which have been constructed to serve pastoralists only? In the first instance, most of the lines were all constructed for pastoralists.
5240. Are any of them paying? Yes; the Narrabri-Moree line is a pastoral line, and it is paying well.
5241. Can you give the names of any others that are paying? The Bourke line you may call a pastoral line, and it pays very well. I believe Bourke and Narrabri are the two best-paying stations in New South Wales. Of course they tap a very large extent of country.
5242. *Mr. Deane*, in his evidence, stated that he loaded his officers' estimate of the cost of crossing the Bland and Back Creeks by £1,500? Yes.
5243. From your view of that country, do you think that would be sufficient? I think so.
5244. In your experience of New South Wales, have you ever come across a soil which would not make a firm foundation for a railway? Never.
5245. As regards the fears of some of the local people, that the embankment would give way, and that they would lose the railway, do you think they are well grounded? I do not think so.
5246. It was reported that a hut had disappeared? Very likely, on the bank of the creek.
5247. Is it likely, when your officers were investigating out there, that that fact would come to their knowledge? It may have. I should not be surprised at it.
5248. Their general instructions are to get the best information possible with reference to flood-waters? Yes. They have to wait on people to locate the height of flood-waters in most parts of the country.
5249. You generally find men ready to go out and tomahawk a tree where the flood has been? They can generally get information without difficulty.
5250. You think that the question of a get-away for the flood-waters has been properly investigated by your Department? I believe so.
5251. You have constructed lines over country which was pronounced to be flooded country and boggy? We have; but not crossing the flooded country at right angles, if you except the crossing of some of the main lines.
5252. It was stated that the flood-water runs at the rate of a mile an hour;—what sort of an embankment would that carry away? I do not think it would do any material harm.
5253. You had an opportunity of comparing both lines;—now, which line, in your opinion, would be the better one to construct—the Grenfell-Wyalong, or the Wyalong-Temora? I do not think that is a question for me to answer.
5254. I do not mean as a matter of policy, but as far as engineering difficulties are concerned? There are practically no engineering difficulties on the Temora line.
5255. Would £100 a mile be an extraordinary difference? It is not a very big difference; but, of course, the Temora line is slightly the easier of the two.
5256. *Mr. Shepherd.*] To reach the back country from the main line, do you think it would be better to run parallel lines, 30 or 40 miles apart? That is a question on which we are not supposed to have an opinion. It is for Parliament to say which they consider is the best way to open up the country.
5257. If you were asked to go and survey certain lines for the purpose of opening up the back country, would it not be your duty to open it up in that way which you thought would be the best and cheapest way? Certainly; if you want to bring the produce to Sydney, there is no doubt that lines running east and west are the best; but a day may come when you may want to bring the produce to Melbourne.

WEDNESDAY, 6 SEPTEMBER, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LYNDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

Henry Deane, Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and further examined:—

- H. Deane.  
6 Sept., 1899.
5258. *Chairman.*] The Committee have been informed during the inquiry that lines of railway have been constructed at a considerably less rate per mile, to open up agricultural areas, than the estimated cost of this proposed line, and an American gentleman stated in his evidence, that for about £500 a mile, in America, they could lay down lines which would suit agriculturists, and did suit agriculturists, namely, pioneer

pioneer lines;—have you thought the matter out in connection with the cheaper lines of railway for agricultural areas in New South Wales? I do not know any better system than what has been already instituted. A line to cost £500 a mile would be a useless line for running our rolling-stock on; it could only have about 10 or 12 lb. rails. The permanent-way material on the Grenfell-Wyalong line will thus, alone, cost £637 per mile, that is for 60 lb. rails, and the freight will cost £145. The permanent-way materials, delivered at Grenfell, will thus alone cost £782 per mile; so that I do not see how it is possible to make a line at £500 a mile, which is of any use.

H. Deane.  
6 Sept., 1899.

5259. The average cost of this proposed line is £2,411 a mile, and this gentleman said that in the matter of sleepers a great saving is effected; that instead of putting down dressed sleepers, they were put down virtually in the rough? I do not think he knows the conditions of this country. In America, sleepers are very cheap; there are very extensive forests, and the trees grow very close together, and you can start cutting away at the timber in a face. And within an acre you have a great number of trees which you can use. In this country if you have one or two good trees in an acre, it is just about as much as you would find in most of the forests, certainly in the interior. There is no timber to speak of in the interior here except ironbark, and red-gum on the rivers. I have given opportunities over and over again to contractors to send in tenders for box and other classes of timber besides ironbark, and have obtained very little result. Some years ago, when the Culcairn-Corowa line was open for tender, as well as other lines, an opportunity was given, and the result of it was that practically all the sleepers delivered were ironbark. The contractors found they could not get box timber or any other to serve the purpose. With regard to red-gum sleepers, it is well-known that they, as a rule, have to be sawn. I have had red-gum sleepers supplied at various places, but they have always cost us about 3s., that is to say, more than the average of the ironbark sleepers.

5260. And not so good? And not so good, because they are not so reliable. The timber is a durable timber, but it is not so strong; it has veins in it; it is liable to snap across or to open.

5261. With regard to station buildings? That is a matter which the Railway Commissioners alone have the power to decide. If you take my estimate for the direct route from Grenfell to Wyalong, and add the first six items together, they come to £1,743—that is the average cost of the running-road per mile. If that were quite flat country, it would be a little cheaper, because the earthworks would be still lighter, but I do not see how you can get out of any of the other expenses. As regards sleepers, I have some diagrams here to show you what has been done in the way of cheapening the cost. Here is a diagram of the original rectangular sleeper 10 x 5, which was used from the very commencement of railway work. Then the sleepers were reduced to 9 x 4½, and still rectangular; then I reduced them still further. I have not had the sapwood taken off, but practically they are 9 x 4, which gives about the least quantity of wood you want as a support for the rail. There is no use in letting the rail rest on the sap, because it decays and disappears after a time, and the least height I have given at the side, namely, 3½ inches, is to ensure not having merely half-round timber. You cannot have the sleepers less than 4 inches thick, and have any hold for the spike—the spikes are only about 4¼ inches long. If you do not have the sleeper 4 inches thick the rail is not properly held down, so that it is not safe to have a thinner sleeper. If you had a thinner sleeper the rail could not be properly secured. I do not think any saving can be effected in the sleepers. I have put in about 2,500 to the mile. We used to put in less than that, but in this class of line—this earth-ballasted line—I have put in more sleepers to make up for the inferior support, and I am quite sure it is a proper thing to do, because the maintenance of the line is very much less expensive than if you have the sleepers further apart. The cost of the sleepers in this country depends largely on carriage. I believe a good many of the public imagine that this is a well-timbered country, that there are vast forests of ironbark in the interior. There never was a greater mistake. There used to be a great deal of timber forests on the coast, but there always was very little in the interior, and the ironbark patches are few and far between, and they are getting cut out yearly to a very great extent, so that the timber-getters have to go further and further into the bush, and now have to go 20 and 30 miles even where the forests originally came right on to the line, before they can get a decent piece of timber. If a man has to bring his sleepers in 20 miles, I believe the carriage will cost him 1s. each, and for every 13 miles it has to be carried on the railroad it costs 1d., so that if you have to get your sleepers, and bring them to distant points on the railway line the matter of freight is a serious consideration. That is what puts the costs of the sleepers up. Only the other day I got tenders called for sleepers for The Rock to Green's Gunyah railway. Only one tender came in, and that was for red-gum, from Hardy & Co., of Wagga Wagga. We received no tender for ironbark, box, or anything else, although I gave every opportunity to offer different classes of timber.

5262. The price of the sleepers here is stated to be 3s.;—is that the cost of them in position? Yes; it costs about 2d. to adze them, and put them in position.

5263. That is not included under the head of freight a little higher up? No; that item, freight, is on the steel part of the permanent-way alone—the rails and the fastenings.

5264. In framing this estimate, you think you have cut down the price as low as it can possibly be cut down? I think so; I do not see how any cheapening can be made that would produce economy. I have here a tracing showing the cross-section of my embankment for these earth-ballasted lines. The darker colour represents the earth ballast. The whole width of the top of the embankment is 17 feet, and the difference of the level at the crown of the embankment to the edge on the outside is 6 inches. In adjusting the formation, my practice is to keep that centre point of the formation between 6 and 12 inches above the surface of the ground. If it is 6 inches above the surface of the ground, this outside edge runs out actually on the surface. If it is 12 inches above the ground the bank is only 6 inches high on the outside. Then the side cutting from which this is made with the ploughs and scoops helps to drain the line. It has been thought that in America they make lines cheaper than this. In America I got a good deal of information about these earth-ballasted lines and cheap railways, and what I found was that instead of allowing only 6 inches fall from the centre to the outside, they always allowed 12 inches, so that in that country the embankment was set up higher.

5265. *Mr. Watson.*] Their rainfall as a rule would be higher? I have taken advantage of that. On the outside they have a big ditch, and the cuttings, which I only make 18 feet in width at level of the centre of the formation, would be, allowing for a ditch 3 or 4 feet in width, 25 feet. So that you see the expense of making these lines in America is much greater than what I have considered necessary here. In fact, I find—I think it is marked in that report of mine, but I would not be quite certain—that the earthworks of these light American railways are reckoned to come to an average—the lightest of them—of about £400 per mile,

- H. Deane. 5266. *Chairman.*] The cost of earthworks per mile is estimated at £450? Yes; my earthworks you will find come to between £150 and £250 per mile. I have reduced my designs to suit the country, and I have taken advantage of our dry climate to reduce the cost to a minimum. I should not advise making any further reduction. I do not see how it can be done, and keep the line in proper order.
- 6 Sept., 1899. 5267. Would that describe the embankment crossing that Bland country? Over the Bland country I should raise it up a little. The embankment would be the same on the top, as it is the type of embankment. The height would vary according to the circumstances. What I have aimed at in regulating the formation of this line is to keep the centre of the embankment between 6 and 12 inches above the surface of the ground, say at an average of 9 inches. At the first starting of this system I kept it higher, but since then I have made the average lower, because I believe it is quite possible to make a safe job without so much earthwork. I have here a few particulars as to the cost of sleepers, if you would like me to give them.
5268. We shall be obliged if you will? On the Nevertire-Warren line the average cost of the sleepers was 2s. 2½d. at Dubbo, and the freight came to 4¼d., the total cost being 2s. 7¼d. We got some of the sleepers, I think, at about 2s. 1d. at Dubbo, and then we had to pay the freight. The sleepers on the Berrigan-Finley line were obtained at various prices. Some red-gum sleepers from Tuck Brothers, at Berrigan, cost 3s. 3d. delivered. They were red-gum. Then A. B. Espley contracted to supply some of the sleepers between Sydney and Morrisset. They cost 1s. 10½d., but on this there was 1s. 8d. freight. The freight is the thing which kills the economy. Then we bought some sleepers from Hodgson and Snelling at Temora. They cost 2s. 6d. at Temora, but the freight on them was 1s. 1d., making the total cost 3s. 7d. On the Tamworth-Manilla line we let contracts for the delivery of sleepers before the main contract was let, so as to have a supply of them ready, and they were mostly got along the line between Sydney and Singleton; the lowest price was 1s. 9d., to W. J. Chapman. They were delivered at Wyong, Tuggerah, and Ourimbah, and the freight came to 1s. 1d., making the total cost 2s. 10d. On some of the others which were delivered higher up, at Ravensworth, the freight came only to 9d.; although the sleepers cost 1s. 11d., the total cost was only 2s. 8d. Then, on the Narrabri-Moree railway, two contracts were let, and I remember recommending that a price of 2s. per sleeper should be given; but we did not get them for that price, and eventually a contract was entered into at 2s. 6d. per sleeper for about half the number, delivered at Narrabri, and afterwards the supply of sleepers for that line was completed at 2s. 3d. I think the information I have given will give a fair idea of the value of sleepers in this country. You see, the lowest price delivered at the station is on the Northern line, about Wyong, Tuggerah, and Ourimbah, at 1s. 9d.; then at Dubbo, at from 2s. to 2s. 2½d.; and at Narrabri, at 2s. 3d. All these places are pretty close to the sources of supply, and the prices fairly represent the value of the timbers cut, with the short carriage to the railway station. On most of the new lines there is a considerable amount to pay for freight.
5269. We want a little more information about the flood openings;—some witnesses have said that there is a very heavy body of water coming down that Bland country in flood time, and I notice that in your former evidence you loaded your field officers' estimate with £1,500 to provide get-aways for the waters? Yes.
5270. Would there be any danger of such a permanent way as you have there being carried away or injured by a flood such as you spoke of, or have you made sufficient provision to carry the flood waters off? I consider I have made sufficient provision; but if the water went over it, it would be a matter which would be very easily repaired. One very great advantage in keeping the formation low is that if gaps are made you can restore the line immediately.
5271. But did you put on that £1,500 because you thought that there was not sufficient provision made, or why was it done? I put it on to have what I considered a proper margin for safety over and above what the surveyor recommended.
5272. You are quite certain that the banks will bear any pressure which the flood will bring to bear on them? Yes; they would not give way on that account. Of course, exceptional rains might cause the water to rise over the top; but it would not do much damage then. It is not like it is with a high embankment.
5273. *Dr. Garran.*] As a general rule, if you save too much on the first construction, you have to pay for it afterwards in maintenance? Yes.
5274. Therefore, your object is to hit a happy medium between making your line too cheap and slight and wasting money on needlessly heavy work? Yes.
5275. As an ounce of practice is worth a pound of theory, how does the thing work out in the cheap lines which you already have got at work;—you have some of these cheap lines at work? We have.
5276. What is your experience? Our experience is very good. The maintenance of these lines turns out to be the cheapest of any made lines. That, of course, is partly due to the small traffic; but it is also in very great measure due to the low embankments, and the durability and suitability of the construction.
5277. These lines have had to carry cattle-trucks fully loaded, I suppose? Yes.
5278. And also wool-trucks fully loaded? Yes.
5279. And general goods-trucks fully loaded? Yes.
5280. Have they stood that strain fairly well? Yes.
5281. And they have had to carry a lighter class of engine? Yes. I have not the list here, but I think the C class is a very fair representative of the locomotives used. The axle loads are about 12 or 13 tons.
5282. The engine is really heavier on the rails than any loaded truck you have? Yes.
5283. So that the test is the engine, not the train? Yes.
5284. These lines have stood that test? Pretty well.
5285. Have you had any heavy rains in any part to make the ground soft at all since you opened these cheap lines? Yes; not as good a test, perhaps, as I should like to see, but in the case of several of the lines there has been wet weather extending over several days, and heavy falls of rain, which have tested the waterways.
5286. You cannot say that you have put your cheap work yet to its full test? I think it has fairly been shown to be trustworthy.
5287. But if we get one of our very heavy three days' rains, soaking the ground and softening your embankment, will there be a fresh risk that you have not yet met with? I scarcely think there will.
5288. You have discovered no weak point in your method of construction? No. I am quite convinced that it is the proper one.
- 5289.



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5289. The sleepers have not sunk? No. Sometimes we come across soft places in banks where there is pipeclay, and material like that, which is very difficult to deal with. In that case it is better to lift the road right out, and put on some ballast; but these places are as a rule very short, and there are few of them.
5290. As a rule you have no stone ballast at all? No.
5291. And you put in a little where you find very soft places? Yes.
5292. You find that you can get along without stone over the whole of the line? Yes.
5293. These three dry years, I suppose, have been rather favourable to you as hardening your permanent way? I think so. It has been no detriment.
5294. They have settled down? Yes. You must remember—and I think it is a very important point—that these embankments are made with scoops, and are rolled afterwards, so that they are pretty well consolidated before the rails are laid on them.
5295. What is the weight of the roller? Five tons.
5296. That is very little compared to your engine? The pressure is 5 tons on a narrow strip across the embankment. It is pretty heavy; it is not distributed along the line.
5297. How many sleepers would the weight of the engine be distributed over? Without the tender, about seven or eight sleepers.
5298. You think our experience so far has fully justified the calculations of the Department as to the right strength to choose for these cheap lines? Yes; I believe that.
5299. And you are prepared to recommend that still for the future? Yes.
5300. You do not think it is too cheap? No; it is not too cheap.
5301. You do not think we can cut that down with any advantage? No; I do not. I should suit it, of course, to the circumstances of the case. In very dry countries I should keep very close to the surface. In undulating country, and in wet places, one would naturally keep a little higher.
5302. In crossing this Bland country, if there is a flood-out with the waters some 6 or 9 inches, although it might not rise over your bank, would it not soften all the soil in that bank and make it more tender? I do not think so. I do not think the water gets in. Where we have cut away embankments to put in new water-ways, our experience has been that the water gets in a little way and makes a sort of puddle, and protects the inside of the bank.
5303. It would not get as far as the ends of the sleepers? I do not think so.
5304. All the solid part of the line which has to carry the weight would not be touched? No; as a rule it is not touched unless it is sandy, and then, of course, the wet sand will be better able to carry weight.
5305. *Mr. Trickett.*] You went pretty fully into this matter in your report of March, 1895, when you came back from your American and European trip? Yes.
5306. In your report you state that the additional sleepers in America make up in weight what we gain by using heavy sleepers;—how do the sleepers for light lines differ in number here? In America they vary in number from 2,500 to 3,200 to the mile, and here the maximum is about 2,500 to the mile. On the Nevertire-Warren line I put in rather more than that number. I had such a fearful account of the wetness of that country that I thought it better to put them closer together.
5307. I suppose if they went up to 3,200 to the mile in America, they would cost pretty well as much as our 2,500 superior sleepers would do? Yes; these soft-wood sleepers in America are very cheap.
5308. I suppose they do not last very long? No. They have three classes—pine, redwood, and white oak. White oak is supposed to be the best, and is most used in the Eastern States. Redwood, the same as that which is used so much in Sydney, in a dry climate is a very durable timber, but all these soft timbers suffer by being cut into by the rails or the plates.
5309. In your report you also say—"The close sleepers have also this advantage, that where the formation is somewhat weak, as it is in new lines, the weight on the embankment is better distributed";—would not that apply to such lines as the one which we are now considering? Yes.
5310. Why would you not put them closer together? I have more sleepers on this line than we used to put. The number used to be about 2,000 to the mile.
5311. What did you put on the Narrabri-Moree line? About 2,500 to the mile.
5312. Has that been found to be sufficient? Yes; I find that number very satisfactory.
5313. You have not had to increase the number of sleepers on that line? No.
5314. We often hear about these light lines of railway in America, are they not always commenced in a cheap way, and then have to be improved, as a rule, afterwards? Yes? That is the general practice. They make very cheap timber bridges and openings at first. They can get the pine, what we call Oregon, at a very low figure.
5315. This gentleman, who ventured an opinion when we were at Barmedman, talked about French-polishing the sleepers, would any timber less prepared or adzed than what you laid down be effective? I do not know that we French-polish the sleepers; they are only split out with the axe; they are not even sawn. There is very little dressing. If the men did not dress them to a certain extent they would not pack away in the waggons. If they were of all shapes the men would not be able to pack them and carry them. That is what I found on a contract for one of the lines. Although the men were permitted to leave the top of the sleeper with more sap on, for their own sakes they dressed it down, so as to save the cost of carriage, and to be able to carry more sleepers on a dray than they otherwise could do. In their own interests they dressed the sleepers down.
5316. Then, again, the American rolling-stock over these primitive lines is specially constructed for going over rough lines, is it not? There is no doubt that American rolling-stock is more flexible than the English style, and easier on the road.
5317. I suppose you think anything of a less stable character than you have suggested for a line of this kind would not be satisfactory to the public? I do not think so.
5318. The Railway Commissioners, I suppose, do not care to take over a very rough line? No.
5319. They keep in view the fact that they have to maintain the line and give satisfaction to the public? I do not see that they can have anything more satisfactory than this. I know that they are very well satisfied with this class of construction, that it is cheap to maintain, and there certainly is nothing wasted over it.
5320. But you could not suggest anything cheaper;—you do not think that any further economy can be practised with these light lines than you have already done? I would not recommend any further economy. Of course, you might do away with the embankments altogether, and lay the sleepers on the ground, but that would be a fatal mistake. That, I believe, has been tried, and proved to be a fatal mistake. Or you could

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- could follow the irregularities of the ground more and save a little, but then you would not get your grades right; you would not be able to drag the same loads with the engines.
5321. I suppose there would soon be a great outcry from the passengers if they were going to be bumped over a railway line the same as over a road? Yes; it would be very bad on the draw-bars and couplings.
5322. All this talk we so frequently hear about laying down sleepers somewhat similar to what we use as posts for fencing is idle talk—it could not be carried out? No, I do not think it could, because you have to adze your sleepers. You have to cut away a certain amount for the bed of your rails, and when you have done that you would not have a sufficient depth for the spikes—they would not hold.
5323. Have you had any experience of these light lines being laid at right angles to the current of flood water on plain country, such as the country from Grenfell to Wyalong? We had the Narrabri-Moree line, although that is not exactly the same. That is now a better class of line. It is ballasted, more or less. I think every precaution should be taken about the water. If there was a mistake, or an error of judgment, on the Narrabri-Moree line it was in not sheeting both ends of the bridges. Where the gaps occurred was where the ends of the bridges had not been sheeted. They are now protected by timber sheeting. Some of the bridges were protected at one end but not at the other, because the water was in the habit of striking the bank harder at that end than at the other; but during the flood the water came from the opposite direction and carried away the unprotected end.
5324. Taking the proposed line from Grenfell to Wyalong, and the suggested line from Temora to Wyalong, is there very much difference, do you think, in regard to engineering difficulties between the two lines? No; they both come under the same class. I think there is a little difference in the estimate, but there are no difficulties.
5325. The Grenfell-Wyalong line is a little more expensive? Yes; on account of the waterways.
5326. Would there, in your opinion, be any great risk to either line from flood? I should not say so.
5327. *Mr. Watson.*] Speaking of these light lines, did you ever inspect the Joadja Creek tramway, which leads to a shale and coal mine? No; I have not seen it.
5328. I have not seen this tramway, but I have been told that it was laid down for between £900 and £1,000 per mile, and that over a very rough country they carry great loads of minerals? Very likely they have light rails, such as would not be suitable for rolling stock.
5329. Even then there is a great difference in the cost over rough country compared with light country, such as that which either of these suggested lines would traverse? I am not in a position to make a comparison. I daresay it could be easily explained how the difference arose. There must be something very light and weak about it, because the 60-lb. rails and fastenings cost £637 per mile in Sydney.
5330. The Railway Commissioners, in their report on the Temora-Wyalong proposal in 1895, state:—
- It is estimated that the line should, if constructed as a pioneer line, as described by the Commissioners, in a paper dated the 10th October, 1892, and referred to in their annual report for the year ending June, 1891 (copies attached), be made, and all necessary accommodation provided, at a cost of £85,000.
- Your revised estimate, made in the same year, was over £92,000 for that same line;—there is a difference of £7,000 between what the Commissioners said it should be done at and your own estimate—a difference of £175 per mile;—can you tell the Committee on what basis they were working? I think the original distance was given as 38 miles, and it turned out afterwards to be 40 miles. Of course, an estimate very largely depends on what the Railway Commissioners want in the way of accommodation. My second estimate, £92,000, was made on a length of 40 miles. The Railway Commissioners did not take any exception to that, I think. I went into the matter of station accommodation with them, as I generally do.
5331. I was wondering whether it was possible that you had provided for larger earthworks on the Temora-Wyalong line than the Railway Commissioners had in their estimate? I do not think so. I do not think they have any information about this line apart from what I have. I cannot explain how they got hold of that £85,000.
5332. Their report is dated a year earlier than the time when it was presented to the Committee, and the time when your report was presented? Yes. On the basis of 38 miles it comes to over £2,200 per mile.
5333. I think you said that, from an engineering standpoint, the character of the country between Temora-Wyalong and Grenfell-Wyalong is much the same, with the difference of the provision on the Grenfell-Wyalong route for crossing the larger creeks? Yes; I do not think they differ materially.
5334. I think other engineers who have given evidence here, if anything, have said that the Temora-Wyalong line might be a little the easier? Very likely.
5335. In view of that, can you explain how, in 1895, you stated that the earthworks for the Temora-Wyalong extension would cost £260 per mile, while in the estimate now before us for the Grenfell-Wyalong line you only set down £198 per mile, a difference of £62 a mile in the earthworks alone? I think there are some cuttings at Barmedman and other places probably.
5336. Are there none going out of Grenfell towards Wyalong? Yes; there are some cuttings there too.
5337. I think you will find that there is very nearly a similar number of them;—what I was driving at was whether it would be possible with the revised estimate to get the earthworks between Wyalong and Temora done as low as on the other? On the other hand, on the Temora-Wyalong line, if the earthworks, are a little high, I think the permanent way material is a little low.
5338. Has the price of that gone up since then? Yes; I see the Temora-Wyalong rails are put down at £4 10s. in Sydney. I know that we are reckoning in this estimate of 1899 that the rails would be more than that, because you see the whole permanent-way material is £637 a mile, as against £511, and Grenfell to Wyalong, including freight, it is £782, as against £645; so that by rights the Temora-Wyalong line ought to be increased on that head, although it might be diminished in earthworks.
5339. Then the difference would remain probably about the same as you estimated when you were last before the Committee—that the average cost per mile from Temora to Wyalong would be about £100 less, and the total about £44,000 less than the capital cost of the other? Yes; I think it would stand at about that figure. The comparison, I think, is about right.
5340. You have made attempts recently to get box sleepers in lieu of ironbark sleepers? Yes.
5341. Has there been any difficulty in getting them? Yes; we have never succeeded in getting them.
5342. I have been told quite recently by men engaged in getting box sleepers in the Temora district, that it is much more difficult to get box sleepers than ironbark sleepers—that is to say, that there are fewer trees out of which it is probable that you can split timber? That is so, I am sure. The box trees are small, as a rule, and where they are of any size, they are very pipey.
5343. And also curly-grained, some of them? Yes.
5344. That does not encourage us in the idea that we can rely on box to any great extent in the interior when the ironbark is cut out? No.
- 5345.

5345. Do you know whether there is any difference in the price at which you are offered box sleepers at all;—do you recollect whether it was lower or higher, or the same? No. I think, if I remember aright, on the Culcairn-Corowa line, where I gave an opportunity to tender to supply those as well, the price was the same.\* 6 Sept., 1899. H. Deane.
5343. I suppose there is no doubt but that the ironbark is the better lasting timber in the ground? Yes; I believe on the whole it would be a little better; but box is a very good timber.
5347. *Mr. Dick.*] With respect to the alternative routes, Grenfell to Wyalong, and towards Marsden and round by Bimbi, what difference is there between those two lines, from an engineering point of view? The Bimbi route is longer, but the grades are better. From an engineering point of view, it is rather a better route than the other.
5348. Could you say why the Department has pinned its faith to the northern route? Because it is in a better direction; it divides the country better.
5349. In what way? It divides it up more equally. In going towards Bimbi you approach Young, and you get nearer to Temora. The northern route divides the country better between (say) the Temora line and the Lachlan.
5350. That would only be an advantage if the whole extent of that country were of a uniform character from a revenue-producing point of view? If there were plenty of good country to the north of it, do you mean.
5351. If it were a fact that the Bimbi route more equally divides the portion of that intervening tract, which is good from the agricultural point of view, the advantage which you mention that the northern line possesses would no longer be possessed by it? Yes.
5352. In other words, if there is inferior country to the north, the Bimbi route would be the better of the two? If the northern line were just along the edge of the inferior country, I should probably recommend the more southern one.
5353. Would there be any great disadvantage, from a railway point of view, in leaving the Grenfell-Koorawatha extension some distance south-east of Grenfell, and continuing along through Bimbi towards Wyalong? Yes; you could not do it well, because the ground where you turn off is high. You have a great drop getting down into the valley, and you would have bad grades. If you wanted to leave Grenfell out, and go through Bimbi, the proper thing would be to follow Tyagong Creek, all the way.
5354. That would be too close to the Grenfell-Koorawatha extension? Yes.
5355. You do not think much of the objection which some of the witnesses have urged, that the earth-works on this proposed line would probably act as an embankment to back up the waters in the watershed of the Bland and Back Creeks? No, I am not afraid of that; but both lines are in about the same position with regard to that.
5356. It would not hold in the case of the Temora-Wyalong line? No.
5357. In your estimate, you say that there is 1,000 feet of bridge work and openings;—does that merely include the two approaches to the bridges, or does it also include bridging part of the Bland Creek in its lowest portions? You see, in answer to Question 58, I said: "For the main opening there I have about 240 feet, and then a viaduct on each side would probably be between 700 feet and 800 feet altogether."
5358. That is on each side of the bridge? Yes.
5359. There will be no viaducts anywhere else along the Bland Plain? There will be smaller openings probably.
5360. *Mr. Shepherd.*] Is it not a fact that accidents on railways are much more frequent in America than they are here? I have no returns to go by; it is generally reported to be so.
5361. It is generally suggested that it is so? Of course that may arise from a variety of circumstances.
5362. I was going to ask if you attributed that to the cheaper style of railways which they construct? No; I should think it would be more due to their train-despatching. In the case of bridges giving way, it may be due to a cheap style, which we could not tolerate; but, generally speaking, I should say that the larger number of the accidents in America is due to their system of train-despatching and signalling; it is not so complete as ours.
5363. Is the same speed kept up on the light lines here as you have on the better lines? No; it is limited to about 20 miles; in some cases less.

Edward McCarthy Allman, Assistant Engineer, Roads Branch, Department of Public Works, sworn, and examined:—

5364. *Chairman.*] Have you prepared a statement in regard to the road expenditure in the district to be served by the proposed Grenfell-Wyalong railway? Yes.
5365. Will you be good enough to read the return? It is as follows:—

E. McC. Allman.  
6 Sept., 1899.

RETURN of Expenditure—Roads likely to be affected by proposed Railway from Grenfell to Wyalong.

Schedule No. 98-9.	Miles.	Road.	1 January, 1894, to 30 June, 1895.	1895-6.	1896-7.	1897-8.	1898-9.	Total.
			£	£	£	£	£	£
384	41	Temora to Wyalong .....	953	6,750	1,347	1,944	1,924	12,918
395	28	Grenfell to Goolagong .....	185	176	123	161	137	782
473	30	Forbes to Bogolong.....	.....	.....	.....	139	135	274
1474	30	Young to Grenfell.....	1,049	652	635	600	566	3,502
1477	22	Young to Bumbaldry.....	188	217	156	294	811	1,666
1481	15	Burrangong to Emu Creek .....	.....	.....	.....	.....	179	179
1486	25	Brundah to Monteagle Platform.....	.....	.....	.....	.....	182	182
1487	42	Caragabal to Clifton .....	58	644	382	378	392	1,854
1491	51	Grenfell to Marsden .....	.....	.....	92	347	236	675
1492	23	Grenfell to Bimbi .....	360	136	116	136	170	918
1493	10	Grenfell to Weddin Gap .....	152	227	75	63	59	576
1498	63	Stockinbingal to Marsden.....	.....	45	120	116	170	451
7	31	Cowra to Grenfell .....	2,332	1,359	943	1,218	1,476	7,328
		Total .....	£4,277	10,206	3,989	5,396	6,437	23,977

\* NOTE (on revision):—I find that the prices paid on the Culcairn to Corowa line, where second-class sleepers were specified, were 5s. 9d. for ironbark, and 4s. 9d. for other hardwood.

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Allman.  
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5366. Is road-making in the district to be served by the proposed railway expensive? Not particularly so. I have not very much experience of the country between Grenfell and Wyalong, but I know the country between Temora and Wyalong.
5367. Can you give the Committee any idea whether there has been any formation in the road-work across the Bland country? I cannot give you any information from personal knowledge. The local officers would be better able to furnish information.
5368. Can you give information with reference to similar country? I have not been through the country between Grenfell and Wyalong.
5369. It is black-soil country, which is subject at times to being inundated to a small depth, and the flood-water has a current of about half a mile an hour across the direction of the road;—what I wish to get at is whether you have any formation in similar country which stands flooding the same as that country does, because it has been stated that the formation in this Bland country will wash away? It depends a good deal upon the nature of the soil, I should say. If it is a dry clay soil it would not be likely; but if it is a loose friable stuff it might. I should not think it would be likely to wash away to any extent, because it must be a slow-moving current there, I should think.
5370. Have you formed any embankment on black-soil country? Not in the western flooded country. I have seen the black-soil country flooded in the Richmond district.
5371. Is there a much stronger current there at that time? In the place I am most familiar with, there is very little current—chiefly back water which would not do the road the slightest harm at all.
5372. This being mostly back water, you think it would not do the road any harm? I do not think it would be likely to suffer to any material extent.
5373. *Dr. Garran.*] What is about the probable cost of a road, per mile, over such country as has been described to you? It is difficult for me to answer that question, because I do not know what facilities there are for procuring stone or gravel; but for forming only, I should say about 30s. or £2 a chain—that is, if it were thrown up from trenches. I suppose it is a very flat country; but if it is merely formed from ordinary water tables, it would cost considerably less than that.
5374. What does it cost you on the road from Wyalong to Temora per mile? That depends upon whether you use gravel or metal in construction. I should say, with gravel, from £4 10s. to £5 a chain probably.
5375. You really have only made the bad places? We have not made all the bad places; a good many of them have been constructed.
5376. They have cost you about that? That would be for gravel construction. Metal, of course, would cost probably £7 or £8 a chain, according to the facilities for getting stone.
5377. The rest of the roads are in their natural condition on the Temora-Wyalong route? It has been cleared throughout, and the greater part of it drained.
5378. Nothing done to the surface otherwise? Only in these particular parts. I think the Committee have had a return showing the whole of the work done on that road. If they have not, it is procurable.
5379. That, on the whole, is easier country to make roads over than the country between Wyalong and Grenfell? There is no difficulty, except that it is bad soil between Wyalong and Temora, in places.
5380. You have no such country as the Bland to cross? No; the Mandamah Creek is the only water-course worth speaking of there.
5381. There is nothing that you can call specially bad country to cross? It is heavy country for traffic in parts.
5382. Is it easy to drain? Not particularly easy. A good deal of it is very flat; still you can get a fall in it, I should think.
5383. Supposing you had to make a good metalled road from Temora to Wyalong, knowing what you do now of the cost, what would it cost you to make that road? I cannot say how much of it has been metalled; I think it is about a third.
5384. You cannot say how much a mile it would take;—I want to contrast a good metalled road with a cheap railroad? I should say it could be done for about £8 a chain—that is, £640 a mile.
5385. That is a good road? Yes.
5386. What will that require for maintenance, to keep it in good condition for fair traffic, per annum? A good deal will depend upon what the road is made of. On that road there is some of the best gravel I have seen in the country. Near the Half-way House it is excellent gravel. On other parts the material is not so easy to get, and it is not so good either.
5387. Is it ironstone gravel? I hardly think it is. It is a sort of quartz gravel, but very good indeed. Between Temora and Barmedman that is procurable.
5388. Would from £10 to £20 a mile keep it in tip-top order? I think it will run into £25 a mile.
5389. You could make a good road for £640 a mile, and keep it in good order for £25 a mile? About that.
5390. *Mr. Dick.*] I understand you to say that you have practically made a third of the road between Wyalong and Temora, and that it is in good trafficable condition? Speaking from memory, I think it is about a third. We have the exact figures in a paper which can be supplied.
5391. The total amount spent on that road during the last four years is £12,000? Almost £13,000.
5392. That is far in excess of any similar length of road in the same district? Yes; very much in excess.
5393. And, even were the whole of it placed in good order at a cost of £640 a mile, it would then take £25 a mile per annum to keep it in order? About that, I should say. I do not say that that is absolutely the case. It requires a good deal of consideration to say exactly what it would cost.
5394. For the whole of the expenditure the Government would derive absolutely no revenue whatever—that is, from traffic? Certainly not, as far as the road is concerned.
5395. Presuming that the line were constructed from Grenfell to Wyalong, is it not a fact that a good deal of the Wyalong traffic—that is, traffic brought about by the relations of Wyalong with all the southern parts of the Colony—with Cootamundra, Junee, and right down to Melbourne—would still go over the Wyalong-Temora road, even after the construction of the Wyalong-Grenfell railway? I cannot say positively, but I fancy that a good deal of it would. It would be shorter going in this direction than going round by Grenfell and Koorawatha.
5396. If that railway from Grenfell to Wyalong were constructed, the Wyalong-Temora road would always be, to some extent, a rival to that Government railway? It is impossible to say that, but it might be so.
5397. It is your opinion that to some extent it would be a rival to that railway? To some extent, I think it would.

MONDAY, 11 SEPTEMBER, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

William Longworth, general manager at Lithgow for the Great Cobar Copper-mining Syndicate, sworn, and examined:—

5398. *Chairman.*] You are general manager at Lithgow for the Great Cobar Copper-mining Syndicate? Yes  
5399. The Committee have been told that you contemplate going in somewhat extensively for smelting at Lithgow;—is that a fact? Yes.

W.  
Longworth.

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5400. And that your intention is to treat all classes of ore there? Yes.

5401. Do you know anything of the Wyalong ores? No; I have never been there.

5402. We have also been told that, in order to successfully carry on smelting operations, it is necessary to have ores from other colonies besides our own ores? It would all depend upon the class of ores you were going to smelt. Under certain conditions we can smelt any class of ores if we can get the fluxes.

5403. Are the fluxes and fuel necessary for successful smelting operations in close proximity to your proposed works? Yes; nearly as close as it is possible to be.

5404. You have limestone and ironstone within a reasonable distance? Yes; and they can be delivered here very cheaply.

5405. Would that counterbalance the disadvantage you would be under in being so far from the seaboard? To a great extent it would.

5406. In the event of the ores at Wyalong proving too refractory for local treatment, do you think the ores would be sent to Dapto or to Lithgow? That will all depend upon who would treat them in the cheapest way. I think Lithgow is the proper place for them to go to.

5407. Do you think you could treat them more cheaply at Lithgow than at Dapto? I think so.

5408. Why do you think that Lithgow would be more likely to attract ores from Wyalong than would Dapto? In the first place, ores coming down the Western Railway would save from 4s. to 5s. per ton railway freight between Lithgow and Dapto. Again, I see enormous quantities of limestone daily going by Lithgow, in the train, for Dapto. We shall be able to get that limestone at Lithgow much cheaper than they can at Dapto, and the same with ironstone. These are the two main fluxes which we require.

5409. Do the Dapto people get their fluxes from west of your works? I see a lot of ironstone and limestone going down by train almost daily.

5410. Can you treat the ores of this Colony without having to get ores from the seaboard? It would all be a matter of how you were situated. I do not know of any ore in Australia I could not deal with at Lithgow under our circumstances, and particularly after we get our electrolytic plant.

5411. Then, if no ores come by seaboard, you could successfully treat ores of New South Wales? Yes; we could mix anything with the copper except lead. If we had lead ores we could deal with them by themselves.

5412. Are there no lead ores in New South Wales? There are many places where lead ore is known to be. I do not know of any places which are being worked at present, except at Broken Hill.

5413. *Dr. Garran.*] Do you require lead ore for the treatment of ores? No; having copper, we should use copper in place of lead.

5414. But you might have ores sent to you which would require lead? It is possible, but I do not know of any. The copper is almost as good a medium for taking up any precious metals as lead is. It is more difficult to extract precious metals from copper than from lead under methods which are mostly going now, but with the electrolytic plant it is simpler to take the precious metals from the copper than from the lead, with the system in use.

5415. Then, when your electrolytic plant is established, you will never want to have any lead ores? We do not know that we require to bring in any lead ores.

5416. But, if you did want lead, you would have to bring it from Sydney? Yes, but if the Cobar to Broken Hill line were constructed, we could get it from Broken Hill.

5417. It would not be a very heavy charge? No.

5418. Do you mine your own coal? Yes.

5419. Is the coal suitable for smelting? It is very suitable.

5420. Is any of the coke made at Lithgow sold, or is it all used in the locality? It is mostly sold. There has not been much made. A new oven has just gone up lately.

5421. We have had some evidence to the effect that the coal is not well cleaned at Lithgow for coke purposes? It makes what we would term a high ash coke. Still, if they would go the proper way to work, and make it cheaply, it would counterbalance that.

5422. Do they clean it sufficiently for your purposes? I do not complain of that. It is not as suitable for taking to Cobar, or anywhere distant, as it is for using on the spot. We can use it with most advantage on the spot.

5423. It is good enough for your purposes? Yes.

5424. You do not make your own coke? No.

5425. Do you send coke or coal to Cobar? Yes; coke.

5426. Do you get ores from Cobar to smelt? We have had one or two parcels. We have had very little from Cobar, because we deal with it there.

5427. It would pay better to take coke to Cobar than to bring Cobar ores to Lithgow? Yes.

5428. It has paid the Broken Hill mines better to send their ores to the seaboard, where coal is cheap, than to bring coal to their works, has it not? That is the way they are doing now at Broken Hill.

5429. If it pays them better to send the ore to the coal, how is it that it does not pay best at Cobar to send the ore to the coal? That is a big question. They are working with quite a different material from what we are.

5430.

- W.  
Longworth.  
11 Sept., 1899.
5430. Are your works purely smelting works, or have you any cyanide or chlorination works? Purely smelting works.
5431. You do not treat ore in any other way than by smelting? That is all.
5432. As far as you can see at present, you are in as good a position to treat western ores of all kinds that would pass through Lithgow as any smelting establishment on the coast would be? I think so.
5433. Have you made any attempt to get any of the Wyalong ores to treat? No; I have never tried. I have sent our tariffs to different places; but I have never made any great push for ores. We have had lots of parcels of different ores from different places, and gold ores, too.
5434. Have you had enough to keep your works busy? Our works are mostly kept busy with our own product from Cobar and Nymagee.
5435. You have ores of your own coming from Cobar and from Nymagee? We have.
5436. You have not been pressed to look about for other work? No; we have made no great efforts.
5437. If it should come to you on remunerative terms you would be prepared to do the work? Yes.
5438. *Mr. Trickett.*] How many furnaces have you? We have sixteen reverberatory furnaces and one water-jacket furnace at Lithgow.
5439. What ingredients do you use there? Coal, coke, lime, and limestone.
5440. The limestone, I suppose, is got from Portland, in the vicinity? Yes.
5441. What else do you use? That is about all.
5442. Do you use ironstone? We have plenty of iron in our own material.
5443. Then the material you bring from Cobar contains all the other necessary ingredients for smelting? Yes.
5444. What does the coal you use for your furnaces cost per ton? It costs us 3s.
5445. Is that slack coal or best coal? It is small and round coal mixed.
5446. That is a pretty cheap rate? Yes.
5447. It is your own mine that you get your coal from? Yes; but you could buy coal for 4s.—3s. 6d., I think, on a big contract. When I was buying coal I paid 4s. for rough coal and 2s. for small coal. It would average about 3s. a ton.
5448. How many tons of coal are used for smelting a ton of ore? It would mostly depend upon the class of ores.
5449. There is no fixed rule? No.
5450. Do you know what coal is required to treat your stuff per ton? It would come to about ton per ton of the material; but the matte requires much more coal in proportion to the amount of stuff treated than what raw ore would.
5451. What is matte? It is the product from the ore after it has been through the blast furnace the first time.
5452. You started to erect these furnaces towards the end of 1896? Yes, I think so.
5453. Have you built more furnaces than you intended at that time to do? I hardly know what we did contemplate at that time. We started with eight, and we have got up to sixteen.
5454. Since the Cobar works have been started working again, have you treated all the stuff at Lithgow? No; we treated it all at Cobar at first.
5455. Do you have to send any other material than coal to Cobar for the purposes of your furnaces? We do not send any coal for furnace work at Cobar; we send coke.
5456. Limestone? No; we do not use any limestone there.
5457. Coke is the only material you send away to Cobar? That is all, other than the stores.
5458. Have you had any experience in the treatment of other refractory ores? I have treated several parcels. I have not had a very wide experience.
5459. Do you know the Dapto works? I was there when they erected them; but I have not been there since they started to work.
5460. Is Mr. John Howell in any way connected with your works? No.
5461. At one time he contemplated sending stuff to Lithgow for treatment, did he not? I could not tell you.
5462. You were speaking about an electrolytic plant being erected at Lithgow;—is that likely to come off? Yes; part of the machinery is ordered.
5463. How will it be worked? By steam power.
5464. Do you think when it is erected it is likely to induce a large quantity of ore to be sent to Lithgow for treatment? I do not think it will have much effect further than this, that ores we might refuse now we would take then. From what I have been told, Wyalong ores are highly charged with arsenic. Arsenic is an element which we do not care to put in with the copper; but when we have the electrolytic plant going, it would not matter to us then what arsenic is put into it, as we could separate it again; whereas if we put it into the copper now, and sent it Home, they would charge us at the other end for separating it.
5465. Is the electrolytic process cheaper than the treatment at Dapto? It does not come into competition with Dapto; it is for other purposes. It is for the purpose of extracting the gold and silver from the metallic copper—for getting the copper almost perfectly pure.
5466. It is not for the purpose of treating gold-bearing stone? No. Suppose we had a parcel of gold-bearing stone, we simply put it with the copper. The copper takes up the gold and the silver just in the same manner as quicksilver takes it up; then we get it as metallic copper; after that it is taken on to the electrolytic work, and the copper is dissolved. The copper is deposited on the cathodes, and the gold and silver which may be in it sink to the bottom of the tanks and are collected separately.
5467. Is that a more expensive process than the chlorine process? I do not think it will be.
5468. It would seem to be a process very suitable for dealing with very mixed ingredients, according to your statement? Yes.
5469. Is it in contemplation to enlarge the operation of your works at Lithgow, so as to invite the treatment of ores from districts, such as Wyalong and other places? Yes.
5470. Is that what you intend to bring about after you get this electrolytic plant erected? We are quite prepared to treat any ores sent from Wyalong or elsewhere which will pay us.
5471. But you are not able to say, I suppose, whether you could treat them more cheaply than they can at Dapto? I could not say that.

W.  
Longworth.  
11 Sept., 1899.

5472. You could not give us facts or figures? No.
5473. *Mr. Watson.*] I suppose the primary object of establishing your works at Lithgow was to treat the matte which your own company send down from Cobar and Nymagee? Yes.
5474. Any treatment of ores from outside would be subsidiary to that business? Yes.
5475. I suppose, in some circumstances, it would pay you to buy copper ores from other places, so as to get a larger bulk, and reduce the proportion of cost to yourself? Certainly.
5476. I think you said that you do treat copper ores from outside? Yes, lots. We have about 100 tons lying there now from other places, including some from Queensland.
5477. Have you had any other kinds of ores? We have had some parcels of gold ore, that is all.
5478. Of what character was the gold ore you had—was it mineralised, or what kind of mineral did it have? I have had some containing iron pyrites, and some containing a little arsenical pyrites.
5479. Where did these ores come from? One lot came from Hill End, and another lot came from Sunny Corner.
5480. I understood you to state that you had sent out to mine-owners a circular expressing your willingness to treat any kind of ore, and stating your charges? Yes.
5481. It is to be assumed that when you sent out that circular, those charges were the lowest charges at which you could do the work profitably? I could hardly say that. We generally get as much as we can.
5482. Knowing that you had to compete with others who were taking ores for treatment, one would naturally expect that whatever charges you quoted would be as low as you could do the work, leaving a profit to yourselves? It generally depends upon how anxious you are to do the business how low you are ready to go.
5483. In this case you were anxious to do the business? Yes.
5484. And the presumption is, that you made the charges as low as you could do the work? We quoted what we thought was a fair and reasonable charge.
5485. You know that *via* Temora you are 90 miles nearer Wyalong than Dapto? I think we are more than that.
5486. It is 96 miles from Lithgow to Sydney, and 50 miles from Lithgow to Dapto; I do not know how it would be if they sent their ores round by the Southern line, but if they come by the Western line they will be about 126 miles closer by the present method of reaching Wyalong? Yes.
5487. Have you had any ores from Sydney? No.
5488. From the fact that you have had no ores from Wyalong, notwithstanding that you are over 100 miles closer to Wyalong at present, your tariff of charges was not as low as that put forward by the works at Dapto, seeing that they have had ores from Wyalong? Yes.
5489. The presumption is that it paid Wyalong better to pay the increased cost of carriage to the works at Dapto than to send the ore to your works for treatment? Judging it in that way you would think it was. There are a lot of other things which people who send ores do not know, in order to find out which is the cheapest place to send to.
5490. Some of the mine-owners at Wyalong, I presume, would receive the circular you sent out? Yes.
5491. Yet, with the knowledge of your tariff, they have continued to send their ores to Dapto; we were told by the Secretary of the Smelting Company of Australia the other day that their limestone for fluxing purposes comes from Portland, which is west of Lithgow, but that after the construction of the harbour works at Port Kembla they would import their limestone from the seaboard, which would make a considerable saving to them in the cost of that material laid on the ground;—and we were also told that it was easier to treat any kind of mineralised gold ores when mixed with lead ores than by any other method;—do you think that is likely? It is a good deal a matter of opinion.
5492. Have you had any experience of lead ores? I have not smelted any lead ores yet.
5493. You could not offer an opinion as to whether they would flux better with difficult gold ores than copper would? I think if I had the choice of the two, and I had a good electrolytic plant going, I should put them in with the copper ores.
5494. Do you think you would be likely to get the same results more cheaply by putting them in with the copper than with the lead? Yes; under circumstances.
5495. I suppose you cannot be positive on that point, seeing that you have had no experience of lead ores in any quantity? I think I understand the whole routine close enough to know.
5496. Is it not generally understood amongst people engaged in the reduction of ores that the greater variety of the ores you have to treat the better, and more economical results you can obtain? Yes.
5497. We were informed by the Secretary to the Smelting Company of Australia that they are now buying, and have for some time past been buying, ores from Noumea and many parts of Australia, in addition to large supplies of lead ores from Broken Hill, and that was put forward as a reason why, in his opinion, they would be better able to treat refractory gold ores than any works situated inland, where there are not the same facilities for getting over-sea ores;—do you think that is likely? Of course, if they are able to land their ores at Illawarra close to their works, and have not got to rail them from Sydney, it will make a considerable amount of difference to them; but they have not got as much pull as they think there. For instance, it costs them from 2s. to 2s. 6d. a ton by rail from Sydney to Dapto. It would cost about 3s. 6d. a ton from Sydney to Lithgow, at  $\frac{1}{2}$ d. per ton per mile.
5498. At that rate it would be 4s. a ton;—but even then a large proportion of the 2s. 6d. which they pay at present would disappear after the construction of the harbour at Port Kembla, which is authorised? Yes.
5499. It would bring their work within 4 miles of the water, according to a statement by their secretary;—that would account for a very large proportion of the 2s. 6d. which they now pay on oversea ores? Yes; but against that there is the cost of fetching the limestone from Portland.
5500. Their secretary has stated that, after the construction of Port Kembla Harbour, the limestone would come by sea at a much cheaper rate;—what do you consider it would cost them? I could not say. They bring their ironstone from Cowra.

## PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

## Railway from Grenfell to Wyalong.

## APPENDIX.

## A.

[To Evidence of H. McLachlan, Secretary to the Railway Commissioners.]

## FINANCIAL RESULTS FROM COOTAMUNDRA-TEMORA RAILWAY.

Office of the Railway Commissioners, Sydney, 27 July, 1899.  
 Sir, In compliance with the request of your Committee, I have to forward herein statement showing the financial results of the Cootamundra-Temora Branch since the date of opening, 1st September, 1893.

I have, &c.,  
 H. McLACHLAN,  
 Secretary.

The Secretary, Parliamentary Standing Committee on Public Works, Sydney.

## Cootamundra-Temora Line.

Length of line, 38 miles 69 chains—opened for traffic on 1st September, 1893.

Year ended 31st December.	Earnings.		Total.	Working expenses.	Interest.	Loss after providing for working expenses and interest.
	Coaching.	Goods.				
	£	£	£	£	£	£
1894 .....	4,338	5,663	10,001	4,465	7,479	1,943
1895 .....	4,298	5,339	9,637	5,102	7,672	3,137
1896 .....	4,318	5,716	10,034	5,044	7,149	2,159
1897 .....	4,081	4,570	8,651	4,986	7,184	3,519
1898 .....	3,962	5,338	9,300	4,979	7,187	2,866

## B.

[To Evidence of G. C. Yeo.]

## CAST OF FAT CATTLE AND SHEEP.

## Proposed Railway, Grenfell to Wyalong.

1896.		1897.		1898.	
Cattle .....	1,468	Cattle .....	1,112	Cattle .....	1,244
Sheep .....	64,140	Sheep .....	36,234	Sheep .....	57,533

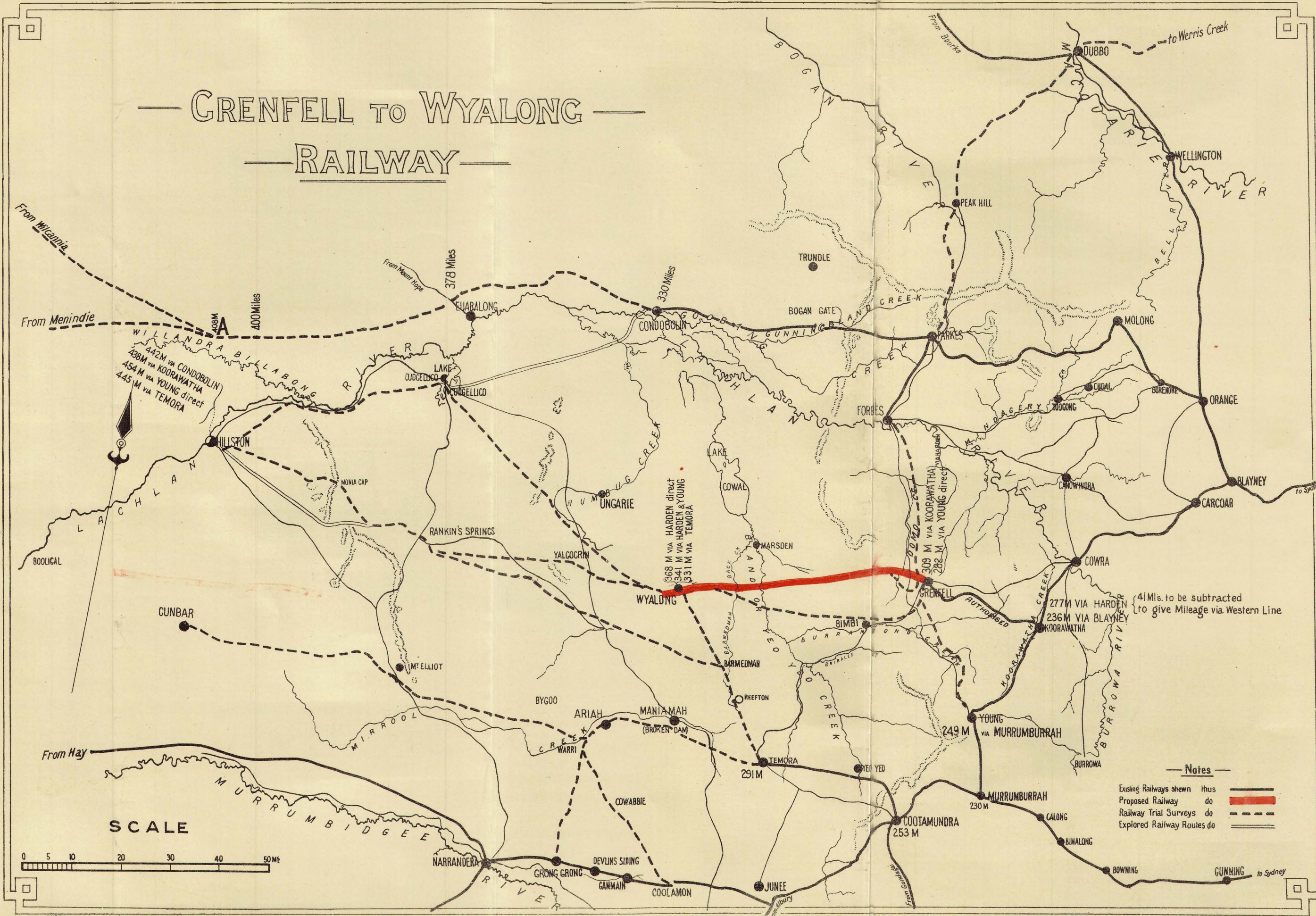
## Proposed Railway, Temora to Wyalong.

1896.		1897.		1898.	
Cattle .....	1,215	Cattle .....	908	Cattle .....	1,000
Sheep .....	52,060	Sheep .....	24,200	Sheep .....	43,520

[One plan.]



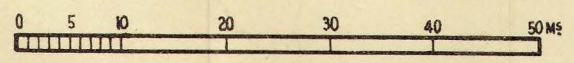
# — CRENFELL TO WYALONG — RAILWAY



(41) Miles to be subtracted  
to give Mileage via Western Line

**Notes**  
 Existing Railways shown thus ———  
 Proposed Railway do ——— (red)  
 Railway Trial Surveys do - - - -  
 Explored Railway Routes do - - - -

**SCALE**



41653 (sig 25.)

Photo-lithographed by  
 W. A. Gullick, Government Printer,  
 Sydney, N.S.W.

1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

---

## PROPOSED RAILWAY FROM TEMORA TO WYALONG.

(PETITION FROM CERTAIN RESIDENTS OF COOTAMUNDRA, YOUNG, AND WYALONG, PRAYING THAT THE SCHEME BE AGAIN REFERRED TO THE PUBLIC WORKS COMMITTEE FOR INQUIRY AND REPORT.)

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*Received by the Legislative Assembly, 8 November, 1899.*

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To the Honorable the Speaker and Members of the Legislative Assembly of New South Wales.

WE, the undersigned Petitioners, beg to approach you with a request that you will consider the matter of referring the Temora to Wyalong railway to the Public Works Committee for inquiry and report.

YOUR PETITIONERS HUMBLY SHOWETH:—

1. That a previous Committee inquired into this proposal, and recommended that the work be carried out when Wyalong had established its permanency.
  2. That consequent upon such report Crown lands have been taken up and homes established along the route from Temora to Wyalong.
  3. That the locality of Barmedman, through which this proposal passes, will suffer for all time if this line is not constructed. The Crown Lands Office is situated here, and has created it a centre for the transaction of business.
  4. This route will land passengers on the Southern line at Cootamundra, halfway between Sydney and Melbourne, leaving them free to avail themselves of any of the train services to either Sydney or Melbourne or Gundagai. The Grenfell connection will land them on a branch line at Koorawatha, nearly 100 miles further away from Cootamundra.
  5. That the connection *via* Temora is the natural one.
  6. That the connection *via* Grenfell is anti-federal in principle.
  7. That the distance from Temora is 40 miles, as against 60 from Grenfell.
  8. That the Temora route will open up more Crown lands, and tend to develop the public estate.
  9. That the Temora route will have the effect of bringing the dry district west of Temora in direct communication with the summer or mountain country at Tumut *via* Cootamundra and Gundagai. This benefit is of incalculable value to the country.
  10. Ballast and timber required for work of construction are available in large quantities along the route.
  11. That the Temora route will open up more land suitable for agriculture, and thereby maintain a heavier population.
  12. That the Grenfell route in unfair competition with the present Temora railway will render the present Temora service non-paying for all time.
  13. The report of the Public Works Committee in favour of the Grenfell route was decided by the vote of the Chairman. The three Members of the Legislative Assembly, Messrs. Watson, Dick, and Levien, voted against it, whilst the three Members of the Council voted for it. In view of such an equally divided opinion on the matter, we feel we are justified in demanding a fuller inquiry, and we ask for nothing but what is reasonable and just—the fullest inquiry into both routes; this has been denied us hitherto.
- We, therefore, most respectfully urge upon you the importance of our request, and we pray this proposal will be submitted by your Honorable House to the Public Works Committee for inquiry. And your Petitioners will ever pray.

[Here follow 950 signatures.]

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1899.  
(THIRD SESSION.)

—  
LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

—  
PARLIAMENTARY STANDING COMMITTEE ON  
PUBLIC WORKS.

—  
REPORT

TOGETHER WITH

MINUTES OF EVIDENCE, APPENDICES, AND PLANS,\*

RELATING TO THE

PROPOSED RAILWAY

FROM

DUBBO TO COONAMBLE.

—  
Presented to Parliament in accordance with the provisions of the Public Works Act,  
51 Vic. No. 37.

—  
*Printed under No. 5 Report from Printing Committee, 31 August, 1899.*

\*Plans omitted by the Printing Committee.

SYDNEY: WILLIAM APPLIGATE GULLICK GOVERNMENT PRINTER.

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1899.

[5s. 3d.]



## MEMBERS OF THE COMMITTEE.

## LEGISLATIVE COUNCIL.

The Honorable WILLIAM JOSEPH TRICKETT, Vice-Chairman.

The Honorable PATRICK LINDESAY CRAWFORD SHEPHERD.

The Honorable ANDREW GARRAN, LL.D.

## LEGISLATIVE ASSEMBLY.

JOHN PERRY, Esquire, Chairman.

WILLIAM THOMAS DICK, Esquire.

JOHN CHRISTIAN WATSON, Esquire.

ROBERT HENRY LEVIEN, Esquire.

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# PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

## RAILWAY FROM DUBBO TO COONAMBLE.

### REPORT.

THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS, appointed during the first Session of the present Parliament, under the Public Works Act of 1888, 51 Vic. No. 37, the Public Works Act Amendment Act of 1889, 52 Vic. No. 26, the Public Works (Committees' Remuneration) Act of 1889, 53 Vic. No. 11, and the Public Works Acts Further Amendment Act of 1897, 61 Vic. No. 6, to whom was referred the duty of considering and reporting upon "the expediency of constructing a line of railway from Dubbo to Coonamble," have, after due inquiry, resolved that it is expedient the proposed railway should be constructed; and, in accordance with the provision of sub-section IV, of clause 13, of the Public Works Act, report their resolution to the Legislative Assembly:—

#### QUESTION OF RAILWAY EXTENSION FROM DUBBO TO COONAMBLE.

1. This proposal, the Committee are informed in the official statement placed before them by the Under Secretary and Commissioner for Roads, Department of Public Works, was included in the Government railway policy of 1886; but, with the exception of attention being called to it by deputations to the Minister for Works, it appears to have been laid aside until its reference to this Committee. In 1898 a proposed line from Warren to Coonamble was referred to the Public Works Committee previous to the present one, and they, reporting that it was inexpedient to construct that line, recommended that a survey should be made of a line from Dubbo to Coonamble. In that inquiry the Sectional Committee, "finding that most of the statements made before the full Committee with regard to the productiveness of the Coonamble district and the possibilities of further development were borne out by the inspection made by them, concluded that the question whether Coonamble and the district intervening between it and the Western railway system is entitled to railway communication was decided." They therefore set themselves to discover the best route by which a railway to Coonamble should be constructed, and they came to the conclusion, which was adopted by the full Committee, that a line to Coonamble from Dubbo could be located through land more suitable for agricultural settlement than that on the Warren route, and that a careful investigation should furnish a route in which there were no serious obstructions, so as to be in keeping with the cheapness necessary in the construction of lines for the development of the western country.

#### DESCRIPTION OF THE RAILWAY.

2. The line, which is of the class known as light railways, commences at the east end of Dubbo railway station, and for 30 miles takes a generally northerly course, crossing the Talbragar on the way. From the 30-mile point it runs nearly parallel with the general direction of the Castlereagh River, at a distance from it of from 2 to 4 miles, the township of Gilgandra, on the river, being passed



40 miles from Dubbo. At 78 miles the river is closely approached, and following its course the line ends at a suitable place half-a-mile from the bridge across the Castlereagh leading into Coonamble, 93 miles 45 chains from Dubbo, and 371 miles 14 chains from Sydney. The works are light, the ruling grade is 1 in 100, and the curves are easy. The greater part of the land passed through is alienated.

#### ESTIMATED COST.

3. It is estimated that the line will cost £207,285, or an average rate per mile of £2,215 9s. 6d. For the first 40 miles—from Dubbo to Gilgandra—the cost is somewhat higher than for the remainder of the distance, the Dubbo to Gilgandra section being estimated at £2,420 13s. 6d. per mile, and the Gilgandra to Coonamble section at £2,062 4s. 6d. The larger cost of the first section is due to the earthworks, the drains, and the bridges being considerably more extensive than they are on the second section. The estimate shows that the earthworks on the first section will cost £308 per mile, while those on the section beyond are estimated at £154. At the same time it will only be where creeks, and flooded or uneven country, are crossed, that the height of the earthworks will be greater than it is the practice to make them on light lines of railway. Generally, the height, over level ground, will be from 6 inches to a foot. The most important watercourse crossed on the route is the Talbragar, over which a bridge will have to be constructed, at an estimated expenditure of £3,800. Before reaching Gilgandra the upper waters of the Marthaguy are encountered, but they are small, and do not necessitate any great outlay. After reaching Gilgandra there are no watercourses of any consequence met with. Ballast will be used on the line only where it is absolutely required. Allowance is made in the estimate of cost for ballasting about one quarter of the total length of the railway.

#### RAILWAY COMMISSIONERS' REPORT.

4. The report of the Railway Commissioners on the proposed railway points out that the estimate of traffic, which is based on existing circumstances, falls short of the sum required to pay the annual interest on capital and the working expenses by £1,570; but the Commissioners consider it reasonable to assume that the construction of the line would lead to a development of the country, and a consequent increase of business, and they regard Coonamble and the surrounding district as entitled to railway facilities. The annual cost in connection with the line, based on a tri-weekly service, is £13,437—capital expenditure at 3 per cent., £6,218, and cost of maintaining permanent way and traffic and locomotive expenses, £7,219. The traffic estimate is £11,867, comprising merchandise and live stock, £8,526; passenger traffic, £1,975; mails, £1,116; and parcels, &c., £250.

#### THE COMMITTEE'S INQUIRY.

5. In their investigation of this proposal the Committee have had under consideration the different routes by which Coonamble might be reached by a railway from the Great Western line, and have taken steps, which they hope will become a precedent, to obtain from the Railway Commissioners reports upon the routes alternative to that from Dubbo.

Having considered the necessity for expert evidence as to the probable traffic returns from the construction of the alternative lines—Mudgee to Coonamble, and Warren to Coonamble—and generally as to the nature of the districts through which those lines, if constructed, would run, it was decided to communicate with the Right Honorable the Premier and Minister for Railways requesting him to have the Chief Traffic Manager of the Department of Railways, or some other officer competent for the duty, instructed to visit the districts and obtain this information for the Committee. To this a reply was received that in relation to the proposed railway the Railway Commissioners would deal with alternative routes similarly to projected new lines, and make a personal inspection and subsequent report; and in due course a report was made, and the Chief Traffic Manager, who accompanied the Commissioners in their inspection of the Mudgee route, gave evidence on the subject.

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The opinion of the Commissioners upon the Warren route is contained in the report of the inquiry respecting the Warren-Coonamble railway proposal, and therefore in respect of that route a second report was not considered by them to be necessary.

Witnesses representing Narramine, and favourable to the route from Narramine to Coonamble, were examined in the present inquiry, and evidence regarding the Dubbo and Mudgee routes was taken at Dubbo, Gilgandra, Gulargambone, Coonamble, Tooraweenah, Munderooran, Cobborah, Gulgong, and Mudgee.

A careful inspection of the Dubbo and Mudgee routes was made, and in view of evidence advocating railway communication with Coonamble, *via* Munderooran, the country along the surveyed Dubbo to Werris Creek railway route as far as Munderooran was examined.

#### DIFFERENT ROUTES FOR A RAILWAY TO COONAMBLE.

6. Four routes for connecting Coonamble with the Great Western Railway have been before the Committee, viz. :—

Dubbo to Coonamble.  
Mudgee to Coonamble.  
Narramine to Coonamble.  
Warren to Coonamble.

#### THE DUBBO TO COONAMBLE ROUTE.

7. When inspecting the route from Dubbo to Coonamble the Committee, for a large extent of the distance, divided into two parties, and examined the country within a radius of several miles on each side of the surveyed line.

They found that a large proportion of the land between Dubbo and Gilgandra was of a good description. Much of it is heavily timbered with box, pine, and some ironbark, and is very suitable for agriculture. Even in the case of the ironbark country, it is only where the timber is found upon stony ridges that the land is inferior. As showing the value of the country along this section of the route, evidence was given before the Committee to the effect that heavily-timbered land, formerly regarded as useless, had recently been taken up and successfully cultivated by immigrants from other colonies. Ironbark timber, of course, is of considerable value for railway purposes. Between the Talbragar and the Castlereagh Rivers there is an extensive ironbark forest, a portion of the western edge of which is skirted by the railway in the length between Dubbo and Gilgandra, and this, from the quality and value of the timber upon it, is referred to by the District Surveyor at Dubbo, in a report made to the Committee, as a "national forest," particularly in regard to the supply of railway-sleepers which it is capable of providing. For many years past, the Committee are informed, exceptionally large quantities of sleepers have been obtained from this forest; and at one time the Railway Commissioners proposed to construct a tramway from Dubbo along the Coonamble-road to Brocklehurst, and thence into the forest, a distance of about 25 miles. The construction of a railway from Dubbo to Coonamble would, of course, render such a lengthy tramway unnecessary.

From Gilgandra on towards Gulargambone, and thence to Coonamble, there is between the railway route and the Castlereagh River a strip of first-class agricultural land, about 3 miles in width, and there is similar land on the east side of the river. Back from this the country, generally described, is of the best description for pastoral purposes, with a considerable area—principally open box country—suitable for the growth of cereals and vines.

The Dubbo District Surveyor, in his report, states that within a limit which embraces all the alienated and Crown lands for 20 miles on each side of the railway line there is approximately an area of 3,096 square miles, or 1,981,440 acres of agricultural country. This, he explains, includes patches of open plain, pure black-soil country, and some "monkey country," but these are separated and not of large extent. With the exception of the ironbark forest between the Talbragar and the Castlereagh, the whole of the country within 20 miles on each side of the proposed railway may be said, the District Surveyor reports, to embrace either good agricultural land or exceptionally good pastoral country, the latter carrying rich pasture excellent for sheep for either fattening or breeding purposes. Most

Most of the pastoral land is in the hands of holders of runs of large size ; but there is a considerable amount of settlement that would be within a convenient distance of the railway, the settlers following the occupation of grazing, combined with a little farming ; and as the leases in the Central Division, which contain a considerable amount of land suitable for agriculture, will shortly be available for selection, and the demand for land in the district is constant, the number of settlers is certain to increase. Cultivation on the present holdings, the Committee were informed, would be much greater if the means for sending produce to market were such as to justify putting more land under crop. Around Coonamble, and in some other places, as much as 40 bushels of wheat to the acre have been obtained, and, according to evidence given before the Committee, farmers have even carted their wheat a distance of 48 miles to Dubbo. Fruit of various kinds is grown without difficulty.

One thing which strikes the observer in this western country very forcibly is the remarkable change that has taken place among the settlers in their opinions as to the capabilities of the soil for cultivation. Not many years back scarcely anyone could be found who thought the land was suitable for anything but grazing sheep ; now, the cultivation of wheat, vegetables, and fruit is rapidly increasing and extending into other districts, notwithstanding that in some places the rainfall is scanty and the seasons uncertain. Sixteen years ago, the District Surveyor at Dubbo states, a time when no farming had been tried in this part of the Colony, it was pointed out by him, judging from the rainfall and the nature of the soil, that the country in the locality could be far more profitably developed by agricultural pursuits than by sheep-grazing ; but it was not until settlement had increased, and new men practically acquainted with agricultural pursuits had acquired land there, that agriculture began to attract attention and the occupation to be followed systematically. A number of settlers seen by the Committee, who had come into the Dubbo-Coonamble districts from Victoria and South Australia, were making a far better living, they stated, than they made in the places from which they came.

According to information from the Department of Lands, there are, within 20 miles on each side of the railway route, except where the distance is narrowed to allow for the influence of the Great Western Railway, 1,177,000 acres of alienated land, 115,800 acres of settlement and improvement leases, 520,000 acres of reserves, and 650,600 acres of Crown lands. The Crown lands within leases which expire between 1899 and 1900, and therefore will soon be open for settlement, comprise 540,000 acres ; the lands held under occupation license, 43,200 acres ; and lands untenanted, unless it may be by annual lease, 67,400 acres. The reserved land includes a railway reserve containing 73,000 acres, which runs for practically the whole length of the proposed line, though the surveyed route does not follow it for any considerable distance.

#### THE ROUTE FROM MUDGEES TO COONAMBLE.

8. The surveyed route for a railway from Mudgee to Coonamble is 147 miles in length, as compared with 93 miles 45 chains, the length of the proposed line from Dubbo ; and the line is estimated to cost £478,936, or £271,651 more than the Dubbo-Coonamble Railway. It is officially described as moderately undulating for about 36 miles, and from that point, as the ranges are crossed, and up to 117 miles from Mudgee, it varies from fairly light to ridgy. Thence to Coonamble the line would be a surface one. For about 8 miles from Mudgee the route runs close to the main road, and at that distance the Cudgegong River is crossed. Gulgong is reached on the west side of the town, and the route then proceeds in a north by west direction, crossing Wyaldra and Tallawang Creeks, and passing over the Goodiman Range. Cobborah is passed at a distance of about 2½ miles to the south-west, where the Talbragar is crossed. At a distance of 54 miles from Mudgee the Wallaroo Range is passed over, and 14 miles further on the surveyed line from Dubbo to Werris Creek is intersected. The township of Mundooran is passed on the south side, and 71 miles from Mudgee the line crosses the Castlereagh River. Twelve miles from the river the route passes over the Wallamburrawang Range,  
and

and a few miles further, a creek of the same name. For the last 40 miles the route runs in a generally straight direction, Coonamble being reached on the east side of the river, at 336 miles 7.78 chains from Sydney. The ruling grade of the line would be 1 in 80.

The Railway Commissioners, in their report upon this route, express a high opinion of the country traversed, and say that the route is one worthy of the most thorough investigation.

The evidence given before the Committee, and their personal inspection of the country, amply demonstrate that it includes a large extent of good agricultural land to which a railway would be an advantage, and that as far as Cobborah, and centres east and north-east of it, towards Coonabarabran, there is a considerable amount of settlement. Pastoral properties of extensive area comprise most of the land along, and in the vicinity of, the railway route from the point where it enters the Central Land Division, the leasehold portions of which will fall in during the current and next year, and, as in the case of the leases along the Dubbo route, will then be open for settlement. At and around Cobborah there is a considerable amount of agriculture. In that locality, and for some distance in the valley of the Talbragar, which the railway would intersect, farms are fairly numerous, and there is a large quantity of land suitable for cultivation. Between Cobborah and Gulgong there is good country, a fair proportion of which is under wheat; and round about Gulgong are many cultivated paddocks, though at the same time there is plenty of inferior land. Between Gulgong and Mudgee there is also inferior land, and it is observable that though the alluvial land is within easy reach of the railway at Mudgee, by excellent roads, cultivation is not carried on to anything like the extent it might be. As on the Dubbo-Coonamble route, open box country is met with—used principally for grazing purposes, but containing a percentage of good agricultural land, and there are some rich river and creek flats. Along much of the surveyed railway route from north of Cobborah, however, on one side or other, and occasionally on both sides, rough country approaches the line to within a few miles, materially limiting in that way the extent of land likely to contribute traffic to the railway, and there are several large areas of untenanted land east and west of the route, unoccupied, apparently, because of their unsuitableness for settlement.

From the evidence of the Chief Draftsman, Department of Lands, it appears that within an area of 20 miles on each side of this route, the alienated lands comprise 2,059,000 acres; lands held under settlement, improvement, and scrub leases, 241,800 acres; Crown lands, 1,194,200 acres; and reserves, 573,200 acres. The Crown lands are made up as follows:—Leasehold areas expiring in 1899 and 1900, 552,000 acres; held under occupation license, 155,000 acres; and untenanted, unless on annual lease, 487,200 acres. The untenanted land is of an inferior description, and though it has been open for a long time, has not, with the exception of annual leases here and there not requiring residential tenure, been taken up. For 48 miles, at intervals, the line would pass through a railway reserve.

#### THE NARRAMINE TO COONAMBLE ROUTE.

9. The route from Narramine has only been explored. Starting from the western side of Narramine station, at 301 miles from Sydney, the line by this route, according to the report of the railway surveyor who examined the country, runs in a north-westerly direction, and taking advantage of the Crown land skirts the resumed area between that and the river. Thence bearing to the east it crosses the Macquarie River  $15\frac{1}{2}$  miles from Narramine, and passing close to Burraway station, and bearing northerly, it strikes travelling stock reserve 1,680, which it follows in a slightly north-west direction. Bugabadah Creek and the Marthaguy Creek are crossed, the latter where the township of Collie is situated, and thence the line takes a course almost due north, crossing Merigal, Bullagreen, and Merri Merri Creeks, and joining the Dubbo to Coonamble survey close to the junction of the main roads from Dubbo and Warren to Coonamble. From this point the Dubbo-Coonamble survey is followed until the line terminates at Coonamble on the western side of the Castlereagh River, 93 miles from Narramine, and 394 miles from Sydney. The country passed through is described as well adapted for railway construction, and on the whole will compare favourably with that on the other routes to Coonamble.

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## THE ROUTE FROM WARREN TO COONAMBLE.

10. The route to Coonamble from Warren is 63 miles 33 chains in length. It crosses the Macquarie River at the north-west end of the township of Warren, and after joining the main road to Coonamble 2 miles from Warren, it runs for 42 miles in a north-easterly direction, mainly within a travelling-stock reserve. Leaving the reserve, it proceeds direct to Coonamble, where it ends on the western side of the town and of the Castlereagh River in a temporary common. The only matters that appeared to the Public Works Committee, who inquired into this railway proposal in 1898, to be favourable to its adoption were the shorter length of line and the smaller total cost, as compared with the length and cost of the Dubbo proposal; but against these there were the considerably longer distance to Sydney and the inferiority of the route for settlement and production in comparison with that from Dubbo.

## EVIDENCE IN FAVOUR OF THE DUBBO-COONAMBLE ROUTE.

11. In addition to what has been said of the satisfactory nature of the land on the route from Dubbo to Coonamble, there are several other important circumstances favourable to this route. But first it may be stated, on the authority of the District Surveyor for the Land District of Dubbo, and of other witnesses examined, that if the railway be constructed along the Dubbo route large areas adjacent thereto, which are now used for sheep grazing only, will be cleared and placed under cultivation, and ultimately this part of the Colony will support a large population. The red soil of the district is undoubtedly well suited for wheat and hay growing, and the black soil, though not suitable for wheat, is well fitted for fattening stock. Recently, the Committee are informed, areas of open plain country, with dark chocolate soil, have been successfully cultivated. Extensive agriculture is not only possible, but certain.

Then apart from agriculture, there come into view, in a comparison between the Dubbo and the Mudgee routes (the only two routes which call for close consideration), the following points which favour the route from Dubbo:—

- (1.) The line by the Dubbo route involves less construction than that by the route from Mudgee, and it connects directly with the main Western Railway as compared with a connection with a branch line.
- (2.) It is very considerably cheaper.
- (3.) The Dubbo route is that which is favoured not only by the people along the route, but by those of Coonamble, who are the principal persons concerned in the railway proposal.
- (4.) The line from Dubbo would serve, not only the country in its immediate vicinity, but also, north of Munderooran, much of the land the requirements of which a line from Mudgee would be expected to meet; and in addition to this, it will be within a convenient distance of the country through which a line from Narramine would run, and, to a considerable extent, of that which would be served by a railway from Warren to Coonamble.

The Dubbo route is 53 miles 35 chains shorter than that from Mudgee, and by connecting Coonamble with the main Western Railway it gives the Coonamble people and those along the route the advantage of not only the Sydney market, but of markets in the west and south. The President of the Sydney Chamber of Commerce, who is a large buyer of wheat and a mill-owner, impressed this very strongly upon the Committee, and the same point was urged upon their attention by witnesses at Coonamble.

The junction at Dubbo, it is pointed out, will put the wheat-growers on the proposed line of railway in touch with very important markets at Bourke and other western centres, which, in bad seasons, will be a splendid outlet for fodder, bran, and other produce, and it will also provide for trade in the future with markets in the south. Compared with these advantages, the connection with Mudgee, it is contended, would shut out the farmers from any market but Mudgee or Sydney. The farmers who would be served by the line from Dubbo, it is urged, could not afford to send their wheat westward, *via* Mudgee and Wallerawang, in competition with the produce sent towards Bourke from Bathurst and Orange. The Dubbo millers, who purchase the western farmers' wheat, find their best market for flour in the west.

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As for the cheaper construction of the line from Dubbo to Coonamble, compared with the cost of constructing a line from Mudgee, the estimate in the case of the former is £207,285 (or £2,215 per mile), and in that of the latter £478,936 (or £3,258 per mile)—a difference of £271,651, more than double. This alone represents an increased annual payment of interest at 3 per cent., amounting to £8,148, in addition to which the cost of maintenance would be largely in excess of that in connection with the line by the route from Dubbo.

The residents of Coonamble and the surrounding district, though presumably ready to accept railway communication from any point, are strongly in favour of the line from Dubbo, which they urge will not only give them the desired opening to different markets, but will make the country along the line one of the greatest wheat-producing areas in the Colony. Every witness who presented himself for examination by the Committee at Coonamble expressed himself as favourable to the connection with Dubbo. The longer distance to Sydney by that route as compared with the distance by way of Mudgee was not lost sight of; but this, it was pointed out, was met to a large extent by the quicker transit on the main line, which railway passengers would much prefer, and by the opportunities afforded for more extended markets for produce.

With regard to the position of the line from Dubbo, and its influence upon the surrounding country, it is only necessary to observe the position in which it is located to see at once how wide its influence will extend. From a few miles north of Mundooran on to Coonamble, the line by the Dubbo route may, as far as relates to the land within the railway influence, be said to serve the same country that would be within the influence of a line from Mudgee. The distance between the two routes rapidly decreases from Mundooran onwards, until, as they near Coonamble, they so closely approach each other that practically for this length the line from Dubbo would serve all the country within the influence of a line from Mudgee. It would, at least, serve all the land between the railway and the foot-hills of the mountains to the eastward. There is much to indicate that the railway from Dubbo to Coonamble will attract traffic not only from Mundooran and localities north of it, and along the Mudgee route, but also from agricultural centres to the east and north-east. The President of the Sydney Chamber of Commerce states in his evidence that wheat has been carted to a railway at a profit to the farmer for a distance of 50 miles, and evidence given along the Dubbo route shows that in sending wheat to Dubbo it has been carted 48 miles. These are, of course, extreme distances; but if the farmers of the districts to be served by the proposed line are content to cart their wheat 25 miles, the Dubbo-Coonamble railway should meet the wants of a very large extent of the country which a line from Mudgee to Coonamble would be expected to benefit. As for the country along the Narramine route, much of it is now within the influence of the Great Western Railway, and what is not is within easy reach of the railway route to Coonamble from Dubbo. Further west there is the country that would be traversed by a line to Coonamble from Warren, and a considerable portion of that is not too far away to be beyond the influence of the Dubbo line.

Added to what has already been said in favour of adopting the route from Dubbo, there is the fact that the value to the State of the large areas of good lands now included in pastoral leaseholds, but shortly to be available for settlement, will be greatly increased by the prospect of the railway being constructed; and this increase it is fair to regard as a set-off to the extent of the sum it represents against the cost of the railway.

#### CONCLUSION ARRIVED AT BY THE COMMITTEE.

12. The Committee have arrived at the conclusion that, in the public interest as well in the interests of the districts most concerned, it is expedient the proposed railway from Dubbo to Coonamble should be constructed. The justifiableness of the claims of Coonamble to be connected with the railway system of the Colony being admitted, the only question for consideration is that of route; and from the evidence before them, and their visit of inspection, the Committee are of opinion that the connection should be with Dubbo, that route, in relation to the country

country requiring railway facilities for its development and progress, being the most central, the widest in its range of influence for traffic, the best for providing openings for markets, and, in comparison with the route which is its only rival, by far the cheaper in cost of construction and maintenance.

It is possible it would be an improvement in the route if the line were taken nearer to Gilgandra than the present survey represents its position to be, by which alteration more country to the eastward would be served, and the Committee think this suggestion might be considered.

It is also worth considering, the Committee are of opinion, whether, in addition to constructing the proposed railway from Dubbo to Coonamble, it would not be advisable to extend a line from Mudgee to serve the country east of Cobborah in the direction of Dunedoo and on towards Caigan. Gulgong is within easy distance of the railway at Mudgee, with which it is connected by exceptionally good roads, and a line such as that suggested is not necessary as far as Gulgong is concerned; but it would meet the wants of the country beyond that town, and there is sufficient agricultural land within the limit of the influence of such a railway, to make the line pay without interfering with the traffic that should find its outlet by the railway between Dubbo and Coonamble. Such a line, too, might, in the future, be extended with advantage northwards in the direction of Coonabarabran.

RESOLUTION PASSED.

13. The resolution passed by the Committee is shown in the following extract from their Minutes of Proceedings of Thursday, the 13th instant:—

Mr. Watson moved,—“That, in the opinion of the Committee, it is expedient the proposed Railway from Dubbo to Coonamble, as referred to the Committee by the Legislative Assembly, be carried out.”

The motion was seconded by Mr. Shepherd, and passed on the following division.

Ayes, 6.	Noes, 1.
Mr. Perry,	Mr. Dick.
Mr. Shepherd	
Dr. Garran,	
Mr. Trickett,	
Mr. Watson,	
Mr. Levien.	

JOHN PERRY,  
Chairman.

Office of the Parliamentary Standing Committee on Public Works,  
Sydney, 25 July, 1899.

# PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

## MINUTES OF EVIDENCE.

### RAILWAY FROM DUBBO TO COONAMBLE.

THURSDAY, 9 MARCH, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.

The Hon. ANDREW GARRAN, LL.D.

The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.

ROBERT HENRY LEVIEN, Esq.

The Committee proceeded to consider the expediency of constructing a line of Railway from Dubbo to Coonamble.

Henry Deane, Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and examined:—

1. *Chairman.*] Do you produce a statement in regard to the proposed railway? Yes. I have been asked to present the following statement on behalf of Mr. Hickson, who is unable to be present:—

H. Deane.

9 Mar., 1899.

#### DUBBO TO COONAMBLE.

THIS proposal was included in the Government Railway policy announced by Mr. Watson in the year 1881.

A survey was authorised on the 12th June, 1883, by the then Minister for Works (Mr. F. A. Wright), and completed during 1885. It was also amended in the year 1893.

Several deputations have waited upon the different Ministers for Works urging the construction of the line. Mr. Lyne, when waited upon, stated he had advocated this route, but thought the Dubbo to Werris Creek line should be constructed first.

Mr. Young also promised a deputation which waited on him in August, 1896, that he would endeavour to ascertain which was the best way of connecting Coonamble with the railway system, and he would have that route submitted to the Public Works Committee.

The Public Works Committee who recently reported on the proposal from Warren to Coonamble were of opinion that it was not expedient to construct that line, but recommended the survey of a line from Dubbo to Coonamble.

The Engineer-in-Chief for Railway Construction, who recently went over the route with the Railway Commissioners, Messrs. Fehon and Kirkcaldie, and the Chief Traffic Manager, Mr. Harper, stated, in a report to the Minister, dated 8th December, 1898, that without expressing any opinion as to whether preference is to be given to the Warren to Coonamble or Dubbo-Coonamble route, the latter is very satisfactory. Whilst traversing it, large quantities of wool were coming down from the Coonamble district and beyond. The preference to this route during the present season, however, seems to be due to the fact that grass is more abundant than along the Warren to Coonamble. The rainfall also between Dubbo and Gilgandra and along the Castlereagh River seems to be somewhat in excess of that on the Warren-Coonamble route. This superiority of climate has, during the present season, enabled some very good crops of wheat to be produced.

As it is desirable to keep the railway in the best possible position for receiving produce, Mr. Deane is of opinion that the line, instead of being moved westward, as recommended by the Works Committee, should, if possible, be kept nearer to the Castlereagh, between Gilgandra and Gulargambone, so as to make the carriage as short as possible from the districts on the east side of the river; at the same time such a position would equally suit the west side. The Engineer-in-Chief for Railway Construction considers the line as laid out to be the cheapest possible, and has supplied me with the following estimate and description:—

Length, 93 miles 45 chains; estimated cost, £207,285 or £2,215 per mile, exclusive of land and compensation.

This proposed light railway begins at the east end of Dubbo Station, at 277 miles 49·054 chains from Sydney, and takes a generally northerly course, crossing the Talbragar River at 281 miles 65 chains, this direction being maintained generally to 307 miles. From this point the line is nearly parallel to the general direction of the Castlereagh River, at a distance of from 2 to 4 miles from it, the township of Gilgandra on the river being passed at about 317½ miles. At 355 miles the river is closely approached, and following its course the line ends at 371 miles 14·42 chains, at a suitable place half a mile from the bridge across the river leading into Coonamble.

The greater part of the land passed through is alienated. The works are light, and the ruling grade is 1 in 100, with easy curvature.

By direction of the Minister, the Railway Commissioners, on the 29th November last, were asked to report in terms of the Public Works Act. This report was supplied on 13th December, 1898, and is as follows:—

Proposed line of Railway from Dubbo to Coonamble—93 miles 45 chains.

IN accordance with the provisions of the Public Works Act of 1888, section 13, we beg to report as under:—

#### Cost of Construction—

The Engineer-in-Chief for Construction estimates the cost of construction of a single line of light railway, exclusive of land and compensation, at about..... £207,285

#### Annual Cost—

Capital expenditure at 3 per cent..... £6,218

Estimated cost of maintaining permanent-way, and for traffic and locomotive expenses ..... 7,219

Total annual cost ..... £13,437



H. Deane.  
9 Mar., 1899.

Traffic Estimate—

Merchandise and live stock.....	£8,526
Passenger traffic .....	1,975
Mails .....	1,116
Parcels, &c. ....	250
Total annual traffic .....	£11,867

It will be observed that the estimated traffic, which is based on the circumstances as at present existing, and local rates for merchandise, falls short of the sum required to pay the annual interest on capital and working expenses (which latter only provide for a tri-weekly service) but it is reasonable to assume that the construction of the line would lead to a development of the country, and consequent increase of business.

Coonamble and the surrounding district is entitled to railway facilities, and as the previously-proposed connection from Warren has been rejected by the Public Works Committee, we think the route at present under review is worthy of consideration.

The location of the line, if constructed, should be as near as possible to the west bank of the Castlereagh River. The east bank would be preferable, but the cost of construction would be considerably greater.

CHARLES OLIVER,  
Chief Commissioner.

W. M. FEHON,  
Commissioner.

DAVID KIRKCALDIE,  
Commissioner.

Finally, Mr. Secretary Young, on the 22nd December, 1898, moved in the Legislative Assembly that this proposal be referred to the Public Works Committee.

I put in the report I made for the Minister on the 8th December, 1898, which is referred to in Mr. Hickson's statement. It is as follows:—

Department of Public Works, Railway Construction Branch, Engineer-in-Chief's Office,  
Sydney, 8 December, 1898.

MINUTE Paper:—Subject—Dubbo to Coonamble Railway.

I HAVE the honor to report that I went over the route of the above line last week with the Railway Commissioners, Messrs. Fehon and Kirkcaldie, and the Chief Traffic Manager, Mr. John Harper.

Without expressing any opinion as to whether preference is to be given to the Warren to Coonamble or the Dubbo to Coonamble route, I beg to state that the latter is a very satisfactory route. Whilst traversing it we met large quantities of wool coming down from the Coonamble district and beyond. The preference to this route during the present season, however, seems to be due to the fact that grass is more abundant than along the other. The rainfall between Dubbo and Gilgandra, and along the Castlereagh River seems to be somewhat in excess of that on the Warren-Coonamble route, as it is added to by thunderstorms generated in the hilly country immediately to the east.

This superiority of climate has during the present season enabled some very good crops of wheat to be produced, and it was reported to the Railway Commissioners that on the eastern side of the river especially the land is very suitable for cereals.

As it is desirable to keep the railway in the best possible position for receiving produce, I am of opinion that the line, instead of being moved to the westward, as recommended by the Public Works Committee, should, if possible, be kept nearer to the Castlereagh, between Gilgandra and Gulargambone, so as to make the carriage as short as possible from the districts on the east side of the river. At the same time such a position would equally suit the west side.

The line as laid out seems to be the cheapest possible. To shift it about 3 miles nearer to Gilgandra would add slightly to its length—perhaps about 1½ mile—but would probably not add materially to its cost per mile. Mr. Stuart has examined this district very thoroughly, and reports that the line as laid out of Dubbo passes through only about 15 miles of poor country, and that this poverty is only partial.

A line starting from Dubbo and following a course further to the west would involve greater constructive difficulties, and the extent of ridgy country would not be much reduced.

H. DEANE.

The Under Secretary.

Submitted.—R.H., Under Secretary for Public Works and Commissioner for Roads, 13/12/98. Seen. May be kept available for my use when submitting railway proposal.—J.H.Y., 14/12/98.

I hand in a compilation of parish maps, a plan of the line on a scale of 10 chains to an inch (that is in two parts), and a longitudinal section to a scale of 2 chains horizontal, and of 100 feet vertical. I also hand in the Book of Reference. I also hand in the following estimates:—

DUBBO TO COONAMBLE.—Part No. 1.—Dubbo to Gilgandra.

ESTIMATED cost of a single line of railway 40 miles in length, with 60-lb. rails. Ruling grade, 1 in 100; sharpest curve, 20 chains radius.

Description.	Estimated cost.		Average per mile.
	£	s. d.	£
Earthworks .....	12,338	2 6	308
Box drains and timber bridges .....	7,298	19 3	182
Bridge over Talbragar River .....	3,800	0 0	95
Level crossings, cattle stops, and fencing .....	4,181	10 0	105
Permanent-way materials .....	25,702	1 6	643
Freight, &c. ....	5,122	10 0	128
Platelaying, at 1s. = £3,520 .....	19,360	0 0	484
Ballasting (½th) at 4s. = £3,520 .....			
Sleepers at 2s. 6d. = £12,320 .....			
Station works, including junction and sidings .....	2,450	0 0	61
Station buildings, waiting-sheds, £535; platform, £200; station-master's house, £250; goods-shed, £180; trucking-yards, £450; loading-banks, £450; 20-ton weighbridges, £550 .....	2,615	0 0	65
Water supply.....	1,000	0 0	25
Signals .....	500	0 0	12
Telegraph .....	600	0 0	15
Mileage and gradient posts.....	600	0 0	15
Miscellaneous.....	500	0 0	12
Engineering and contingencies, 12½ per cent. (nearly).....	£ 86,068	3 3	269
Total cost.....	£ 96,827	0 0	
Average cost per mile .....	£ 2,420	13 6	

## MINUTES OF EVIDENCE—RAILWAY FROM DUBBO TO COONAMBLE.

## DUBBO TO COONAMBLE—Part No. 2, Gilgandra to Coonamble.

ESTIMATED cost of a single line of railway, 53 miles 45 chains in length, with 60 lb. rails. Ruling grade, 1 in 100; sharpest curve, 20 chains radius.

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Description.	Estimated cost.			Average per mile.	
	£	s.	d.	£	
Earthworks .....	8,224	7	6	154	
Box drains and timber bridges .....	3,574	3	6	67	
Level-crossings, cattle stops, and fencing .....	2,640	0	0	50	
Permanent-way materials .....	34,421	12	6	643	
Freight, &c. ....	7,820	8	0	146	
Platelaying, at 1s. = £4,713 10s. ....	25,924	3	0	484	
Ballasting (¾th), at 4s. = £4,713 8s. ....					
Sleepers, at 2s. 6d. = £16,497 5s. ....					
Station works, including sidings .....	4,150	0	0	77	
Station buildings—Passenger building B, £1,000; station-master's houses, £710; waiting sheds, £410; goods sheds, £610; platforms, £500; loading banks, £600; 20-ton weighbridges, £550; 5-ton crane £200; trucking yards, £1,050; engine shed, £500; turntable, £450; coal stage, £200; carriage shed, £200. ....	6,980	0	0	130	
Water supplies .....	1,850	0	0	35	
Signals.....	500	0	0	9	
Telegraph .....	800	0	0	15	
Mileage and gradient posts.....	800	0	0	15	
Miscellaneous.....	500	0	0	9	
	£	98,184	14	6	.....
Engineering and contingencies, 12½ per cent. (nearly).....	£	12,273	5	6	229
<b>Total cost</b> .....	£	110,458	0	0	.....
<b>Average cost per mile</b> .....	£	2,062	4	6	.....

## SUMMARY OF ESTIMATES—Dubbo to Coonamble.

Part.	Description.	Length.	Estimated cost.			Average per mile.		
		m. chs.	£	s.	d.	£	s.	d.
No. 1 .....	Dubbo to Gilgandra .....	40 00	96,827	0	0	2,420	13	6
No. 2 .....	Gilgandra to Coonamble .....	53 45	110,458	0	0	2,062	4	6
	<b>Total</b> .....	93 45	207,285	0	0	2,215	9	6

2. *Mr. Trickett.*] According to the Departmental statement, it would appear that the proposed line will be run at an annual loss of £1,570? Yes.

3. Before going into details, do you care to amplify the opinion as to which is the more desirable line to construct—the one under consideration, or the Warren to Coonamble line which we recently considered? I can point to the differences in class of country, and make a comparison of the estimates.

4. But on general grounds, would you venture an opinion? I would rather leave the matter of traffic to the traffic officers.

5. Will you distinguish between the two as regards the character of the country passed through, and the comparative difficulties of construction or otherwise? The special advantage of the proposed line from an agricultural point of view is that it taps a larger agricultural district. Crops are grown alongside the Castlereagh on the western side, but the country on the eastern side is particularly suitable for agriculture. The further you go west, the more you get into the river and creek flats and black soil, and, of course, at the same time, you get into a drier climate. It has been particularly observable this year that the climate, in consequence of the proximity of the ranges, was superior to that of the country further out, a great many thunderstorms having occurred, which enabled the people in some cases to produce almost record crops.

6. That would apply from Gilgandra out to Coonamble, but the same conditions would hardly seem to apply between Dubbo and Gilgandra? From Dubbo, for some distance towards Gilgandra, the line passes through a rather ridgy and sandy piece of country, but there is not much of it. I was informed—in fact, one could observe it to a small extent, though not very thoroughly, as I had not time to go to the right and left of the line—that those ridges are very patchy. The sandy ridge is comparatively narrow in extent, and the good country comes up in tongues into it. From Gilgandra onwards it is noticeable that the line as proposed will have no watercourses of any consequence to cross. The divide between the Castlereagh and the Macquarie is right along the left bank of the Castlereagh. You will see that the Marthaguy Creek and others take their rise close to the Castlereagh—in fact, the left bank of the Castlereagh is higher than any of the country, and not being intersected by watercourses, the whole of the water draining over the area to the left runs away into the Macquarie. After you get to Gilgandra, there are no watercourses of any consequence to cross. Before we get to Gilgandra, we get upon the upper waters of the Marthaguy; but they are small, and there is no great expense. The most important creek crossed is a little out of Dubbo—the Talbragar.

7. How is the difference in the average cost per mile between Dubbo and Gilgandra, and between Gilgandra and Coonamble, accounted for? The country is more uneven as you leave Dubbo, and there is more to be spent in the way of culverts and bridges. The estimates will show that the earthworks on the first section have been estimated at £308 per mile, and the earthworks on the section beyond it at exactly one-half—that is £154. Box drains, timber bridges, and the bridge over the Talbragar River come to £277 per mile in the case of the first part, and only £67 per mile in the case of the second part.

8. Would you characterise the line from Dubbo to Gilgandra as a light line of railway? Decidedly.

9. What height will the earthworks be? My practice is to keep them as low as possible—from 6 inches and a foot over level ground, excepting where you cross creeks and flooded country. 10.

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10. Would that be high enough for that class of country? Yes; the lower you keep them the better they are to maintain.
11. Would the earthworks on the northern end of the line be of the same height? About the same. Of course, in the first part, the country being more uneven, there will be small cuttings and banks to make.
12. What is the experience up to the present time of these light lines of railway? Very good so far. On the Narrabri to Moree line a good deal of ballasting has been done, but the traffic there has grown to an enormous extent—beyond what was anticipated. The Parkes to Condobolin, Nevertire to Warren, and Jerilderie to Finley lines remain practically in the condition in which they were built.
13. Are they still stable and sound? Yes.
14. Have they had any severe tests in the way of waterwashes? Of course, we have had no really wet periods, but there have been some heavy rainfalls.
15. And what rainfall we have had has not done any damage? No. In one or two places on the Parkes to Condobolin line there is a pipeclay formation, which has had to be strengthened a little with ashes and so on, but nothing more than that.
16. Do I understand, with regard to the line from Narrabri to Moree, that if the traffic had remained as it was when the line was first opened it would have been of sufficiently permanent construction? Yes.
17. Has there been an increase of speed on that line? I am not sure about increased speed, but there has been a very large increase in the traffic.
18. Has that necessitated the permanent-way being made more substantial? It has necessitated ballast being put on. On that line the waterways have been added to. There were some washaways about eighteen months ago. Those constructed have been made good, and some additional waterways, but the whole of the expenditure on the line is still considerably less than my estimate.
19. Do you think the initial cost of our light lines is likely to be increased other than by increased heavy traffic? No.
20. Do they answer all the purposes of a light line of railway for comparatively light traffic? Yes.
21. Does not this country somewhat resemble that between Narrabri and Moree, so far as its slanting character is concerned;—is there not likely to be a large run of water across the line? No; very little water runs across the line. The only watercourse of importance is the Talbragar River, and further on, when you get halfway along the line near Gilgandra, you come to the divide between the waters of the Castlereagh and the Macquarie. The left bank of the Castlereagh River is the divide between the waters of the two catchments.
22. It is not likely to be a line which will be largely influenced by a big body of water attacking it? No. On the Narrabri to Moree line we cross all the watercourses at right angles. There is no possibility of heading them, and where we cross them, they are already important streams.
23. Are those the places which you have chiefly had to improve? Yes. I think it is almost safe to say that there would not be any stoppage of traffic at all when the washaways occurred, excepting in one place, because the bad damage was done at the ends of bridges where sheeting had been omitted. The water came in a direction totally opposite to that from which it was expected to come. It frequently does that in a flat country.
24. I believe that some of the squatters, in constructing their dams, actually got the fall the wrong way? Yes; where the country is very flat, it is impossible always to tell in which way the water will come.
25. At what rate of speed do you propose to run on the line? I put down a limit of 20 miles.
26. Was that the maximum on the Narrabri to Moree line? Yes; that has been the maximum from the commencement of this system.
27. *Mr. Watson.*] I thought it was 15 miles? It was raised afterwards.
28. *Mr. Trickett.*] Will the proposed line carry an ordinary engine and rolling-stock? So long as the load on the axle does not exceed 12 or 13 tons. I should not like to see the heaviest engines go over it.
29. Being a branch railway, that, I suppose, is not a disadvantage, seeing that you can adapt the engines to the traffic? Yes; and of course there are no steep grades, such as 1 in 50.
30. What is the ruling grade? I have made it 1 in 100.
31. That is pretty near level, is it not? It is a very good grade.
32. Is it proposed to fence the line? No.
33. Is it proposed to run trains by night? No; that is not desirable on an unfenced line.
34. Will the line be formed by the natural soil, or will you use ballast? I should not use ballast, excepting where it was absolutely required. I have allowed for about one-quarter of the length being ballasted. The station yards will be ballasted, and any soft places along the line; otherwise ballast will be dispensed with. We should use what is called earth ballast, which is rather an incorrect term. It really consists of selected earth, which is placed between the sleepers and rounded over, so as to throw the water off.
35. *Mr. Watson.*] Is it puddled at all? No.
36. *Mr. Trickett.*] Is this a black or red-soil country? There is very little black soil there—only a few patches.
37. Does not the soil upon which you place the sleepers solidify and cake? Yes, so as to form a sort of crust which throws off the water.
38. What distance do you put the sleepers from each other on a line of this character? About 2-foot 2-inch centres—that is from centre to centre of the sleeper. That makes them 17 inches apart.
39. Are they much closer than on a ballasted line? That is the distance I have been adopting all along, with the exception of the Nevertire to Warren line, where they are closer.
40. But that is particularly swampy country? Yes, in flood times a great deal of water lies about, and I thought it better to have more sleepers. The rails I am using are 30 feet long, and I put fourteen sleepers to that 30 feet length. On the Nevertire to Warren line there are sixteen sleepers for the same length.
41. What will be the weight of the rails? 60 lb. of steel.
42. What is the weight on the main line? 71½ lb. The rail to be used is a very satisfactory one, especially with the closer sleepers.
43. Will they be sufficiently strong to carry all the traffic likely to be developed for some time to come? Yes; I should not like to see the P or T or J class of engines go over the line, but it will be quite safe to use engines weighing 12 or 13 tons to the axle.
44. Is that the weight of the engines on the Narrabri to Moree line? Yes.

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45. Do you find any damage done to the light lines of railway by drays or anything else going across them? I have not observed much of that, but what is noticeable is that in sheep country the sheep tread it down a bit. In crossing the line they carry with them a certain amount of the surface. Of course, when the banks are soft, and cattle get upon them, they make a mess, but on the whole there is practically no damage done.

46. Not sufficient to affect the stability of the line? No.

47. What is your experience with regard to the maintenance of a line of this character? It is the lightest to maintain of any. The cost of maintenance on these light lines has come to about £30 per mile, which is a good deal less than the cost on any other class of line.

48. I notice in the statement you have handed in that the total cost of maintaining the permanent-way, and for traffic and locomotive expenses, is £7,219;—as this line will be 93 miles long, £2,790 a year will be the cost of maintaining it? I suppose so. I had nothing to do with the estimates. I only go upon the information given to me by the Permanent-way Branch. It has been the practice to divide these new lines into lengths of 10 or 12 miles, and to put three men upon each length. It runs to about one man to every 4 miles, or a little less.

49. I suppose you have watched the item of maintenance in connection with these new lines;—can you tell us how it compares with the maintenance of ballasted lines? In order to make a comparison you have to take everything into consideration—traffic and everything else; but I think it must be apparent to anyone who considers the question that it would be impossible to lower the maintenance on any line below that figure.

50. In view of your past experience, are you prepared to recommend a single line of railway for this class of country? Yes; I think it is a very suitable type of construction in the western country.

51. Is this a cheap time for constructing railways? Yes. Sleepers, however, are going up in price. The ironbark is getting very much reduced in quantity.

52. *Mr. Watson.*] That is within access of railway lines? Yes. Of course there is still a good deal of ironbark on the coast; but there are no extensive forests in the interior which have not been, to some extent, already tapped.

53. *Mr. Trickett.*] In the estimate of the Warren to Coonamble line, you put down the sleepers at 3s. each, and in the estimate of the line under consideration at 2s. 6d. each? Yes. In this case we go nearer to the ironbark forest. All the sleepers we used on the Nevertire to Warren line came from Dubbo.

54. If they had gone by way of Warren the carriage would have made up the difference? Yes.

55. Do you use rough sleepers? Yes, round-top sleepers.

56. Have they been found to answer? Yes; very well.

57. Do you leave the timber on the top side undressed? A little is taken off. I specify that the sleepers must not be more than a certain thickness. If they are thicker than that the men adze them off. The sleeper-getters also like to do that on their own account if they have long cartage, because it lightens them.

58. Looking at the map it is easily seen that, as a direct line of railway from Sydney to Coonamble, the Dubbo to Coonamble route apparently compares favourably with the route from Warren to Coonamble? Yes.

59. Have you the difference in mileage handy? Yes; the distance from Sydney to Coonamble *via* Warren is 417 miles, as against 371 miles *via* Dubbo—a difference of 46 miles.

60. Is the country between Warren and Coonamble of the same class for the construction of a railway? No; it is a good deal wetter, because you cross a good many creeks and watercourses.

61. I notice that in giving evidence before a former Committee you put down the average cost per mile of the Warren to Coonamble line at £2,365, as against £2,215 per mile for a line *via* Dubbo? Yes.

62. But the difference in the total cost of construction of the two lines is largely in favour of Warren *via* Coonamble? Yes. That is on account of the distance.

63. Will you explain to the Committee the advantages of taking the line *via* Dubbo? The advantage from an engineering point of view, is that the country is drier. You do not have as many watercourses to cross as you have on the Warren to Coonamble route.

64. The country is drier, but the rainfall would appear to be greater? Yes; when I say drier, I mean, of course, that the country is more easily drained.

65. Could you give any opinion as to the agricultural probabilities of the two localities? Judging from my own observation, the Dubbo to Coonamble country is the better for agriculture.

66. I suppose that if the land between Dubbo and Coonamble is all alienated, and that between Warren and Coonamble is not alienated, it would make a difference in connection with the cost of the resumption of the land? Yes. On the Warren to Coonamble route we go very considerably along travelling-stock reserves and roads. That advantage we cannot take on the Dubbo to Coonamble route. On the other hand, I think it must be acknowledged, that the land being very much improved by the railway, not more than a nominal amount of compensation should be paid for resumption.

67. In the light of that experience—although in December, 1897, the route from Warren to Coonamble was apparently advocated by the Department and the Commissioners—do you think it would be advisable to construct a line from Dubbo to Coonamble? I will ask the Committee to excuse me answering questions of that nature. All I should be justified in saying is contained in the Railway Commissioners' report.

68. Do you think you have kept the estimate of cost as low as possible? Yes.

69. You have not any unnecessary station buildings? No. The station works are very low.

70. You have put down an item for station works, including junctions and sidings;—what does that mean? It means earthworks, metalling, and rails. The other item only includes the buildings.

71. What is the supply of water between Dubbo and Gilgandra? A dam or an excavated tank must be made.

72. I suppose there is ample water between Gilgandra and Coonamble? There is the river which, I think, will be sufficient to draw upon. Of course, the river water has recently given out at Coonamble. I believe that is a very rare occurrence. The river has a bed of sand, and the water often disappears below the surface of it, but by sinking you can invariably find it again.

73. *Mr. Levien.*] What is the character of the country between Warren and Coonamble? Very good for the most part. It is flat, and largely of black soil.

74. Do you think it is better adapted for agriculture than the country between Dubbo and Coonamble? The latter is better, excepting where the country gets a little ridgy, when it would not be so suitable. Of course, black soil is not suitable for cereals.

75. Are there many reserves along the proposed line? I think not.\*

76.

\* NOTE (on revision):—I find the Railway reserve along the route is practically untouched.

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76. Is the land nearly all alienated? I do not think there are more than the usual reserves.
77. Are there any travelling-stock reserves? There are on the eastern side of the river. On the western side there are only 3 and 5-chain roads, but they run in the wrong direction for railway purposes.
78. What kind of country is there between Mudgee and Coonamble? It is nearly all good country.
79. Which of the three routes to Sydney—*via* Warren, Dubbo, or Mudgee—contains the best agricultural land? On account of the length of the line between Mudgee and Coonamble there would be a great deal more there. Between Mudgee and Mungahscree there is a great deal of land which is suitable for agriculture; and further on, after crossing the Castlereagh, towards the Warrumbungle Range there is very good country.
80. Is there more Government land, in the shape of reserves on that short area than on the other two areas? I think a good many of the reserves have been cut up and alienated.
81. Is the country from Mudgee to Coonamble flat? No, it is more uneven. Between Mudgee and Gulgong the construction is costly as the country is not very even; between Gulgong and Cobbarah you have to pass over a range; and between Cobbarah and Mungahscree, you have also to pass over a range. From Mungahscree going north-west you have another rise—the country is hilly.
82. What kind of timber country is it? There is ironbark between Cobbarah and Mungahscree, and also from Mungahscree to about one-third of the distance to Coonamble. You pass through narrow belts of ironbark on the proposed line.
83. Would there be any heavy cuttings and creeks between Mudgee and Coonamble? Yes; it would be more costly construction. Between Mudgee and Gulgong the earthworks are estimated to cost £1,528 per mile; between Gulgong and Cobbarah, £947 per mile; and between Cobbarah and Mungahscree, £1,703 per mile. Between Mungahscree and Coonamble the cost is very much less, because one-half or two-thirds of the route is pretty flat. The average there is £428 per mile.
84. When was that estimate made? Two and a half years ago.
85. What is the distance from Mudgee to Coonamble? 147 miles—that is, about 54 miles more than from Dubbo to Coonamble. If that country were only just being settled, and the proceeds of the land sales could be devoted to railway purposes, it would be worthy of consideration.
86. You would not care to say which of the three routes—Warren to Coonamble, Mudgee to Coonamble, or Dubbo to Coonamble, you yourself would recommend? I have already asked the Committee to excuse me answering questions of that kind, but I am satisfied that the Dubbo to Coonamble route is a good one. As regards the Mudgee to Coonamble route, it will be observed that it is very expensive. It would cost more than twice what the Dubbo to Coonamble line would cost.
87. I suppose, as a matter of fact, that from Dubbo to Coonamble the population is greater than from Warren to Coonamble? There is no doubt there is more population between Dubbo and Coonamble. Between Warren and Coonamble the land is held in larger holdings.
88. I suppose the country along the proposed route of railway is somewhat similar to what is to be found between Narrabri and Moree? No; I could not class it as the same. Between Narrabri and Moree it is nearly all black soil, and this is higher, drier, and sandier.
89. Is it chocolate country? Some of it.
90. What kind of cereals do you think that country is adapted for? Wheat grows very well.
91. *Dr. Garran.*] From Gilgandra to Coonamble, the proposed line follows the river? Yes.
92. Have you taken care to keep the line above all flood level? Yes.
93. Will it run on the dividing ridge you speak of? Yes.
94. So that, however great the rainfall, the line will not be flooded? No.
95. Looking at the matter from a construction point of view, it would cost the country now a great deal more to get to Coonamble from Mudgee than from Dubbo? Yes.
96. Therefore, the reasons for the Mudgee route ought to be very strong to induce you to choose it? Yes.
97. Is there at present more settlement along the route from Dubbo to Coonamble, than there is along the route from Warren to Coonamble? I think there is, for the reason that the country between Warren and Coonamble is in larger holdings.
98. I suppose the selections are a pretty good guide as to the quality of the land? Yes.
99. Where you see the land taken up largely, you presume that it is good? Yes.
100. Is there room for great expansion in agriculture between Dubbo and Coonamble? Yes; I think there is very little doubt about it.
101. Is the Castlereagh River one capable of being dammed, so as to store the water for the use of settlers, by means of irrigation? I should think not. The banks are high, and the water would have to be pumped. The bed of the river is of sand. You would have to go down a considerable depth to get to an impervious bed below.
102. Then, we cannot look for a dense settlement? I should think it is very unlikely that the river can ever be used to a large extent. It is doubtful whether it would pay to irrigate land for crops there.
103. You have now had some years of experience with regard to our light lines of railway? Yes.
104. Have you found that you can construct the line satisfactorily at the prices you have formed in your estimate? Yes, very fairly.
105. If your estimates had been wrong on any point, where have they been wrong? Perhaps I might be allowed to make a statement. The Narrabri to Moree line was constructed under the estimate, and in spite of all additions that have been made, it is still under the estimate. The Parkes to Condobolin line is still under the estimate. The Jerilderie to Berrigan line is slightly under the estimate. We got an extra 10 per cent. for that line, but it was not drawn upon. The estimate of the Berrigan-Finley line has been considerably exceeded by extra works. The Railway Commissioners found that the Berrigan station was totally inadequate as a terminal station; and, in order not to make the same mistake at Finley, the works were considerably increased. Consequently, the bit from Berrigan to Finley will have largely exceeded the estimate, but, taking the line altogether as one line from Jerilderie to Finley, it will come out all right.
106. The excess of expenditure on the Berrigan to Finley line is at the terminus? Yes. It means that the station works, the water supply, the turn-table, and engine-shed, which, if Berrigan had been the terminus, must have been placed there, have been placed at Finley.
107. You did not make the terminal expenditure at Berrigan? No; it was always held over.
108. Have any of these cheap railways been subjected to the test of a very heavy rainfall? We have, I think, had sufficient rainfall to test them. We have mostly had dry weather, but there have been heavy storms of rain.

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109. Do you think they have been subjected to a full test? I should not like to say that. I have been hoping for the last two or three years that we might get a wet period, because I am very anxious to see where the weak points are. I do not pretend that there are not weak points. The lines must have them, but it has always been considered that if there are weak points they can easily be strengthened.
110. To that extent our experiment is not yet a complete one? No, I do not think it is.
111. I suppose it is an advantage to have three or four dry seasons during which light lines may settle before the rain comes on? Yes, there is some advantage in it. The banks consolidate.
112. A new line which had not become consolidated would be more severely tried by rain? Yes, I think it would. On the other hand, I always have the banks well rolled, and get them consolidated in that way as much as possible.
113. Which class of soil do you think is the most tender? Looking at the matter from the point of view of softening from rainfall, I should say that the black soil is really the most tender; but for scouring away and loss by the erosion of water running alongside it, and so on, some of the red sandy soil would be the most liable to damage.
114. I suppose that the line will, from Dubbo to Gilgandra, be on sound land? Yes.
115. Will it be on a sandy bed from Gilgandra to Coonamble? It is a sort of red sandy loam along the banks of the river.
116. Is it good soil for the purpose of the construction of a railway line? Yes.
117. I suppose that the line, as you would construct it, would be equal to all anticipated traffic? Yes.
118. If we get unexpected traffic, as we have done on the Narrabri-Moree line, it will pay to improve it? Yes; there will be no additional cost. It is important to note that when you want to improve these lines there is no cost in improving them over and above what they would have cost at first to put in the same amount of work.
119. Has the additional cost of the Moree line been charged to the first cost of the line, or has it been paid out of working expenses? A good deal of it has been put to the loan fund as new work and improvements.
120. What has it brought the cost of the line up to now? The cost of the line is, I think, about £145,000. The original estimate was £153,000.
121. If the traffic which has come upon the Narrabri to Moree line could have been foreseen, you would have made a saving by constructing a line on the more solid basis in the first instance? I do not think so. I should simply have put more ballast on. Possibly it would have cost more, because that line was laid by contract, and contractors always have a higher price for ballasting than the price for which it could be done afterwards by the Commissioners' trains.
122. Then it is not a bad speculation to make a line thoroughly economical in the first instance, and to improve it afterwards if the traffic warrants it? No.
123. We do not lose money by an economical construction in the first instance? No.
124. The line you propose to construct will carry the traffic and will be fairly durable? Yes.
125. It will not cost any special amount for maintenance? No; the smallest on record.
126. That is more satisfactory than you originally anticipated, is it not? Yes; I was afraid that, in connection with the Narrabri to Moree line, the maintenance might be high. Experience has proved that it is low.
127. Is it not a fact that engineers originally used to deprecate cheap lines because of the cost of maintenance? Yes.
128. I gather that you do not find that to be the case? Not in the dry western country.
129. I suppose it would be difficult on the coast? I should not like to adopt this class of line on the coast. I would not mind the low earthworks. I should prefer to have them, if I could get them; but I would not like to do without ballast.
130. For any part of the country, where there is less than 20 inches of rain per annum, you prefer these cheap lines? Yes; it would be a fair thing to say that.
131. So far as your testimony as an engineer of some experience goes, you evidently recommend the country to continue the construction of these cheap lines in the west? Yes.
132. I suppose you have no hesitation in advising that? Not the slightest.
133. *Mr. Watson.*] I gather from the statements you have made that the greater part of the land through which the line will pass is alienated? Yes.
134. Are you prepared to give any evidence on that point? I have a Book of Reference, by means of which the statement of Mr. Hickson can be verified. If the Committee wish it, I can do as has been done in connection with other lines, and give the length of line passing through alienated and Crown lands respectively.
135. I notice that the parish maps you produce show something in the nature of a railway reserve running, approximately, between Dubbo and Coonamble—not on this particular route, but near the route;—do you know whether that reservation was made sufficiently early to prevent the alienation of the land within its boundary? No; already some of the land had been alienated.
136. Does the railway reserve referred to contain any appreciable area of Crown land, as compared with the Crown lands on the route you have selected? I do not suppose there have been any Crown lands sold there since it has been proclaimed, unless the Public Works Department has been specially asked to consent to the sale. There are blocks here and there, which were alienated before the reserve was made, and they run right across it. I may state that I would not recommend that reserve as a route for the line. Although upon the map it looks to be more direct, and seems to offer some temptation to get along a portion of the line without actually paying for land, yet, in my opinion, the location of the line would not be as good. It would be more costly, because it would be away from the watershed a little further down, and would cross more of the small waterways at the heads of the creeks. We should lose in that way as much as we should gain in the cost of the land. That matter has really been considered; otherwise there would be no reason for departing from that old route.
137. After you get about 341 miles from Sydney, you reach the railway reserve, and follow it pretty well into Coonamble? Yes.
138. Prior to that, what is the average distance of the proposed line to the east of the railway reserve? About  $1\frac{3}{4}$  miles.
139. I notice that the Railway Commissioners, in their report, put down the interest on capital expenditure at 3 per cent.? I should not like to offer an opinion about that. Mr. McLachlan is the spokesman for the Railway Commissioners, and no doubt he would give good reasons for the interest being put down at 3 per cent.

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140. In the estimate of capital cost, no allowance is made for the resumption of land? No.
141. Have you any data upon which to found an opinion as to what that will amount to? No.
142. Allowing 3 per cent. as the interest on the capital cost of the line, the annual cost will be £13,437; as against that the Commissioners put down £8,526 for merchandise and live stock, £1,975 for passenger traffic, and £250 for parcels; the total annual traffic, without mails, will amount to about £10,700; with the mails it will amount to £11,867—still leaving a deficit; if the cost of resumption is going to be heavy, it will leave a higher deficit? It ought not to be heavy. I should think a great deal of the alienated land would be obtained free of cost.
143. Where it could not be obtained free, do you think an exchange could be effected of some of the Crown lands adjoining? I believe that in many instances it could. It has been done elsewhere, so that there is experience with which to back up one's opinion.
144. The map shows a blank for the first 20 miles out of Dubbo? That is ironbark ridge country. The greater portion of that is Crown lands, but it is of very little use. It would require no resumption.
145. Do you know how far to the Dubbo side of Coonamble the artesian basin extends? I cannot tell you. Probably it would not extend beyond the flat country.
146. Allowing that Dubbo is comparatively near the source of supply for sleepers, does not 2s. 6d. seem to be a rather low rate at which to average their cost right through to Coonamble. They have to be carted to Dubbo first, and eventually they have to be taken from there to Coonamble? For the sleepers for the Nevertire to Warren line I paid about 2s. 1d. each.
147. Do you think they are equally, or nearly, as cheap about Dubbo? Those to which I have referred came from Dubbo. Then I have to add the freight from Dubbo to Warren. Here, however, there will be no freight.
148. Do you think they are just as cheap now as they were then? You might have to pay 1d. or 2d. more, but I think 2s. 6d. is a fair estimate. We shall be closer in to the ironbark than we have been on any line hitherto.
149. Is it not a fact that the rise in the price of sleepers is due not to the forests being cut out, but to their being cut out near the proposed railway line? I think that means exhaustion of supply. For instance, there is a belt of ironbark running across from near Dubbo right up north towards Narrabri, and then further on you find patches of it near Warialda. Supposing the distance from Dubbo to the north-western line is 120 miles, when that is untouched you have 120 miles fair, but when you cut away 20 miles at each end you only have 80 miles or two-thirds left. Of course, the question of the supply of timber for sleepers is a serious one.
150. I believe that along the proposed line there is some ironbark 15 or 20 miles out of Dubbo? Yes. The best of it has been cut out, but lying off the line there is some good ironbark.
151. At any rate, some portion of the line will be nearer the supply of ironbark than is the town of Dubbo? Yes. There is no ironbark at Dubbo itself. The ironbark forests never reached the town.
152. *Mr. Shepherd.*] Are facilities afforded on any of these light lines for the supply of water? Yes. I try and obtain a water supply every 20 or 30 miles.
153. There will be no necessity for erecting dams? I think it is likely between Dubbo and Gilgandra the best means of getting the water we require will be by making a dam on one of the creeks.
154. What is your opinion of a line from Dubbo to Werris Creek? A survey has been made across there. A very good line is to be obtained.
155. Is not the country there of a superior character? I believe there is a great deal of very good country.
156. Is there any cultivation on any of the suggested routes? I saw some cultivation near Gilgandra—chiefly wheat.
157. What stock is run in those districts? Mostly sheep.
158. *Chairman.*] In the statement you have presented to the Committee, you say that Mr. Lyne, when waited upon, stated his advocacy of this route, but that he thought that before it was constructed there should be a connection between Dubbo and Werris Creek;—would you advocate that that should be carried out? My own opinion would be that both lines would stand on their own merits.
159. Would there be any Departmental reason for constructing a line from Werris Creek to Dubbo before constructing the one under consideration? I do not think so. I know of none.
160. Do you know why it was suggested? I fancy the reason Mr. Lyne expressed himself in that way was because he thought the country between Dubbo and Werris Creek wanted a railway more than the country between Dubbo and Coonamble.
161. Would it have any connection with the movement of the stock? Yes. Of course it would connect the western district with New England.
162. From that I should judge that a line from Dubbo to Werris Creek would be greatly used to facilitate the movement of stock? No doubt it would.
163. Mr. Young stated, in reply to a deputation, that he would endeavour to ascertain which was the best way of connecting Coonamble with the railway system; in going over the various routes, do you recommend the one under consideration as the best; I judge from what Mr. Young said that he would obtain the advice of the Departmental officer, and whatever his decision was, he would refer it for the consideration of the Public Works Committee? The question of deciding is very much involved in the question of the probable traffic. It is scarcely an engineering question, unless you have to compare the cost of the two lines—the Mudgee to Coonamble and the Dubbo to Coonamble lines.
164. Will the gradients and curves be easier on the line under consideration than on any other you know of? The gradients would be about the same as on the Warren to Coonamble line, but they would be lighter than on the Mudgee to Coonamble line.
165. Have you been along both routes? Yes.
166. How does the country between Dubbo and Coonamble compare with that between Mudgee and Coonamble? I should say that the country is very good in both cases, with the exception of some few patches. I should like to add to my evidence with regard to grades that the Mudgee to Coonamble line has been laid out with grades of 1 in 80, so that it is not far below the proposed line so far as grades are concerned.
167. You went over the route with the Railway Commissioners—Messrs. Fehon and Kirkcaldie—and reported to the Minister as follows:—"Without expressing any opinion as to whether preference is to be given to the Warren-Coonamble over the Dubbo-Coonamble route, the last is very satisfactory";—  
that

that is rather a vague way of recommending anything? I think that is a misquotation. What I wrote was, "I beg to state that the latter is a very satisfactory route."

H. Deane.

168. You did not express any opinion as to whether it was preferable? No. What I meant to say was that if you had to get from Dubbo to Coonamble, the route chosen was a satisfactory route.

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169. Would you care to say whether, from an engineering standpoint, the proposed route is preferable to the other? From an engineering standpoint I could undertake to make a satisfactory line in all three directions. The matter is simply one of cost. Of course, the Warren to Coonamble line would be the cheapest. The country is wetter than along the proposed route, but a good line could be made. Perhaps in some places the proposed route may be said to be more satisfactory than the Warren to Coonamble route, because it would be less liable to damage by heavy rains. It is almost impossible to foresee what the extent of floods may be. Consequently, the Warren to Coonamble line might be laid out ever so carefully, and floods might come and do a little damage. There would be less chance of that on the proposed line than on the Warren to Coonamble line.

170. The last Public Works Committee expressed the opinion that it would be better to move the line westward, and you, I believe, after careful investigation, came to the other conclusion? Yes. My reason for coming to that conclusion, after talking the matter over with the Railway Commissioners and Mr. Harper was that as regards serving the country, it was better to get near to the agricultural country than to the wool country. The further west you go the more essentially is the country wool-producing, and you get away from the part which is more suitable for agriculture. Agricultural produce stands less carriage than does wool. Again, as I have already pointed out, the nearer you keep to the bank of the river, within certain limits, the higher and drier the line becomes.

171. Then, after carefully investigating the matter from all points, you have come to the conclusion that you had better keep to the eastward than to the westward? Yes.

172. Is there a fair proportion of land along the proposed line suitable for agriculture? Yes; and there is a considerable quantity on the other side of the river, which may be said to be really along this line. It is served by this line. The river is passable in a great many places.

173. If the proposed line is constructed, do you think there will be a fair traffic from farm produce? Eventually.

174. In connection with the details of cost, I find that for a line from Warren to Coonamble, you allow for earthworks, £197 per mile. Between Dubbo and Gilgandra you allow £308 per mile? That is because the country is rougher along the first part; it is more ridgy.

175. Would that also account for the difference in the estimate for box-drains and bridges? Yes.

176. In connection with level crossings, cattle-stops, and fencing, I notice a difference again;—your estimate is £105 per mile in connection with the proposal before the Committee, and £40 per mile in connection with the Warren to Coonamble proposal? The reason of that is that on the Warren to Coonamble route we go largely along the road and by the sides of travelling-stock reserves. There are very few fence crossings.

177. You do not propose to fence the line? No.

178. What will be the cost per mile of fencing? About £80—£40 on each side.

179. What sort of fencing would it be? A six-wire fence. Perhaps it could be made a little cheaper than given. A railway fence is necessarily not quite so cheap as a squatter's fence, even if it is not more substantial. Generally, we make them more substantial than do the squatters. If you have a fence, you should have a good one. It is a more important thing to keep cattle from straying on to a line where there may be a risk to life by a train running over them than it is to keep cattle or stock from getting from one paddock to another. Again, the squatter, as a rule, runs his fences in straight lines sometimes for miles. A railway line, however, is crooked, and that, of course, makes a considerable difference in the labour of erection. The price I mention is an average.

180. What lines have you experience of in connection with construction without fencing? The Narrabri to Moree line, the Parkes to Condobolin line, the Jerilderie to Finley line, and the Nevertine to Warren line.

181. And on those lines the Commissioners abstain from running traffic at night? Yes, practically.

182. Has there been any accidents to trains owing to any of those lines not being fenced? I do not think so.

183. Cattle and sheep at night naturally prefer an embankment? Yes; I do not think it would be safe to run traffic at night without the lines being fenced. The Commissioners are contemplating asking for fencing to be constructed along a portion of the Moree to Inverell line, which will be run over at night. There does not appear to be any danger in the daytime.

FRIDAY, 10 MARCH, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.

The Hon. ANDREW GARRAN, LL.D.

The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.

ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Henry Deane, Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and further examined:—

184. *Chairman.*] I believe you have given considerable study to the question of ballasting railways? Yes.

H. Deane.

185. Will the ballast for the proposed line be easily obtainable? The ballast I should use for the most part would be what is called earth ballast. At the further end of the line, the only thing obtainable in the nature of ballast, would be the coarse sand from the Castlereagh River. Nearer to Dubbo, you can get hard sandstone in the ridges.

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186. Have you tested the question whether ballasted lines in the long run would be the most economical? I have considered that matter. Under the conditions of the western country, and of light traffic, there is no deterioration in such a line as the one proposed. If it can be maintained for £30 a mile—that is to say, cheaper than the other lines—there can be no question that it is economical to adopt this type of construction, even looking at the question of the permanence of the line.

187. I believe that some time ago you visited America, and gave special attention to unballasted lines there? There is a great deal of railway in America which is unballasted. A great many lines are made without ballast, and are ballasted afterwards if the traffic becomes heavy. There are, however, a great many lines which remain unballasted to this day, and probably they never will be ballasted.

188. Was it intended to ballast those lines, when they were first constructed? I do not think so. It was only contemplated to ballast them if the traffic increased very largely.

189. I suppose unballasted lines require more sleepers? I have put in more sleepers, because I thought that the lines being unballasted, it was necessary or desirable; but I am strongly of opinion that even when lines are ballasted, an additional number of sleepers helps to keep the cost of maintenance down; in other words, the lines are more easily kept in repair if well supported by a large number of sleepers.

190. Would not the life of a sleeper embedded in an earthen embankment be much shorter than the life of a sleeper properly ballasted? Possibly, if you use an inferior class of timber, but I do not think that would apply to ironbark. The sleepers are kept well drained by the ends being kept free. It is true that in damp weather the damp earth is in contact with the sleepers, but where you have durable timber like ironbark, I do not think it would make any appreciable difference.

191. Is the country between Coonamble and Mudgee of a better class than that between Dubbo and Coonamble? All the country is pretty well taken up.

192. Would the country between Dubbo and Coonamble carry a bigger population than the country between Mudgee and Coonamble? I should think that the Mudgee to Coonamble country would carry a thicker population per mile, because there is, I believe, more land in proportion suitable for agriculture.

193. Had you any means of ascertaining, when you visited the district, the opinions of the Coonamble people with reference to the best route? I think they are satisfied to get any line. It is generally considered that Walgett might be the ultimate end of this line, but that question has not been definitely decided. There is, of course, the alternative of connecting Walgett with Narrabri. Last Session the Public Works Committee had under consideration a line from Narrabri to Pilliga. I may state that I have brought with me some information which was asked for yesterday. I have obtained a return showing the approximate aggregate lengths along the proposed line of Crown and alienated lands passed through. The length of Crown land is 28 miles 45 chains, and of alienated land 65 miles. No railway reserve appears to have been proclaimed along the amended route, but that along each side of the original trial survey apparently still contains a considerable area of Crown land. I also hand in the following table of distances:—

	Miles	Chains.
Dubbo to Coonamble .....	93	45
Narromine to Coonamble .....	93	...
Warren .....	63	33
Mudgee .....	147	.
Dubbo to Werris Creek .....	157	35
Sydney to Coonamble, via Dubbo .....	371	.
"    "    Narromine .....	394	.
"    "    Warren .....	416	66
"    "    Mudgee .....	337	..
"    Werris Creek, via Dubbo .....	439	20

I also have a return of the rainfall of the district. I was in communication with Mr. Russell this morning, and I have, with his concurrence, consulted the reports for 1897 of the mean annual rainfall. He has also kindly furnished me with the rainfalls for the year 1898, which have not yet been published:—

*Dubbo to Coonamble Railway.—Rainfall of District.*

	1898	Mean Annual
Dubbo .....	26·38	23·36
Narromine .....	23·11	20·53
Trangie .....	19·86	23·28
Nevertire .....	22·52	21·36
Warren .....	15·42	19·90
Coonamble .....	13·90	22·46
Gularganbone .....	19·71	30·68
Gilgandra .....	24·48	26·84
Mundooran .....	27·68	27·79
Coonabarabran .....	26·94	31·92

The general conclusion to be drawn is that the country lying from Dubbo north and east of the line has a much better rainfall than further out to the west. I have also obtained some information about resumptions on the Parkes to Condobolin line. I might say with regard to the Nevertire to Warren, Jerilderie to Berrigan, and Berrigan to Finley lines, that there was a condition in the Act that the land was to be given free or in exchange, but on the Parkes-Condobolin line there was no such condition. The betterment principle was applied to the land resumptions on that line, with the result that no compensation has been paid for land other than town allotments, in the cases dealt with. Two resumptions have still to be completed, and it is anticipated that no compensation will be awarded in either case. I may mention that compensation to the extent of £20 has been paid to the owner for the abolition of a dam in the vicinity of the line, which it was considered might be a source of danger to the permanent way.

194. *Mr. Dick.*] Between the northern and the north-western lines on the one side, the western line on the other side, and the Barwon River on the north, there is a large triangular country which is not provided, excepting indirectly, with railway communication with Sydney or Newcastle;—have you considered the question, from the point of view of policy, of this line competing with other rival lines which will split up that great triangle, and give the maximum amount of communication to the maximum amount of country—in other words, is the proposed line the best for splitting up that part of the country lying between the two lines now constructed? I think it is, taking it on the whole. The proposed line deals pretty well with the country between the Barwon, the Namoi, and the western line, west of Dubbo; and

and that country to the east of Dubbo which is more suitable for agriculture might very well be served by additional, shorter lines.

195. Cocks spur lines? Not that. The Mudgee line, for instance, might be continued to or past Gulgong—say, as far as the Talbragar River.

196. Would not that be a very expensive piece of line? Yes; but it is a portion which would very likely pay in the course of a very few years on account of the settlement.

197. If that is the case, and the Mudgee line is continued to Cobborah, and thence to Coonamble, do you not think that a larger area of country would be served than by a line from Dubbo to Coonamble? I think a line from Dubbo to Coonamble would be better. I think, however, it would be a little premature now to consider the construction of a line to Cobborah, but it will have to be considered at some future date, as well as a line from Dubbo or Wellington to Werris Creek, which would traverse a very good patch of country. If the line from Dubbo to Coonamble is made and the other lines mentioned are made, there will be no waste of railway construction.

198. Do you think a line from Muswellbrook to Cassilis, and thence on to Coonamble, is within the range of possibility? The country from Muswellbrook to Cassilis is very rough. A survey was made a good many years ago, and it was very difficult to get across there even with grades of 1 in 40.

199. Is the country more difficult than between Mudgee and Cobborah? Very much. On the surveyed line from Mudgee to Cobborah I obtained 1-in-80 grades.

200. What about a line from Singleton to Cassilis—do the same obstacles exist? I think so.

201. I suppose that if the proposed line were constructed it is more than likely that in the near future a further extension north would be made? It would be a very suitable way of getting to Walgett.

202. Would it be the most suitable? I think myself it looks rather like it. A survey is now being made from Narrabri past Wee Waa—one alternative going on the north of the river and another on the south, the latter crossing the river at Wee Waa and meeting the other, thence proceeding to a point about 10 miles from Walgett—at Euri Euri. That was recommended by the last Public Works Committee. Of course, if that were constructed it would obviate any necessity of continuing the proposed line beyond Coonamble.

203. If that survey proved that a practical line could be made, would it alter your view as to the necessity of the extension from Dubbo to Coonamble? No.

204. *Chairman.*] It would mean carriage for all time 50 miles further to Sydney? Yes.

205. Which is the nearest port for the Walgett trade? Newcastle.

206. What is the difference in distance between the Newcastle and Sydney ports? About 75 miles.\* The distance from Walgett to Sydney is 405 miles; from Walgett, *via* Pilliga, is 467 miles, but from Newcastle it is about 100 miles less—367 miles. There would be a difference of 40 miles there.

207. There seems to be a conflict of opinion with regard to the rival routes. A short time ago the Railway Commissioners were in favour of an extension from Warren to Coonamble. Mr. Jones was in favour of an extension from Mudgee to Coonamble. Now we have a proposed extension from Dubbo to Coonamble; can you offer an opinion as to the reasons which have prompted these gentlemen in arriving at their opinions? I am afraid I could scarcely do their opinions justice. No doubt the Railway Commissioners will explain why, in the first instance, the line from Warren to Coonamble was recommended, and subsequently the line from Dubbo to Coonamble. I think they have very good reasons to recommend now the line from Dubbo to Coonamble.

208. Mr. Jones seems to be definite in his opinion that the line should go from Mudgee to Coonamble;—is it the expense which stands in the way of that line? No doubt it will have a great deal to do with it.

209. Is it characteristic of the country that as you go east of the proposed line it gets drier? No. If you cross to river, and go on the left side, you will find that the country is not so level. There are a great many watercourses—small and great—flowing into the Castlereagh from the north, so that that part of the country is scoured to a much greater extent than that over which the proposed line passes.

210. *Dr. Garran.*] Was the Mudgee branch at one time thought to be a rather dangerous line? Yes; it used not to be worked at night, but it is worked at night now.

211. If there is any objection to it on that ground, it would be a reason against making it a trunk line? Yes; but I know that trains run upon it at night now. Some years ago I was asked to take the matter up, and I laid out some deviations, which were carried out, and since then trains have been running at night.

212. Is there not a great deal to be said in favour of the extension from Mudgee to Coonamble, apart from the question of expense? The country is very suitable for agricultural settlement.

213. And it is fairly between the two trunk lines already made, and would open up quite as much country as any other line? Yes.

214. If a line were made from Coonamble to Warren, that would make the construction of the line from Mudgee more likely at a subsequent date? Yes.

215. If we make a line from Dubbo to Coonamble, it will make the chances of the Mudgee extension smaller? I think the Mudgee line must be extended for some little distance—certainly to Gulgong, and probably to the Talbragar.

216. And that would be easy country to settle? Yes.

217. But it is not supremely easy country for a railway? No; it is very undulating and ridgy.

218. Could you construct it for £3,000 per mile? The first part would cost very much more. The estimate for the Mudgee to Gulgong line came to nearly £5,000 per mile; from Gulgong to Cobborah a little over £3,000 per mile; so I suppose it would be done on an average for from £3,500 to £3,700 per mile.

219. You are inclined to think that, all things considered, the Mudgee line as a present line is rather out of the question? Yes.

220. And our choice lies between the Dubbo and the Warren extensions? Yes.

221. Do you think that if we choose the Dubbo instead of the Warren extension it will decrease the chances of a Mudgee extension hereafter? I do not.

222. Of course it will not do to run parallel lines too closely together? No; I look upon it that the Mudgee line, after passing through Gulgong, might, instead of making for Cobborah, turn a little to the right, and make more for Coonabarabran.

223. About what distance might two parallel lines be made from each other, so as to enable each to pay? It is generally reckoned that they should be 40 miles apart so as not to make the cartage for agricultural produce more than 20 miles.

224.

\* NOTE (*on revision*):—Walgett to Sydney, shortest distance, *via* Mudgee, 405 miles; *via* Dubbo, 439 miles. Walgett to Newcastle, shortest distance, *via* Narrabri, 367 miles.

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224. Evidence has been given before a former Committee to the effect that if a farmer can take his dray to a railway station and get home again at night he is fairly well served? Yes.
225. You think that if the proposed line is made now it will not altogether foreclose the prospects of a Mudgee extension hereafter? No.
226. That will stand on its own merits, and have fair claims? Yes.
227. Supposing the extension from Coonamble to Walgett is superseded by the new line, would it be worth while to go from Coonamble towards Brewarrina? No; because I have instructions to make a line from Byrock to Brewarrina.
228. And that will meet all the claims of Brewarrina? Yes.
229. Then there would be no railway between Brewarrina and Walgett? It is very unlikely, I think. It is possible that the Warren line might be turned up along the Macquarie or the Marthaguy.
230. Supposing we find it desirable to accommodate the Macquarie Valley country, the only plan would be to extend the line down the valley of the Macquarie? Yes.
231. *Chairman.*] A line going from Sydney through Coonamble *via* Mudgee would I believe be 34 miles shorter than a line going from Coonamble to Sydney *via* Dubbo? Yes.
232. I think Mr. Jones prefers the Mudgee to Coonamble line on account of the better class of country through which it would pass? Yes.
233. Can you give any reason why the line is to be taken from Dubbo to Coonamble;—is the principal reason the fact that you already have a line to Dubbo, which is a nearer point to Coonamble than Mudgee? That is one reason—a good reason in itself.
234. Is that the principal reason? It is a fair compromise between the shorter line to Warren and the longest and most expensive line to Mudgee.
235. Seeing that the traffic is to come mostly from Coonamble and the country about there, does it not appear to be unreasonable to handicap the people of the district for all time simply because a line had been already constructed to Dubbo? As a matter of moral right I think they might be called upon to pay as high a total charge over the more expensive line as over the cheaper line.
236. I believe that the country from Dubbo to Gilgandra is very poor? There are patches of poor land.
237. I believe there are only small patches of it which are of any good? There is a ridge which you would traverse part of the way by the line, but it is not of any great extent, and it chiefly covers that part of the line which in any case would be unproductive—that is, the first part of the line. When you get about 20 miles out you are over that ridge, and I suppose the line would not be made if it were only a question of 15 or 20 miles.
238. The line from Mudgee to Coonamble being more expensive to construct than the one under consideration, you think that the people of Coonamble would not be under any great disadvantage in having the further distance to go? No. It would be better for them to have that than to be blocked altogether by the larger expense.

Hugh McLachlan, Secretary to the Railway Commissioners, sworn, and examined:—

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239. *Dr. Garran.*] The Railway Commissioners, a year or two ago, recommended the construction of a line from Warren to Coonamble? Yes.
240. Did they estimate a loss on that line? No; a slight profit, as compared with the Dubbo route.
241. They have now made another report, in which they do not propose to construct that line; but they do not express themselves quite so strongly in its favour as they did in regard to the Warren line? No; commercially the result will not be quite so satisfactory; but they look upon Coonamble as a promising district, and, as a matter of fact, they are favourable to either route, leaving it to the Government, as a matter of policy, to consider which is the best to adopt.
242. Do they look for their profit to the terminal or roadside traffic? There would be a great deal of through traffic from Coonamble.
243. For that reason they preferred the shorter route, from Coonamble to Nevertire? They looked at it in this way: In one case you have to make 60 miles of railway, and in the other nearly 100 miles. The country in both directions is very good, particularly between Warren and Coonamble. It is one of the finest pastoral countries we have.
244. Is it fair to ask whether, at the present time, if the Commissioners had their own choice, they would prefer the Warren line? I think the Commissioners are fairly divided as to the merits of the matter. They simply report on lines as submitted to them. First, they had the Warren to Coonamble, and now they have the Dubbo to Coonamble line submitted to them. Their opinion is that a line to Coonamble is warranted; and so far as they are concerned, they think the prospects of either route justify construction, leaving it to the Government to consider, as a matter of policy, which it considers best in the interests of the country.
245. If the line from Warren is not extended, would that be a reflection at all on the construction of the line to Warren? No; because, in the first instance, the extension from Nevertire to Warren was dealt with on its own merits. There is a considerable traffic between Warren and Nevertire, and in unfavourable weather the road gets very bad. One reason which led to its being taken up was that an agitation for the line was commenced about the time the Commissioners were considering the question of constructing pioneer lines. A contractor offered to build it at a very cheap rate, and the outcome of that was that, to some extent, as an experiment, in connection with the pioneer system of railways, they built the Nevertire to Warren line. But it was almost on its own merits recommended.
246. Is it paying? We have only had seven months' experience of traffic there.
247. Of course, it is a very short cockspur line, and, as a rule, they are not very remunerative? No.
248. So far as traffic is concerned, are you fairly satisfied with it? Yes.
249. Do you get some of the Coonamble traffic upon it? Yes.
250. Does the coach traffic at present go from Warren to Coonamble? It goes alternatively *via* Warren and Dubbo.
251. There is no strong desire on the part of the Railway Commissioners to extend the Mudgee line to Coonamble? No. I may say that one reason which influenced the Commissioners in regard to the line from Warren to Coonamble was this: If you make a railway from Warren to Coonamble, and some day make one from Mudgee, through some good country, towards Coonamble, the country would be so much better

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better spaced. If you made one from Mudgee to Coonamble, you would run an almost parallel line with the Dubbo line. That is one consideration which originally influenced the Commissioners when they were recommending the Warren to Coonamble line.

252. If we now make a line from Dubbo to Coonamble we rather check the extension of the Mudgee line? I think so, for the present. The original objection to it was that it would mean such a very big capital expenditure. At the same time it is the nearest way of getting from Coonamble to Sydney.

253. If a line is made from Warren to Coonamble, there is more chance for the Mudgee extension? I should think so. Of course it may be a good many years to come; but looking much ahead that would seem to be so.

254. Do the Commissioners prefer an extension from Coonamble to Walgett, or one from Narrabri? That is a matter which they have not looked at. For the present they are in favour of the railway terminating at Coonamble. They have no idea at present of going on.

255. It would be a terminus for some years to come? Yes.

256. And a good terminus? Yes.

257. And it would sweep a large circle of country? Yes, it would drain a big area of country.

258. It would take away a little of the Nevertire traffic? Yes. Another reason the Commissioners had was that they would get the traffic over a much longer length of line.

259. Is the Mudgee line now easily worked? Yes, we are having no trouble.

260. Does it require much watching? I do not think so. Naturally it is a more difficult line, and wants more attention than a line on even country.

261. At any rate it is not a good line for trunk-line traffic? We have as heavy grades on the main trunk line as we have on the Mudgee line.

262. And as bad curves? Nearly as bad.

263. There is nothing in the Mudgee branch to make it unsuitable for carrying heavier traffic than it carries at present? I do not think so.

264. Does it cost more to maintain than any other line? It costs more than a line on flat country; but we have never had the relative costs worked out.

265. If you had heavy and new traffic would the cost of maintenance become greater? I should hardly think so, unless it were exceptional.

266. Do you think the line is in a fair condition to bear increased traffic? Yes.

267. I believe some alterations have been made? Improvements have been made in the line since 1890.

268. Without expressing any preference, the Commissioners are now favourable to the formation of a line from Dubbo to Coonamble, because they want to get to Coonamble? Yes; they think the district itself justifies a railway. If the Government is in favour of a line being constructed from Dubbo to Coonamble, they also are in favour of it.

269. When you convey produce by a roundabout road, do you get the advantage of the extra length of haulage? As a rule we do. The rate per mile would not be as great on a long as on a short journey. But we should get the advantage of the longer hauling, unless it were in competitive country, where we should have to make a maximum rate. Of course we charge for the service rendered.

270. Does that apply to the Moree and Inverell line? That has not come into our hands yet.

271. The line from Moree to Inverell was, I believe, justified on the ground that, although a longer line to construct than one from Glen Innes, it was, nevertheless, easier to construct; the Department gains the benefit of the cheapness of the line, and yet it saddles the producer with extra carriage? There was not only the consideration of the cheaper cost of construction, but also the consideration of the greater service to the people living in the western district. For instance, it gives Inverell a market to the west, which is rather an important consideration.

272. The original survey from Dubbo to Coonamble was a little more to the west, and a railway reserve was made;—do you know anything about that reserve? It is a matter which the Commissioners, as a rule, would not deal with.

273. In one or two reports they have recommended that the land should be made to pay for the railway? Yes, in connection with the Lismore-Tweed line particularly.

274. If this line, which is still unalienated, could be sold on terms, and the proceeds applied to the construction of the line, we might make this line for nothing? That is the Commissioners' idea—that a railway should get some credit for the enhanced value it gives to the Crown lands.

275. Do you think they would approve of this policy being carried out? They are always in favour of it. They always endeavour to make the railway earn interest on the capital expended, and the rates are made with that end in view. If they had no interest to pay they would be able to give cheaper rates.

276. If we could add 100 miles to our railways which would cost nothing, it would help to balance the non-paying lines? The Commissioners would be pleased to support such a policy at any time.

277. They had the opportunity of referring to that matter in their report, but they do not allude to it;—do you know whether they have considered it at all? No, they have not.

278. Was their attention drawn to this reserve being in existence? I am not aware.

279. Supposing this land were sold to pay for the railway, would you recommend that the sale should be with the Railway Commissioners or with the Lands Office? I think the Commissioners would rather not enter into the matter. They would sooner see the Government take it in hand.

280. If that policy were carried out, do you think the Railway Commissioners would ask for the whole of the proceeds, or only for the excess over £1 per acre? The idea they had is that the railways should receive some benefit from the enhanced value of the land.

281. The surplus over £1 per acre would be looked upon as incremental value given to the railway? Yes.

282. And they think they ought to get that? That is their idea.

283. Supposing the land brought 20s. or £2 an acre at auction on account of the railway betterment, that extra money would go towards the cost of paying for the construction of the line? Yes; it would reduce the capital cost.

284. Possibly you might only have half the capital to pay, or none at all? Yes. I may say the Commissioners always endeavour to reduce as much as possible the capital cost of the lines, and they have done that by charging the lowest rates for the material which has to come up for the construction of the lines.

285. Supposing the proposed line, under the conditions named, were made for one half the cost, or even for nothing at all, would you give the people who send their produce over it the whole benefit of the saving,

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saving, or would you charge them the ordinary mileage rate? On new lines the Commissioners have considered the question of a system of local rates. The object of that is to make a line pay its interest. Supposing we had no capital to pay, the Commissioners would probably make the rates through rates, which would be a reduced rate for the people using the line.

286. But you would not make them below the through rate? I think not.

287. Do you think the people would be fairly served if, under these conditions, they were charged through rates from Dubbo to Coonamble? I think so; and they would be well satisfied.

288. Of course the whole of the country should get the benefit of this policy, because it is the land of the country which is sold? That is so.

289. The gain to the Coonamble people would be that they would not have to pay special rates? Yes.

290. But they could not expect to pay less than the through rates? I think not.

291. So far as the Commissioners are concerned, it is a matter of indifference to them whether the line is constructed from Dubbo or Warren? Yes; they would be quite prepared to accept either.

292. And they think the Warren line would pay them immediately, and that the Dubbo line must wait a few years before it pays? The difference, very largely, is in the less interest on the shorter line.

293. A previous Committee recommended the Dubbo line in preference to the other;—I suppose the Commissioners have had the evidence and arguments which influenced them under their notice? Yes.

294. And that may have influenced them in giving their assent to the construction of the line from Dubbo? Yes.

295. At any rate, they did not report against it in favour of the Warren line? No; they think the district is entitled to a railway, and they are quite prepared to favour the Dubbo to Coonamble line. They recognise that there are important considerations in favour of such a line, particularly the fact that it brings you 43 miles nearer to Sydney.

296. Have you eased most of the curves between Sydney and Dubbo? A great deal of work has been done.

297. You have a fairly good line to Dubbo, and one quite capable of carrying any increase of traffic likely to come upon it? Yes.

298. Is Dubbo likely to become a railway centre more and more? Yes; it is an important station now.

299. There may some day be an extension of the Parkes line towards Dubbo? That is very much ahead.

300. And there may be a line from Dubbo to Werris Creek? That also is very much ahead.

301. They are not immediately required? No.

302. They would not serve any new country to any great extent? They would open up country, but the question is whether it would pay to make them for that purpose.

303. There is no cross-country traffic of any value? Not a great deal.

304. The only cross-country line we have of any importance is one from Blayney to Murrumburrah? Yes.

305. And that has not turned out so successfully as was expected? It is a great relief, but financially it has not been a great success.

306. The original idea was that there would be an immense traffic in cattle from the north;—has that idea been realised? A great deal of traffic in cattle goes from Bourke to Albury, but no doubt the stock tax prejudiced it a great deal.

307. Did the stock tax visibly affect the traffic in cattle towards Albury? I think it did.

308. So far as cross-country line experience has gone, they are not a profitable kind of railway to make? No.

309. The construction of extensions into country not at present served by a railway is more likely to be fruitful? Yes, where the country is good.

310. And the proposed Dubbo to Coonamble line is a fairly promising one? It is.

311. *Mr. Leven.*] Is there more population between Dubbo and Coonamble than there is between Warren and Coonamble? I think there is more between Warren and Coonamble.

312. Which is the better country for cereals—between Warren and Coonamble, or between Dubbo and Coonamble? I daresay immediately outside Dubbo you would find the better country, because there is a better rainfall there. After you get a fair distance out of Dubbo the land is not so good. I do not think, however, that Mr. Harper includes any big return from cereals in his traffic estimate.

313. Do you expect the main traffic to come from beyond Coonamble, or between Dubbo and Coonamble? Beyond Coonamble.

314. What sort of traffic would come from Coonamble to Dubbo? Principally pastoral.

315. Has there been much advocacy of the construction of a line between Coonamble and Walgett? We have not heard anything about it. The Public Works Department would hear of it first. The agitation at Walgett is for a connection with Sydney *via* Narrabri.

316. Do you think it would be advisable to run our railways along the railway reserve? Naturally; if you run along Government land you pay no compensation.

317. When you send surveyors out, what instructions are given as to a starting and a terminal point? That is a matter for the Engineer-in-Chief. We simply come in when the line is handed to us.

318. Do you not make inquiries as to the best route before the surveyors are sent out? No; that is not referred to us. The station buildings and sidings are fixed by the Commissioners, but the location of the line is determined by the Government after the Public Works surveyors have reported.

319. Does not the Public Works Department confer with the Commissioners as to which should be the starting and the terminal point? They would confer as to the terminals, but not as to the direction of the line throughout.

320. *Mr. Shepherd.*] Do you find that accidents are more frequent on unfenced than on fenced lines? Perhaps a few more sheep are killed.

321. What is the rate of speed on unfenced lines? The maximum would be about 25 miles an hour. The original idea was to run about 15 miles an hour. Those lines are almost dead level, and you can sometimes see for miles ahead.

322. Has it been found that unballasted lines are more damaged by flood than ballasted lines? We have not had a great deal of experience in regard to pioneer lines. That, however, is an engineering question. As a matter of fact, we have had some experience on the Moree line. We strengthened the line a little, more particularly on account of the traffic becoming heavier than we expected. The engineers, I believe, did not think that it in any way prejudiced the line.

323. Are the Railway Commissioners supposed to make good the stock destroyed by the trains? If they were

were destroyed through our carelessness I think we should do so. I do not think the question has ever been fought out. Still, as we have power to run unfenced lines, and we exercise every reasonable care, we should hardly be legally responsible.

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324. *Mr. Watson.*] Have you had many claims against you? Occasionally we have claims on account of animals being killed, but we have not had a great number.

325. *Mr. Levien.*] I understand that when Mr. Lyne was Minister for Public Works, he informed a deputation that he advocated the proposed route, but thought the Dubbo to Werris Creek line should be constructed first;—I suppose the Railway Commissioners have some knowledge why Mr. Lyne said that? No. Of course the Railway Commissioners do not enter into matters of policy.

326. Then you do not know upon what ground Mr. Lyne founded his observations? That probably would be the opinion of his Government, or his individual opinion.

327. *Chairman.*] Has the question of removing starving stock come before the Commissioners? Yes, so far as the existing lines are concerned.

328. The line under consideration would be of little use in connection with the removal of starving stock? It would—the country between Dubbo and Bathurst being fairly good. The country on the other side of Coonamble is in a bad state. You could probably get cattle to a better and higher country.

329. *Mr. Watson.*] I understand that the Commissioners would obtain some benefit if the Warren route were constructed, and a greater portion of the existing line would be used for the conveyance of goods to Sydney? Yes.

330. Would it not be possible, if there is a good land between Dubbo and Coonamble, that a larger amount of local traffic would ensue from having a greater area of country to tap? Yes. If you had good agricultural land from Coonamble to Dubbo no doubt you would get a good local business all the way; but, as a rule, local business does not pay. It is the through traffic which pays. For instance, Coonamble would be the centre of a big area. You can get an idea of our local business on the lines from Blayney to Harden, which, to a large extent, is serving local interests only. It is very good country—better than you will find between Dubbo and Coonamble, and yet there is a big loss on the line.

331. Might not that be due to the heavy character of the country through which the line passes? Yes; the cost of the line was heavy, but, as a rule, it costs more to construct a line through good country than through flat pastoral country.

332. And that is really the objection to the extension from Mudgee to Coonamble? The Mudgee line would be longer, and would go through more expensive country, although better producing.

333. Do you think the fact that Coonamble being 40 miles nearer Sydney, *via* Dubbo, would have any effect in increasing the total through traffic? I would not like to say that it would develop more business; at the same time it must be admitted that that would be an economical advantage to the local people.

334. Occasionally people would be encouraged to send stock by Dubbo, as the extra 40 miles of carriage might cause them to think twice before going the other way? I would not like to say that it would really turn traffic one way or the other.

335. Is it not a general rule that the cheaper the means of access to market the greater is the development of the back country? Yes.

336. As a general principle, it is wiser for the Commissioners and the Government to give the cheaper means of reaching market? The Commissioners would admit that. There is certainly a strong local advantage in that regard.

337. And also a national advantage in the development of the general estate? Yes. I do not suppose the difference in rate between Coonamble-Dubbo-Sydney and Coonamble-Warren-Sydney would, on wool, be 5s. per ton, and that would not be likely to develop traffic.

338. If the through trade is to be confined to wool, it would not make much difference in the way of encouraging the production of it? No.

339. But if we found later on that through the development of the artesian-water system irrigation could be undertaken, I should imagine that on the class of produce, which would then be sent over the railway, the reduction might be a considerable amount? Produce is a commodity which cannot stand a great deal of carriage. Of course there would not be 5s. a ton difference in produce, but even 1s. a ton in the carriage of produce is some consideration. Certainly the shorter route has many advantages from the local point of view, as well as the national point of view.

340. You have stated that the Commissioners would prefer that some amount of the betterment accruing through the construction of a railway should be credited against the capital cost; in making that remark, you were not thinking only of the betterment accruing to Crown lands? That is the only thing we were dealing with at the time.

341. But in this instance, the line will, over three-quarters of its length, pass through private land? Yes; if you look at the report of the Railway Commissioners on the Green's Gonyah Railway you will find that they advocated that a certain amount per acre should be charged against land-owners, so that any loss accruing in the annual working might be made up until the line paid.

342. Do you think that is a reasonable restriction to put upon any line to open up new country? Yes; the Commissioners thought that the people generally should not be penalised, as it were, for the sake of giving a certain local advantage.

343. Therefore, they are in favour of that course being followed in respect of any new lines, their object being that the working expenses be paid each year? Yes; but they would like each case to be considered on its merits. In this case there is a big difference. The line, for instance, is supposed to pay from the start. There is very little difference between the annual cost and the traffic, and that is without allowing for any benefit which will accrue to the main line. In a case like this, I do not think the Commissioners would recommend any tax on local owners.

344. If the tax were imposed, as was done in the case of the Green's Gonyah line, it would, at any rate, be a dead letter if the line paid? Yes. The Green's Gonyah arrangement was to be made conditional on the line not paying.

345. I notice that the Commissioners have put down the interest rate at 3 per cent.;—do you think they are justified in doing that, seeing that the last loan cost us 3¼ per cent. without expenses? I think money could be got now at 3 per cent.

346. Clear of all charges? The charges are only on the initial issue, and form a very small item on a loan extending over thirty years.

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347. Do you not think that it was cutting it rather fine to put down your interest charges at 3 per cent. ? I believe that 3 per cents. are over £100 now. It is a reasonable thing, I think, for the Commissioners to calculate the interest at 3 per cent.
348. Amongst the items of estimated revenue is the sum of £1,100 for mails;—have you any idea what it costs at present to convey the mails from places which will be served by the line? As a rule, we get £12 10s. per mile per annum on such branch lines.
349. Does that apply to the main line? No; it is more on the main line. On the main line we have to run heavy vehicles purely for mail purposes, and we charge more.
350. Would it be a fair thing to put against the item for mails what it at present costs the Postal Department to serve those places? No.
351. In some instances the amount estimated to be received from mails has been a book entry? Supposing the railways were a private concern, it would not be a book entry, but hard cash. We reckon we charge a reasonable sum for the accommodation we give.
352. If the Postal Department are at present getting the mails carried for £100, and you purpose charging them £400, owing to the mileage rate, surely the difference of £300 could be fairly termed a book entry? I could not say that. You might get a man on horseback to carry the mails at a cheap rate, and it might take him a week to do it. If the Postal Department have the benefit of a better service they should pay more for the accommodation given.
353. There are instances in which the amount paid prior to the construction of a railway was about one-fifth of what the Commissioners have charged. Allowing that the Commissioners give the opportunity of a better service, there is still a wide difference between what was previously paid and what is at present paid. In that case it is hardly fair to estimate that as revenue proper? You must look upon it in the light of a railway being a commercial concern.
354. In that case the railway would be subject to the competition of any one else carrying the mails? I do not think there would be much competition; the public would soon demand the quicker service, even if they had to pay more for it.
355. Do you think the construction of the line would give an impetus to agricultural productions? It would to a certain extent, and there would be increased passengers and parcels traffic.
356. But wool and stock would be probably much about the same? They might be. Of course you might get tallow, bones, hides, and other things down, which might not pay to cart at present.
357. Has it been the practice to credit a branch line with any extra traffic it brings to a main line? No; we let each branch line stand on its own merits.
358. I notice occasional agitations for reduction of freight and passenger fares on the main lines, because of their paying character, and I should imagine, from what you have said, that if the matter were properly analysed the main lines do not pay quite as much as they would appear to pay, and should be debited with what accrues to them from the branch services? Just so. Take the suburban line out of Sydney, which is a case in point.
359. That appears on paper to do wonderfully well, and yet a portion of the traffic which accrues to it should be credited to other lines? Yes; there is no great profit in the purely suburban passenger service.
360. *Mr. Trickett.*] I notice that the Commissioners are very mild in their recommendation of the line—they simply say it is worthy of consideration? Yes; but I know that they look upon the line favourably.
361. Do they look upon the line as one which rests on its own merits, or as one worthy of extension to Walgett? They look upon it as one upon its own merits, not with any immediate idea of extension.
362. Have they given any consideration to a line from Mudgee to Coonamble? Yes; they think it is very good country, but the cost is rather prohibitive. I think it means nearly £500,000.
363. Do you think it is probable that if a line is constructed from Dubbo to Coonamble there will be a line from Mudgee to Coonamble? I do not think there will be in the immediate future. In the future, no doubt, you may have a line stretching north from Mudgee.
364. Then, if the proposed line is constructed, it may be looked upon as an intermediate line between one to Nyngan, on the one hand, and the Northern line, on the other, for many years to come? Yes.
365. You think the cost of a line from Mudgee is prohibitory at the present time? That is the idea the Commissioners have.
366. Do you propose to impose special rates on the proposed line? Yes, there would be certain local rates.
367. *Mr. Dick.*] Is it your opinion that in the immediate future the line will be extended beyond Coonamble? No; but that is a matter of policy for the Government.
368. What led the Commissioners to abandon the idea of constructing a line from Mudgee to Coonamble? Principally the question of expense. The matter was only referred to them in an indirect way, and in their opinion the cost was prohibitive. They always report on a line referred to them directly. They were asked to report on a line from Warren to Coonamble, and they recommended it. They are favourable to a line being run from Dubbo. They have a route submitted to them, and they do not care about touching on alternative routes.
369. Can you offer any opinion in regard to the construction of a line from Singleton to Cassilis? No; the Commissioners have not been consulted about it.
370. *Mr. Watson.*] Have the Commissioners been buying sleepers at Dubbo recently? Yes.
371. What have they been paying for them? The price for 9-foot sleepers would average about 8s. 3d.
372. Is that the class of sleepers which will be used on the proposed line? No; say half-round 8-foot sleepers, which can be obtained at Dubbo for about 1s. 10d.
373. *Chairman.*] According to reports, the country between Dubbo and Gilgandra will carry little population;—taking that for granted, and it is shown that the land from Mudgee to Coonamble is much better than the land from Dubbo to Coonamble, would that alter the policy of the Railway Commissioners? I think not.
374. Would it not, in the long run, pay to construct a more expensive line through good country than one through country which would not produce well? In the long run it might be better for the State; but, as a rule, local business does not pay. It is the aggregation of business from a big district which helps to make a railway pay.
375. You look upon Dubbo, then, as being a depôt for a large extent of country? Yes; and we can reach it in the one case by the expenditure of £200,000, and in the other case by the expenditure of £500,000.

376. If you could pick up a considerable traffic between Mudgee and Coonamble, and could not pick it up on the other route, would not that make a difference? It would; but not sufficient to compensate for the very much heavier expenditure in the first instance.

377. It is possible to provide for traffic, by means of a line from Mudgee to Coonamble, which will deal with the Coonabarabran country;—that being so, would you not get more traffic over the whole line which would pay you better than going through country which would not pay at all? Personally, I do not think the extra traffic would compensate for the excessive extra cost; but the matter has not been looked at by the Commissioners in the light of traffic. It has not been referred to them, and they do not attempt to collect information for themselves.

378. *Mr. Watson.*] Is there anything in the Public Works Act which prevents the Commissioners giving a report as to traffic, and so on, respecting an alternative route? The Act says the Commissioners shall furnish a report as to the traffic, which, I think, refers only to the particular route.

379. Supposing the Commissioners were requested by the Committee to give an estimate of the traffic over an alternative route, would they consider it within their functions? I think not. They would then go into matters of policy, which are for the Government to determine.

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TUESDAY, 14 MARCH, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GAREAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

John Harper, Chief Traffic Manager, Department of Railways, sworn, and examined:—

380. *Dr. Garran.*] In December, 1897, you gave evidence before the Public Works Committee with regard to the construction of a railway from Warren to Coonamble? I am not sure of the date.

381. You mentioned, then, that it would not be possible to get anything more than through rates because of the road competition, and you estimated the rates for second and third class goods at 45s. a ton? Yes.

382. Has any change taken place in railway rates since then? Not generally.

383. Then your through rates from Dubbo to Coonamble would be 45s. now for second and third class goods? No; not from Dubbo to Coonamble. My statement had reference to the proposed line from Warren to Coonamble. I desire to put in the following estimate of traffic on the proposed railway:—

*Estimate of traffic, proposed railway extension from Dubbo to Coonamble.*

In connection with the proposed extension of the railway from Dubbo to Coonamble, I beg to report that upon the basis given hereunder it is estimated that the revenue will be £11,867 per annum.

General goods in less quantities than truck loads:—50 per cent. at 5d. per ton per mile; 25 per cent. at 4d. per ton per mile, and the remaining 25 per cent. at 3d. per ton per mile.

“A” class traffic:—Local rates.

Live stock:—Through rates.

Wool:—The difference between the maximum rate from the Western line and that from Dubbo to Darling Harbour.

Summary.

Goods, stock, and wool .....	£8,526
Passengers .....	1,975
Parcels, horses, carriages, and dogs .....	250
Minerals .....	1,116
Total .....	£11,867

The average rate on the basis I have given would work out at 32s. a ton.

384. That is less than the rate from Warren to Coonamble, which was 45s.? No.

385. How is it that it is so much lower now than it was then? I do not think it has been made lower. As a matter of fact it has been made higher. I do not think I said the average rate would be 45s. a ton. You will find the details, which I gave on page 13 of the report of the Committee on the proposed railway from Warren to Coonamble.

386. Do you think 32s. a ton will cut out the road competition? That I do not know. I would not like to say that.

387. On a previous occasion a couple of witnesses stated that the road competition would be severe. For instance, Mr. Polin, a storekeeper of Coonamble, stated:—

During the last five or six years, teams have competed with the railway right on to Sydney, and goods have been delivered at Coonamble by teams for less than we could get them by rail.

Do you know whether that is a fact? We heard a lot about that matter, and if I could furnish the evidence I furnished to one of the Committees in connection with the same question, it could be seen what the amount of the competition was. Two lots of goods went from here to Coonamble.

388. Another witness, Mr. Hermann, a storekeeper of Coonamble, stated that if the Railway Commissioners adhered to the present rate, carriers must compete with them. He also stated that last year carriers went from Coonamble to Dubbo, and brought loading back several times for £2 per ton? I believe the charge is less than that now. As a matter of fact last year, goods were carried between Coonamble and Dubbo for 30s. a ton.

389. The tendency is for the road carriage to get cheaper as the roads get better? Yes; as long as you can balance the traffic you have.

390. Do you think you would be able to cut out that road traffic if you charged 32s. a ton? The rate of 30s. a ton was only in one direction, but as a matter of fact, the charge for back loading might be £2 10s. per ton.

391. Do you think you could get wool from Coonamble by rail as opposed to drays? I think so



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392. Are there not several of your extensions from which you have not knocked off the teams immediately? I cannot call to mind where it has not been done.
393. Have you not had road competition from Forbes to Parkes? We had before the line was handed over to the Commissioners, but not since. We have competition—if it can be called competition to-day—that is to say, an isolated team, which happens to be in the hands of a local storekeeper, which will travel under conditions about which we do not care to inquire, but of which we know all about.
394. You think, then, that with your rates you would get the trade? Yes; I think we shall get whatever traffic there is.
395. I suppose that in wet weather the Coonamble-Dubbo road is better than the Coonamble-Warren road? In wet weather the road between Coonamble and Dubbo is sounder than the other.
396. Then, in a wet season, you would have less reason to fear competition if a line were made from Warren to Coonamble than you would have if a line were made from Dubbo to Coonamble? Yes.
397. In both dry and wet seasons the road from Coonamble to Dubbo is a good one? I do not know, because the circumstances of a country for travelling alter so much. For instance, last year the bulk of the traffic from Coonamble came *via* Dubbo, for the simple reason that the roads, owing to the drought, were better in the direction of Dubbo than in the direction of Warren. Next year the conditions might absolutely change.
398. We are told that the country from Dubbo to Gilgandra is rather poor? So it is.
399. And that we cannot expect much local settlement? No.
400. Therefore, you will not get much local trade? No.
401. Do you expect any local trade between Gilgandra and Coonamble? Yes. There is a good deal of good land to the east of the Castlereagh, and to some extent to the west of it.
402. I suppose the trade from Coonamble will not be all through trade? No. It is a difficult thing to say what traffic will develop in a district like that. Every day the artesian water supplies are being developed there.
403. If the farmers grow wheat it will pay them to take their stuff to the railway rather than cart it from Dubbo. I think so. I think our rates would be made so favourable to them that they would find it better to carry their wheat by rail.
404. Sometimes farmers do not appear to consider spending a few hours of their time carrying their goods, if they have horses and carts ready? Our experience is that when they find out the difference between the cost they have to incur in connection with their own carriage as against the carriage by rail, they use the rail.
405. I suppose that during the last three dry seasons, road competition has fallen off? Yes.
406. There is no grass on the road? I may say we have never regarded it as competition.
407. Has there not always been a local trade on the Western line? Yes; but we have never regarded it as competition. We have never altered our rates for the purpose of meeting what, by some people, is called competition.
408. Still it has taken a certain amount of trade from you? Yes; and it has cost the country a good deal in the direction of keeping the roads in order.
409. Do you think there will be more local trade on the proposed line than there would have been on a line from Warren to Coonamble? I do not know. Personally, I think that if a line is built from Dubbo to Coonamble to-morrow the day will come when an extension will be found necessary from Warren—not necessarily to Coonamble, but to serve the Marthaguy and the other creeks in that direction—I think that if to-morrow you decide—this is simply an expression of opinion—upon the construction of a line from Dubbo to Coonamble, you will find that application will be made for an extension towards Mundooran and south of Coonabarabran.
410. That is to say that, as the country becomes settled, no one line will satisfy the entire requirements? I do not think so.
411. That, however, would not come against the construction of the proposed line if it were wanted on its own account? No.
412. Could not you very well say that, if the line as first proposed by the Railway Commissioners, from Warren to Coonamble, had been constructed, before long there would have been one required from Dubbo to Coonamble? I would not like to say that the pressing necessity has arisen yet for the construction of the proposed line. I think it is a matter for reflection as to how the area to which I have referred should be served.
413. Some people are strongly in favour of an extension from Mudgee, on the ground that although the cost would be greater, the settlement and ultimate traffic would be greater;—do you hold that view? No, I do not. I cannot conceive that the conditions are favourable at the present time for the settlement of the necessary population along that route, which will be necessary to pay the very heavily increased cost of construction.
414. Suppose we construct a line from Dubbo to Coonamble, it would still be possible some years hence for a sufficient justification to arise to warrant the construction of a line from Mudgee towards Coonabarabran? Yes.
415. Not going to Coonamble, but dealing with the district between the Northern line and the Dubbo-Coonamble line;—would not that be possible? It would be possible. At the same time we should have to consider the question how to provide for that piece of territory in the Marthaguy and Macquarie districts.
416. That is a difficult country through which to make a railway? If you run parallel with the rivers, I do not think it is difficult country.
417. Have you been over that country? Yes.
418. I suppose that crossing the rivers would necessitate heavy expense? Yes.
419. If you run between the rivers, you might keep on a high and dry ridge? Yes.
420. Do you think a line from Warren to Coonamble, and another from Mudgee northward, would suit that district better than one from Dubbo to Coonamble? I think that is a matter worthy of more consideration than I, in my official position, have been able to give it. I have been limited in my directions. The Committee have liberty to make what investigations they see fit.
421. I should like to know whether you think the construction of a line from Dubbo to Coonamble would be adverse to the future interest of lines which ought to be constructed? I submit the matter to the Committee just in the way in which it occurs to me. The Committee have the whole of the possible routes

routes under consideration, and I have not. I have only before me the two routes with which I am dealing—the Warren to Coonamble route, upon which I have already given evidence, and the Dubbo to Coonamble route. I would say, however, with regard to the intermediate country between Mudgee and Coonamble, that my experience tells me that some day a railway will have to be built there.

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422. What is the distance across country from the Dubbo-Coonamble line and the Northern line (say) to Werris Creek? The distance from Dubbo to Werris Creek is 157 miles.

423. So that there is a belt of country at least 120 miles in extent between these two roughly parallel railways? Some day or other a demand will arise for the accommodation of that wide district, even supposing we construct the line under consideration.

424. There is, I take it, a good deal of fertile land between those parallel lines;—do you think it would have to be accommodated from Mudgee or from the Northern line? I could not say. We do not know what developments are going to take place in traction and other directions,

425. It is possible that mineral districts may be discovered? Any amount of contingencies may arise.

426. Still, we may look upon it as certain that that breadth of country must be served? It must.

427. So that the construction of a line from Dubbo to Coonamble would not block the future serving of that country in any way? No; the only thing is that it would probably add to the working expenses if a line, which might be developed within easy access of the coast, took the traffic from it.

428. You refer to the connecting of the Northern line with the sea-port? Yes.

429. If that were done it might happen that communication would be made with the Northern line? That I could not say.

430. It would make it more probable? It would if the distance were shorter and the grades easier.

431. If we decide on the Dubbo to Coonamble line, we do not spoil the chances of serving that country hereafter? No; but I take it that, like myself, the Committee are anxious to do the best they can in the interest of the country. This is a very wide and open question. As I have said on previous occasions, I think matters of general policy in connection with railway construction should be submitted to the Committee for investigation. Personally, when I am giving evidence about a single line, I cannot decide whether or not that line should be built.

432. What I want to know is whether you think the Warren to Coonamble line would be less likely to block future useful extension than the Dubbo to Coonamble line? I must ask you to judge of that for yourselves, because my position is this: If the Dubbo to Coonamble line is built, you have the question of the Nevertire to Coonamble line, or the serving of that territory in the district of the Marthaguy Creek to consider.

433. The district between the line to Bourke and a line to Coonamble is not so wide a district as the other one;—it is all within easy distance of a railway station? No; as a matter of fact, it is further away.

434. If a squatter is within 50 miles of a railway station, is he not fairly well served? Yes.

435. If a line were constructed from Brewarrina to Coonamble, how many squatters would there be within 50 miles of it? Those people who occupy the lower Macquarie, the Marthaguy, and other creeks, are certainly not likely to go to Brewarrina with their produce. They would always look for communication in the direction of their market.

436. And where do they go now? To Warren.

437. And they used to go to Nevertire? Yes.

438. Then the Macquarie trade brings with it the Nevertire trade? A portion of it comes into Narromine; but I refer to the other tributary creeks of the Macquarie and the Castlereagh. They follow the line to the river to avoid crossing them.

439. And to accommodate that district a line should run in the same direction as the valley, north and south? I am not going to say that, but what I say is that Coonamble should have a railway. It is the centre of a sufficiently important district to justify the construction of a railway there. As I have not had the opportunity, personally, of investigating the whole of the routes, I should say that any route which can be found to be the best to Coonamble is deserving of investigation.

440. Supposing a line were constructed from Warren to Coonamble, it would still mean the construction of a line to the Macquarie to meet the view you have expressed? I think a westerly line would have to be built at some future time—that is, from Warren. I do not think the people holding the country on the creeks and rivers to which I have referred would be content to do without railway communication.

441. That is to say, that the Lower Macquarie must be provided for sooner or later? Yes.

442. Supposing you make an extension to Coonamble, not to Walgett, but further to the north-west, would that suit them? I do not think so, because you would miss most of the country which requires serving.

443. I mean an extension running pretty well due west or north-west from Coonamble;—would that not accommodate the country of which you have spoken? No; the country of which I have spoken would naturally send its produce to the shortest distance from the market.

444. That is to say, south of the line of which I speak? Yes.

445. None of that traffic would have to go more than 50 miles to get to Warren? People who own the traffic do not care very much about going back, especially when the traffic is to be carried by road. Of course, it is all a matter of opinion as far as that is concerned. I can only bring to bear the light of experience on the matter.

446. You do not see any strong objections to the route from Dubbo to Coonamble? No. I think that if railways are to be constructed, that is purely and absolutely as a matter of policy,—the matter is one for you gentlemen to judge of, and not for me.

447. Dubbo, I believe, promises to become a centre? Yes; but I do not see that the fact of Dubbo being a centre has any bearing on the construction of the line.

448. Mr. Jones, in a comprehensive report, proposed an extension from Young northwards to Dubbo, continuing thence to Werris Creek? He may have done so; but I can scarcely see what association Dubbo can have with the construction of a line from there.

449. That was proposed, and if it were carried out it would make Dubbo a very great railway centre? For what purpose.

450. The idea was to get across country from Werris Creek to the Southern line? But what object would be served.

- J. Harper. 451. One object was to accommodate the intervening country, another was to truck cattle to Melbourne, and another the conveyance of starving stock from dry country in dry weather? Of course that is for you gentlemen to judge of.
- 14 Mar., 1899. 452. Is not Dubbo more likely to become a centre than is Nevertire or Warren? I would not like to say that in Warren.
453. Have you travelled over the country between Dubbo and Coonamble, and the Northern line? Yes.
454. Is there a great deal of good land there? Yes.
455. Is it sure to be occupied? Yes.
456. And it must be supplied with a railway by some route or other? Most of the good land is to the east of the line.
457. Is it lying on the track of the Mudgee to Coonamble line? No; most of the good land is between Mudgee and the Castlereagh. That is good agricultural land. The good pastoral land is west of the surveyed route.
458. Then, a line north from Mudgee through Gulgong to the Castlereagh would accommodate that district? Personally—I am not speaking officially—I regard the construction of that line as a certainty.
459. Supposing we make a line from Dubbo to Coonamble, there must be some reason for making one from Mudgee to Coonamble? You will have to get over the claims of the people who live in that district. I do not know how the Coonamble-Dubbo line is going to satisfy people about Cobborah and Munderooran.
460. If a line went slightly north-east from Mudgee, would it go through good country? I do not think it would improve the character of the country a bit.
461. Is the land good? Yes; practically speaking, the greater part of the land between Munderooran and Mudgee is good. It is also good right out until you get to the Warrumbungles.
462. Where are the Warrumbungles? Approximately south of Coonabarabran.
463. Does the range run east and west? Yes, generally.
464. *Chairman.*] Have you been through the country between the proposed line and the Northern line? I have not travelled from Mudgee *via* Gulgong, and Cobborah to Coonamble. I have been in the district of the Macquarie River, and I have travelled from Dubbo, as closely as possible, to the route of the proposed railway. Prior to that I was over the road between the two places.
465. Have you been from Werris Creek to Coonabarabran? No.
466. If a line be made to Coonamble, do you expect to get the Walgett traffic along it? Personally, I do not think it will be long before the traffic goes to South Australia, if the locks are made on the river Darling.
467. You think, then, that the river navigation will be so improved that the river traffic will beat the railway traffic? I think so.
468. Do you find that the river steamers, at your present rates, undercut you from Bourke? They probably will. Of course, we are controlled by conditions, and as long as you have the trade of the river in the hands of people who are also the owners of river steamers, you are likely to have values cut to such an extent that no railway rates will meet them.
469. Are you at the present time under-cut by the river steamers at Bourke? We are, and unfortunately I am afraid that we are going to lose the whole of the south-western Queensland trade.
470. Are you under-cut at Brewarrina? Yes, whenever they have a river.
471. There are stations, then, which send their wool down the river? They have not done so for the last four years.
472. Do you think that competition will reach up to Walgett? I think so.
473. If that is the case, how is it that the lower Macquarie trade does not take to the river? They would have to go back to the river. Anything coming to the river comes in its natural direction.
474. It would pay them to go north if they could send their goods by shipload 25 per cent. cheaper? The loading would be generally in the direction of the railway. They could not carry back 25 miles so cheaply as they could carry 25 miles forward to the railway.
475. When you get any distance south of the railway, you are not afraid of the river competition? No.
476. Have you any definite feeling, as traffic manager, as to whether we should reach Coonamble *via* Warren or *via* Dubbo? My feeling is this: That as the Coonamble people to-day desire the extension from Dubbo, and as they have certain claims to a railway, they should be considered. At the same time, my opinion is that the claims of those who live in the district to the west of the proposed line would have to be considered, and so would the claims of the people to the east of the proposed line. I think that, with the powers the Committee have, they should be able to arrive at a conclusion as to what is the best thing to do.
477. But supposing we make a line from Coonamble to Dubbo, and hereafter make what you suggest—a northern line running down the valley of the Macquarie as far north as is necessary;—would not that better supply the people of the Macquarie than the mere construction of a line from Warren to Coonamble? Yes, it might probably serve the people on the Macquarie better; but there are other people who would have to be considered—the people who live north of the Macquarie.
478. You could carry the line north as far as the traffic would justify? Then you would simply run it into the other line.
479. Would not the people in that direction be accommodated by the Dubbo to Coonamble line? No; they would come into the natural drift of the traffic. It is a very involved question, and I should be glad if the Committee could solve it. As far as I am concerned, I am absolutely candid over the matter, and want to show what the difficulties are from my point of view.
480. Let us suppose that there is a line from Warren to Coonamble, and another from Mudgee towards Coonamble;—would those two lines satisfy the wants of the whole of the district between them? Until you get to the neighbourhood of Gilgandra I do not think you would have many claims pressing upon you. There is a slight difference in the rainfall between the western and more eastern country. On the other hand, they are discovering artesian water there, and they are improving the conditions of carrying stock.
481. Supposing we made a line from Warren to Coonamble, and then made a line from Mudgee northwards, there would still be a considerable piece of triangular country between them;—would they complain of want of railway accommodation? That would depend on how you ran the Mudgee line. You have a fairly good network of cross-country lines in the survey.

482. But they are not all intended to be made? No; they are all intended for consideration; and if I were in a position to discuss with you the relative merits of each, I would be able to express an opinion. I am in this position, that I have been asked to report upon a particular line.

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483. There is a large tract of country between the proposed line and one which would run from Mudgee to Coonamble;—do you think there would be any objection on the part of the Commissioners to your exploring it, with the object of giving us information which we ought to possess? I am not in a position to answer for the Commissioners. As a matter of fact they have to accept the Act as they find it.

484. Have the Commissioners ever been asked to get your report on the country, other than that which would be served by the proposed line? Not as far as the particular country which we are now considering is concerned. Of course, I take it that you do not wish to press me to disclose what are the secrets between the Minister and the Commissioners.

485. I want to know whether the Commissioners have any objection to your going, as their expert, into country other than that which would be served by the proposed line; take, for instance, the country from Mudgee to Coonabarabran, or from Mudgee to Coonamble;—if the Committee desire to obtain your evidence with reference to the class of country to be served there, and the traffic likely to be obtained, would the Commissioners object to your going there to make an examination? They would require to have regard to the Act as it exists, and that leaves absolutely in the hands of the Minister the question of determining the matter submitted to you. We have no voice in these matters at all. Certainly the Committee ought to have all these schemes under consideration.

486. *Mr. Dick.*] You recognise that the question of catering for the large area between the Western line and the northern and north-western country is a large one? It is.

487. You do not look upon a line from Dubbo to Coonamble as a full solution of the problem? No.

488. Have you been over the country from Muswellbrook to Cassilis? I have been over enough to enable me to judge of the general character of the country.

489. What is the character of the country? It is very rough country. It is not a country over which you could build a light line.

490. Do you know anything of the country between Muswellbrook and Merriwa, from a traffic point of view? No. A good deal of traffic comes in there. I have investigated that country as far as Jerry's Plains from Singleton, and I must say that the circumstances are not very favourable there for traffic.

491. What is the character of the country between Cassilis and Munderoran? There is a lot of mixed country there.

492. What is your opinion of the country from Munderoran towards Coonamble? There is a lot of good land there, but I have not examined it from the point of view as to whether it would be good land through which to build a railway.

493. If the proposed line were constructed, it would serve the tract from Munderoran to Coonamble? The people say so to-day. I do not know to what extent they might alter their opinion afterwards.

494. Have you considered, in your estimate of traffic, the possibility of that country being served by the proposed line? Personally, I do not think the traffic from Munderoran would come into the line between Dubbo and Coonamble. I do not think there would be sufficient inducement to carry goods a distance of 40 miles.

495. According to *Mr. Jones'* report, the distance from Coonamble, *via* Muswellbrook, to Newcastle, is 288 miles; the distance from Coonamble, *via* Dubbo, to Sydney, is 369 miles; if these figures are correct, and there is a distance of 81 miles in favour of the Coonamble-Muswellbrook route as against the Coonamble-Dubbo route, what effect would that have on the earnings of a railway, say in a total distance of 400 miles? If the produce were required to be taken to Newcastle for shipment—that is, if it were wool—the advantage would be about 15s. per ton. If it were stock, it would require to be sold probably at Flemington, and would, of course, have to be carried to Sydney. The market for the produce of those districts is not represented by the nearest seaport.

496. Has any officer of the Department ever gone over the route from Muswellbrook to Coonamble? No. It has never been considered by any officer of the Commissioners.

497. The grades are somewhat higher on the Northern line than they would be between Muswellbrook and Coonamble? Of course they would be very much higher on any line approaching Coonamble from the east.

498. *Mr. Trickett.*] Have you any detailed evidence as to the traffic likely to accrue to the line under consideration? I have a return which I will put in subsequently.

499. In a minute handed in by *Mr. Deane* the other day, the traffic estimate is put down at £11,867;—are those the results of your computations? Yes.

500. How far, in that estimate, do you extend your traffic to the north? I have a map, which I produce, which defines the trafficable area. It shows that the traffic would be drawn from about 40 miles north. The map shows the district 40 miles to the north of Coonamble—within 30 miles of Walgett—from which it would be drawn.

501. Do you look upon Walgett as a factor in this railway proposal? No.

502. Why not? In the first place, I do not consider that Walgett represents a very promising town for a railway centre. In the second place, I do not think the interests of Walgett are identical with those of Coonamble, and I do not suppose they ever will be.

503. From how far on either side of the proposed line do you think the traffic will be gathered? It will vary. I could not give a reply in specific terms.

504. How far from Dubbo to the north do you expect to get the traffic? About 12 miles. There is practically no traffic within that distance.

505. Do you think that the anticipated trafficable area will, in any way, conflict with other lines (say) for instance, the Narrabri line? No; it will not divert any traffic from there. It might bring in stock from Narrabri. The people about Munderoran claim that that line would serve them, and that they will come in to use it; but I have my doubts about it.

506. Why will they not? It is too far.

507. What distance? Some of the country is over 40 miles away.

508. What are your views as to the character of the country to be served by the proposed railway? A good deal of it is very rough and bad; that is, between Dubbo and Gilgandra. The country is very patchy along the proposed line. Going westward and northward it improves.

509.

- J. Harper. 509. How does the character of the country compare with that of the country between Warren and Coonamble? For pastoral purposes, as we understand pastoral country, there is simply no comparison. The comparisons are all in favour of the country between Warren and Coonamble; but for agricultural purposes, as we understand agriculture to-day, the Dubbo to Coonamble line offers the greater advantages.
- 14 Mar., 1899. 510. By reason of soil and climate? By reason of soil, so far as we know it.
511. If the proposed line of railway were constructed, would it result in any increase of revenue to the main or Western line of railway? No; it would result in a diminution of revenue.
512. Why? For the simple reason that a certain amount of traffic would be drawn from the already-constructed line from Nevertire to Dubbo. A certain amount of traffic will be drawn, and will go on the line from Dubbo to Coonamble.
513. Then it will result in a diminution of traffic in that direction? Yes.
514. To any appreciable extent? I have dealt with the matter in my estimate. I think it represents a difference of about £2,000.
515. That is rather a serious item? It is certainly one deserving of consideration.
516. The line, I believe, is estimated to pay working expenses? Yes, approximately.
517. Have you formed any opinion as to the probable expansion of traffic? No.
518. *Mr. Watson.*] I understand you to say that your estimate of the loss which would accrue to the main line, in the event of the branch being constructed, is about £2,000? I am only speaking from memory, but I will supply the Committee with an estimate.
519. Does that include the Western line and the Mudgee branch? No; it is the net result. As far as the Mudgee line is concerned, there would be a profit by the haulage over a greater portion of the main line. That is where the matter is rather intricate. For any traffic to be drawn from the Mudgee line you have to give the proposed line credit.
520. The estimate of revenue supplied by Mr. Deane shows that the receipts from freight will be £8,526; passengers, £1,975; parcels, £250; mails, £1,116; total, £11,867;—is that on the basis of through or local rates? Local rates.
521. You anticipate that it will be possible to collect local rates? I think we shall, generally speaking, be able to get local rates.
522. So that to the apparent loss of some £1,300 we should probably add the loss accruing to the main line? No; that estimate is absolutely the net result.
523. Inclusive of the probable loss on the working of the branch itself? Yes; there are no deductions to be made from that. The only thing I have to assume is that the local rates will be paid; but, as far as the figures are concerned, they represent really the absolute carriage we might anticipate on the line.
524. Leaving out of account any increase of traffic which might be brought to the main line, the net loss, through the construction of the branch, will be about £2,000? Yes.
525. Do you think there is likely to be much development in agriculture in the country through which the line will pass? I should say so. Our rates will be low enough to permit of it. There is a lot of good agricultural land.
526. Although we were informed by Mr. McLachlan that local traffic itself does not pay, I take it that if local traffic could be created it might increase the carriage on the trunk line? It would pay by reason of its encouraging the settlement of a greater population, and everything incidental to it.
527. And this loss might possibly be made good if there were a large increase of agricultural production due to the construction of the branch? Yes; but I want you to carefully weigh the question as to whether this is the proper direction for a line to develop agricultural settlement.
528. I understand you to say that there is no probability of an agricultural settlement for the first 30 or 40 miles from Dubbo? Thirty miles—until you get to Coolbaggie Creek.
529. Is there any good agricultural country from there to Gulargambone? It is good so far as chocolate soil is concerned.
530. You think it is wise to keep the line as near as possible to the river? I think so, for the purpose of serving the agricultural areas on the east.
531. So that the difference of a mile or two may be of importance in that connection? Yes, in the carriage of wheat.
532. I believe that the artesian area, so far as it is known, comes as far south as Gilgandra? I may mention that there is a bore at Warren, and also one on the Marthaguy Creek. The existence of artesian water has been proved in that part of the country.
533. I believe that the country between Gilgandra and Coonamble is assumed to be within the artesian basis? Yes.
534. Do you think there is any possibility of increased production by using artesian water in the district? It is quite possible to produce, but I do not know whether it would be a successful method of production.
535. It is not being tried on a large scale? No.
536. Of course, on a small scale it would not mean much, as far as railway traffic is concerned? No.
537. I take it that in the growing of lucerne and the watering of stock the distribution of artesian water might have a good effect on the pastoral industry? Yes.
538. Do you think the country to the west of the proposed branch is susceptible of improvement in that way? Personally, I look to the greatest pastoral future of the country west of the proposed line.
539. Amongst the expenses incidental to the construction of the line is a charge of 3 per cent. interest on the capital cost;—do you know whether that amount has been fixed by the Railway Commissioners? It is the usual amount adopted by the Commissioners.
540. Have you borrowed any money lately at 3 per cent.? I think so.
541. I believe some local loans were raised at 3 per cent.? Yes.
542. But the last London loan was at 3½ per cent.? I think 3 per cent. is a fair thing, because of the security which is given. As a matter of fact, if the railway were to be given as security for the loan, we could raise the money at 3 per cent.
543. Do you think that if the Railway Commissioners were borrowing on the security of their own property they could borrow money at that rate of interest? Yes.
544. *Chairman.*] I believe you went with Mr. Deane through the country traversed by the proposed railway? Yes.

545. Could you corroborate the following expression of opinion by Mr. Deane: that without expressing any opinion as to whether preference is to be given to the Warren-Coonamble, or the Dubbo-Coonamble route, the latter is very satisfactory? I would rather not say anything about it. I would not like to place myself in the unpleasant position of differing with Mr. Deane over the matter. J. Harper.  
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546. In part of their report, the Railway Commissioners state that Coonamble and surrounding district is entitled to railway facilities? I quite agree with that.

547. They further state: "And as the previously-proposed connection from Warren has been rejected by the Public Works Committee, we think that the route at present under review is worthy of consideration";—it is simply worthy of consideration, then, because the Public Works Committee discarded the Warren-Coonamble line? Yes; it was regarded by each and all of us who were on that particular journey that a railway to Coonamble was justifiable.

548. But the route from Dubbo to Coonamble was only justifiable on account of the rejection by the Committee of the route from Warren to Coonamble? No. That became the route which the Commissioners had to report upon after the rejection of the Warren to Coonamble route, and they thought so much of the claims of the Coonamble district that they said: "We consider that Coonamble is entitled to a railway, and that the claim of a route between Dubbo and Coonamble is entitled to consideration."

549. They did not express any opinion as to the preference of one over the other? No.

550. So that if the Committee rejected the proposal before them, and another Committee had to deal with a proposal to construct a line from Mudgee to Coonamble, the report would be somewhat similar to theirs? Of course that would depend upon what decision the Committee arrived at. To my mind it indicates that the question is an open one, and requires to be approached with a good deal of caution. I may mention, as illustrating how opinions differ, that the late Committee recommended that the proposed line between Dubbo and Coonamble should be kept more to the west for certain purposes. We, in passing through that district, after carefully regarding all the circumstances, and obtaining as much information as possible, came to the conclusion that it should keep more to the east.

551. Why did you come to that conclusion? For the reason I have tried to indicate, namely, that the better land, from an agricultural point of view, is to the east. Every mile you get further east, the better opportunities you give the people engaged in agriculture. It only shows how opinions will differ.

552. The further east you go, the more suitable is the land for closer settlement? Yes; you get into a better rainfall.

553. Therefore, in order to split up that country between the main Northern and the Western line, a line further east would be more likely to be useful? It would serve the bulk of the settlement. The country to the east represents the best agricultural land.

554. You say that you have been from Mudgee to Coonamble? Yes.

555. And it struck you that it was better adapted for small farming than the country west? Yes.

556. Have you any knowledge of the country east of that—the Coonabarabran country? Yes. From Coonabarabran north, you get into very bad country indeed—it is all brigalow scrub. To the north-east, in the direction of Gunnedah, the greater portion of the country is bad and indifferent. In a north-westerly direction towards Pilliga it is indifferent. About Coonabarabran there is some good country.

557. Do you think the construction of a railway to bring any traffic from Coonabarabran would be warranted? I do not think so.

558. Looking at the map it would appear as though the better way to split up that country would be by going from Mudgee to Coonamble? But the Mudgee line would not bring in the traffic.

559. If a line were constructed from Mudgee to Coonamble, could not a cockspur line be run out to Coonabarabran? Personally, I do not think it would be a desirable thing, in view of the difficulties of grade. It would be a very expensive matter to make a line from there.

WEDNESDAY, 22 MARCH, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.

The Hon. ANDREW GARRAN, LL.D.

The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.

ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

The Hon. George Henry Cox, M.L.C., sworn, and examined:—

560. *Chairman.*] I believe you gave evidence before the Sectional Committee appointed to inquire into the proposal to construct a line from Warren to Coonamble? Yes.

561. Did you make a statement on that occasion? Yes.

562. Do you wish to make a statement with reference to the present proposal? The statement I would make would be almost similar to the one I made then. Before the line to Mudgee was constructed a league, called the Mudgee Railway League, was instituted for the purpose of urging upon the Government the construction of a railway from Wallerawang to Walgett. A line to Mudgee was never contemplated *per se*. It was considered that the line from Mudgee to Walgett would be the Great North-western line—not a branch line at all—and would give access to the metropolis for that very large tract of country between the Namoi on the one side and the Bogan on the other. I shall endeavour to show the Committee that the claims of a Mudgee-Coonamble line are very much greater than those of a Dubbo-Coonamble line. In the first place, I may state that the distance from the metropolis to Coonamble would be lessened 30 or 40 miles by going through Mudgee rather than by going round through Dubbo. That is a matter of very great importance. When the Railway Commissioners were questioned about the matter, they were merely asked whether they thought Coonamble was entitled to a railway, and they replied that it was. We can easily understand that when the Commissioners speak in that way they do not so much consider the benefit to the people of Coonamble as the benefit that would result to the railway system. If the Coonamble people were compelled to pay for an extra 70 miles carriage one way, and an extra 30 or 40 miles

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miles carriage another way, it would mean, of course, so much money into the pockets of the Commissioners, but it would not be very profitable to the inhabitants of Coonamble. A line from Mudgee to Coonamble would be almost a straight line. If you put a ruler across the map you will see that from Sydney to Walgett by way of Mudgee, Cobborah, Mundooran, and Coonamble is almost a straight line. If you go round by way of Blayney, and then on to Dubbo, you make the distance 30 or 40 miles extra, for which the Coonamble people would have to pay for all time. I may state, in passing, that I am aware that some business people of the Mudgee district are somewhat opposed to the extension of the railway. That, of course, one can understand, because they have an idea that the terminus means a certain business to them for all time. All those who are connected with pastoral or agricultural pursuits, however, are strongly in favour of the extension. The reason is this: That instead of having, as they have now, but one market, they would have two markets—a market to Sydney and a market, at other times, to Coonamble. To show what an advantageous thing that would be at times, I may mention that, in 1888, we had a very severe drought. The earlier portion of the year had been a good one for agricultural purposes, and, as a consequence, we had very heavy crops in Mudgee. Crops of hay were being sold in Mudgee at 30s. a ton. At the same time, at Coonabarabran, which is only 143 miles away, they were fetching £20 a ton. It was almost impossible to carry hay from Mudgee to Coonamble, as, owing to the want of grass and water, the country was like a desert. I should like to refer to the unfortunate position in which the Mudgee line has been placed. When the Mudgee line was first surveyed, the surveyors went along the present mail-track. Of course, it can easily be understood that railway surveyors prefer a nice road for the horses and carts and other paraphernalia rather than broken country. They followed the main trunk road to Mudgee. They found that the descent into the Mudgee Valley was so steep that they would have to hark back. Consequently, they came back as far as a place called Ilford. There, they struck off at right angles to Rylstone. When we saw the plan we deprecated any such extreme angle as that, and waited on Mr. Whitton, to ascertain whether some deviation could not be made. We pointed out to him the position, and he said he thought it was possible that they might make a more direct line. We found out, unfortunately, that this was about the worst thing we could have done. We induced the Commissioners to send out surveyors, and they took a direct line through the valley of Capertee. The line over the Capertee Valley crossed a series of little hollows just under the rocky wall of the mountains. The formation was a jumble of rock, clay, sand, and gravel, all mixed together, and falling over the mountain side at an angle of about 45 degrees. When cuttings were made it was found that when the rain came the material slipped, and filled them up at once. Then the Government had to make another sub-contract with the contractor that he was to make a certain slope. This was done; but that was not sufficient, because the angle being 45 degrees the material still kept falling in. In the Capertee Valley there is a succession of ridges and valleys. All that the contractor had to do was to cut through one hill and fill up the next valley. In the specification, however, no provision was made for culverts. The result was that they had to make other contracts for the construction of culverts. That added very materially to the cost. Who was to blame, no one knows. I think very little was known by the community—that such a blunder had taken place. At last the railway was constructed, and the first heavy rains which came slipped all the cutting into the valleys, and filled them up. This occurred over and over again, and at last the Commissioners had to move the line further out of the way of the slips. The result is that now the rails, instead of being underneath the cuttings, are at the edge of the bank, and if a rock falls down, it falls on the old cutting, and no harm is done. The line now is perfectly safe; but this has all caused enormous expense and loss to the community. The loss in running the Mudgee railway line is, I think, about £20,000 a year. About £500,000 more was spent on the line than ought to have been spent. £500,000 at 4 per cent. means £20,000 a year. If the line had been constructed properly in the first place, it would have now been paying. It has, however, been handicapped with this extra cost, and is a loss to the country to the extent of £20,000 per annum. The only way to remedy this is to extend the line, and to get more traffic upon it. With more traffic upon it I believe it would be a paying line. If it were extended to Coonamble, I feel sure the extra traffic would make it pay. I may mention that even now the £20,000 a year to which I have referred is being gradually decreased, because the line would carry more traffic every year, and the loss which has been sustained hitherto is gradually decreasing. Mr. R. E. Jones was sent by the Government in the year 1890 or 1891 to make an exhaustive survey of the whole of the country to the westward. He had about twenty-three lines of railway to report upon. He sent in an exhaustive and well-written report. He stated that a line from Mudgee to Walgett, a distance of 210 miles, would cost £943,000. Since that time further estimates have been made, and the cost, I think, has been reduced to about one-half. Instead of costing £943,000, it would cost somewhere about £500,000. Mr. Jones, in his report, states:—

This is the first scheme under review to open up the large tract of country existing in the north-west. From Mudgee for 100 miles this line passes through undulating country, a large percentage of which could, if needed, be brought under cultivation. The district between Mudgee and Gulgong is well known for its agricultural products and fruit, especially grapes. The Goodiman Hills (the great dividing range of the Colony), lying between Gulgong and Cobborah, are at present unproductive to a large extent, but there is a fair amount of settlement towards Tallewang, with many patches of good land. In the valley of the Talbragar the soil is first class.

I may mention that since this report was published there has been a large increase of population on the Talbragar, and a large area of country is under cultivation. One selector who went on the Talbragar four years ago had 200 acres of wheat under crop last year, which gave a return of over 20 bushels to the acre. His neighbour had something like 50 acres of wheat, and so on all over that part of the country. This wheat, I need not say, was not grown upon the black soil of the Talbragar plains, but on the red soil—the gentle rises which run from the black soil. The black soil is not cultivated—only the red soil.

563. What is the area of the red-soil country? There is a large extent of it. About Cobborah there are some miles of this fine red-soil country. A great deal of it is now cultivated, and the people make it pay, but they take their wheat, not to Mudgee, which is about 50 miles away, but to Gulgong, which is only about 30 miles away. A mill has recently been put up there, and a large trade is done. A Mr. Young put up a mill two years ago, and I believe he has done remarkably well. After you leave Cobborah there is a piece of poor, scrubby country, with some good timber upon it. Then when you get towards Mundooran you get into very fair country—timbered country, with good soil for agriculture, on the banks of the Castlereagh. Crossing the Castlereagh you get into some really good country again. Here and there there are some ironbark ridges with good country between. Eventually, when you get down

down towards Goorianawa, you get into the fine black-soil country right up to Coonamble, but it is not so suitable for agriculture as the red-soil country. Mr. Jones gives a very fair description of the country right away to Walgett. On page 23 of his report he refers to the country which would be opened up by the Mudgee to Walgett railway. He is, however, a little mistaken in his remarks. He states that Coonabarabran, Goorianawa, and Calga, and other places only 78 miles from Gunnedah, send their wool to Gunnedah. That is a mistake. They send it to Mudgee, 150 miles away, because sending it to Gunnedah means sending it away from Sydney. They prefer, having put their bales upon the waggons, to send it to Mudgee, towards Sydney. The Coonabarabran traffic is with Sydney. Mr. Jones sums up his report as follows:—

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Mudgee to Walgett.—It will divide almost equally the unserved country, so that on either side nearly all will be within the influence of existing or proposed railways.

Will serve a present population of nearly 16,000.

I am sure the population has increased very considerably since then.

Will pass through the following important towns:—Gulgong, Coonamble, and Walgett, while Coonabarabran will be well served, also many other smaller townships, and the rising mining centre of Stuart Town.

Will develop the important agricultural resources of Gulgong. The Talbragar Valley, Warrumbungles, and Coonabarabran.

Will have a large fat-stock traffic, embracing as it does within its influence close upon 5,000,000 sheep, exclusive of any from Queensland, and as the Mudgee line is the shortest and most direct route to Sydney, it is not too much to assert that it would be taken advantage of more so than any of the other projects, all of which have a longer mileage to the metropolis.

Includes within its trafficable sphere about 12,000,000 acres, of which 9,000,000 are still unalienated.

Will give an increased value of at least £700,000 to Crown lands available for settlement at the expiration of present leases, leaving but £243,000 as the cost of the railway.

Will bring the present expensive branch to Mudgee into full use.

Mr. Jones has a very strong idea that the Crown lands will be very materially increased in value by the construction of a railway, and he contends that when those lands are disposed of, a certain proportion of the expense of the railway should be attached to those lands. He states, on page 2 of his report:

The most valuable factor, however, for consideration is the enhanced value given to all unalienated land within a reasonable distance of a railway—entirely due to the speedy and valuable transit facilities afforded by the latter. Why should persons on the usual conditions obtain land, the value of which is often doubled or trebled by the existence of a railway, and the State be expected to make and maintain such line at a loss? I certainly think that all unalienated lands within 20 miles of pastoral railways should be valued and converted into special areas, the increased amount over the payment that would be received were the line non-existent could be easily ascertained, and, if deemed advisable, credited to the cost of constructing the railway. This is no new idea, as may be seen by the following extract from the Railway Commissioners' Report, dated December, 1888.

I think in the recent legislation of the Legislative Council this was to some extent carried out. The Legislative Council insisted that the people benefiting by the construction of railways should contribute a certain amount so as to prevent any loss to the community. That system will be carried out in connection with the Koorawatha-Grenfell and The Rock to Green's Gonyah lines. Mr. Jones mentions the number of children at school along the route of this particular line at something like 4,000. I am quite sure that in the last eight or nine years that number has increased 50 per cent. There is much more settlement on the land. It is agricultural land, and will support a very large population. It has a fair average rainfall, and it has proved during the last year or two that it can grow large crops of wheat. No doubt that particular part of the country was highly favoured last year, for the crops were exceedingly good, with the result that the farmers of the district are now living under very favourable conditions. When Mr. Harper, of the Railway Department, was examined, he apparently ignored all the traffic which would be gained by this line, because Mr. Jones, in his report, says:

In trying to form some idea of the traffic for a line to Mudgee, I find the wool tonnage for existing sheep would be 2,044 tons, to be carried an average of 50 miles; 4,613, 143 miles; and 4,994 tons from Walgett, 210 miles.

Of course the traffic from Walgett we leave out, but 2,000 tons and the 4,600 tons would come to this particular line. No doubt it may be said that some of it comes now. The traffic comes now from near Coonabarabran all the way to Mudgee. I think, however, it is unfair to put it in that way, because those people who will bring their teams that long distance—150 miles to Mudgee—are perhaps able to do so, because wool is a valuable commodity. It would, however, be impossible for farmers to bring their produce that long distance. When you once get beyond Talbragar, about Cobborah, it ceases to pay to grow wheat. There are, however, large areas in the neighbourhood of Coonabarabran and about Munderoran which are very favourable to the growth of wheat.

564. Do you know the country between Dubbo and Coonamble? Yes; after you leave Dubbo the country is very poor indeed. Directly you get across the Talbragar you get into a miserable piece of country—poor, stony, sandy country, utterly useless even for pastoral purposes.

565. How far does the poor country extend? Right away until you get to the Marthaguy Creek, near Gilgandra. From there onward there are patches of inferior lands, but, generally speaking, it is good.

566. How does it compare with the land more to the eastward? After you leave the flats of the Talbragar you get into poor country until you get near to the Castlereagh.

567. *Mr. Watson.*] How do the grades on the Mudgee line compare with the grades between Wallerawang and Dubbo? I think in one particular place they are somewhat heavier; but the line between Wallerawang and Dubbo has been recently regraded. There is one place on the Mudgee line where the grade is somewhat steep. After leaving Rylstone you go over a gap, and the small engines used on the line have as much as they can do to drag a train.

568. That grade would be against the load to Sydney? Yes; but it can be obviated by a very slight deviation.

569. Would not the cost of construction between Mudgee and Cobborah be pretty heavy? No; it is undulating country. With the exception of the Goodiman Range it is fair country for railway construction.

570. The evidence already given is to the effect that the cost of construction between Mudgee and Gulgong, and, perhaps, to Cobborah, would be extremely high? That is not the case. I think it would cost more than we are at present expending on level lines—£2,000 a mile. No doubt it would cost £3,000 per mile, because the country is not level, but undulating. When you once get on to the Talbragar, and with the exception of a little ridge after you leave Cobborah, you are on a level grade all the way to the Darling.



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571. Where are the ranges known as the Warrumbungles? That is an isolated range north-west of Coonabarabran.
572. Do you know anything of the amount of Crown land between Mudgee and Munderoo, along the proposed line of railway? I only go by Mr. Jones' reports. He says that out of 12 million acres there are 7 million of Crown lands.
573. That report was made in 1890, and there will have been considerable alterations since then? Yes; in the way of selection, no doubt.
574. Do you think the present loss of £20,000 per annum on the Mudgee line would be made good if that line were extended to Coonamble? Yes; the Railway Commissioners have come to the conclusion that it is better to take railways into agricultural than into pastoral country. In pastoral country you get the whole of the traffic in three months of the year, whereas in agricultural country you get a certain amount of traffic the whole year. Although the railways charge less to carry farm produce than to carry wool, it pays the Department better to go into agricultural than into pastoral country. I feel sure that the agricultural industry would increase enormously if the Mudgee railway were extended.
575. You think there will be an extension of wheat-growing beyond the Talbragar if the Mudgee line is extended? Yes; I feel sure that the £20,000 now lost on the Mudgee line every year would be gradually wiped off. It is being wiped off even now, because agriculture is increasing to a large extent. I feel sure that with an extension of the line the loss will eventually be wiped out.
576. Do you rely for the extinction of that loss solely upon the extension? It would come much quicker with it.
577. You think the extension would help to extinguish the loss? Yes.
578. We have it from Mr. McLachlan that local traffic, which, I presume, would be the leading feature of the line, does not pay to any material extent? They all say it does. If you speak to the Railway Commissioners about the apparent invidious way in which they treat pastoralists as compared with agriculturists, and tell them that the agriculturists pay such very low rates, which must entail a loss, they reply that no produce is carried at a loss.
579. I understood Mr. McLachlan to say that local traffic, generally speaking, did not pay, as there was so little of it; if that is correct, it is an important factor in the proposition which you are advocating, because it would be mainly upon local traffic that you would depend to make good the extra cost of construction involved in the longer length of line? If we are gradually decreasing the loss on the Mudgee line, it shows that the local traffic does pay. The loss in the first instance was £30,000, and it is now £20,000 per annum. That shows that the local traffic does pay.
580. I understand you yourself to say that there is a considerable amount of traffic accruing to the Mudgee line which is through traffic; according to my understanding of Mr. McLachlan, local traffic would mean traffic which accrues to the line between Mudgee and Wallerawang; the terminal traffic would be regarded as through traffic? The traffic between Wallerawang and Mudgee amounts to next to nothing. That part of the line goes through an almost uninhabited country.
581. The statement of Mr. McLachlan was that, generally speaking, local traffic does not pay, and that the construction of the extra length of line would only be justified on the score that it would attract sufficient local traffic to make good the difference? I contend that the extension of the line would so add to the agricultural traffic that it would pay, and pay well.
582. You think, then, that the construction of the extra length of line would be justified? Yes. There is good agricultural country right away to Coonabarabran. There is good soil, and there is a good rainfall.
583. Are you charged through rates from Mudgee to Sydney? Yes.
584. Notwithstanding the loss? Yes.
585. I understand that, as a general rule, local rates, or extra charges for a local line, are imposed in cases where those lines do not pay? The pastoralists have to pay pretty smartly for the carriage of their wool from Mudgee to Sydney. They could not possibly carry by teams; therefore, they have to put up with it.
586. You think that they pay extra as compared with the smaller distances on the western line? Yes. It costs them 30s. a ton to send their wool from Mudgee to Sydney. It only costs 8s. 9d. a ton to send hay or wheat the same distance.
587. That distinction applies to all the lines? Yes.
588. What I want to know is whether there is a greater charge per mile between Mudgee and Wallerawang than over a similar distance on the western line? I could not say.
589. You say that a line from Dubbo to Gilgandra would, for the first 40 miles, pass through inferior country? Yes.
590. Is it a fact that by taking the line a little further to the west, *via* Gilgandra, better country could be obtained? That I could not say.
591. *Mr. Dick.*] You state that the line you favour, from Mudgee to Coonamble, and thence on to Walgett, is designed to serve that tract of country between the Bogan, on the one side, and the Namoi, on the other;—have you ever considered that that country, from a geographical point of view, seems designed to find an outlet for its produce at Newcastle? It does not seem so by the present course of traffic. As I have stated, the produce from the north of Coonabarabran, instead of going into Gunnedah, goes to Mudgee.
592. You have stated that the distance from Coonamble, *via* Dubbo, to Sydney is 30 or 40 miles less than the distance *via* Mudgee? Yes; it means that the Coonamble people would have to pay for all time for an extra 30 or 40 miles of line.
593. Reasoning in the same way, I would point out that the distance from Coonamble, *via* Muswellbrook, to Newcastle is 60 miles shorter than the distance from Coonamble, *via* Dubbo, to Sydney;—do you think, other things being equal, it would be more advisable to connect Coonamble with Newcastle than with Dubbo? No; as a rule nearly all the traffic centres in Sydney. Two-thirds of the wool now grown in the country goes to Sydney. If it went to Newcastle it would come on to Sydney.
594. There is a good deal of wool shipped from Newcastle? And a large quantity comes from Newcastle to Sydney.
595. Does no wool go from Baradine and that district to Gunnedah? All that wool comes from Mudgee. The Goorianawa, Calga, and other brands all come to Mudgee.
596. *Dr. Garran.*] You say that the black soil will not pay for cultivation? No, it is too deep; it dries up too quickly. There is no bottom to it.
- 597.

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597. Is the country between Warren and Coonamble black soil? Yes.
598. Does it grow wheat? No.
599. Then a railway there would not develop cultivation? No.
600. Supposing the Dubbo-Coonamble line is made, do you think it will prevent the line from Mudgee being extended hereafter? I am afraid it would materially interfere with it.
601. Do you think, if the Warren to Coonamble line were made, it would prevent the extension of the Mudgee line? No; but it would have the effect of saddling the unfortunate Coonamble people with an extra 70 miles of trainage for all time. In addition to that, there are no less than thirteen creeks between Warren and Coonamble which will have to be crossed.
602. I understand your advocacy of the Mudgee extension is not so much for the sake of Coonamble as it is for the sake of the intervening country? Yes.
603. If we had an extension from Mudgee, would it not be as well to keep midway between the two lines shown on the map as much as possible? It would do so.
604. How far is it across country from Cobborah to Dubbo? About 50 miles.
605. How far is it from Cobborah to Werris Creek? About 150 miles.
606. Then Cobborah is not midway between the two? No.
607. If we went from Mudgee, would it not be well to go to the east? The difficulty would then be in the country. The difficulty in making a railway from Dubbo or Wellington is the ridges at the head of the Coolah Creek.
608. You can go from Mudgee to Coolah without difficulty? Yes.
609. But you could not go north? No.
610. I understand you to say that north of Coonabarabran there is the Warrumbungle Range? That is only an isolated ridge.
611. Can you go round it? Yes.
612. How would the country between Mudgee and Coonabarabran do for a line? That, excepting that it makes the line somewhat longer, would be better, because on the river at Coonabarabran there are pieces of exceedingly good country, although at the same time there is some very bad country.
613. Supposing we went from Mudgee to Coonabarabran, we could still go to Coonamble if we liked, or direct to Walgett? Yes.
614. And we should not go very far from Coonamble then? No; but Coonamble is a more important centre than Coonabarabran.
615. A natural centre? Yes.
616. We could go from Coonabarabran to Coonamble? Yes.
617. If a line were made from Mudgee to Coonabarabran, and then to Coonamble, what then? It would simply mean so much longer for the Coonamble people to travel.
618. What about the intervening country? There would be no great traffic.
619. Is the country between Mudgee and Coonamble by the direct line distinctly superior to the country further east? Yes. About Coonabarabran there is some very good land, and also some exceedingly inferior land.
620. The Coonamble people, I suppose, are getting a little impatient? Yes.
621. If the line from Warren to Coonamble had not been reported against, I suppose it would have been constructed by this time? I can assure you that the Coonamble people have always been in favour of being connected with Mudgee.
622. They seem to be ready for any line? Any line if they can get it. Some time ago there was a league there, and the whole of the people were in favour of being connected with Mudgee rather than with Dubbo.
623. But were they not in favour of the Warren line then, whilst now they are in favour of the Dubbo line? They would much sooner be connected with Mudgee and Cobborah than with Dubbo.
624. Do you not think that it will take a much longer time to make the Mudgee to Coonamble line? No doubt, because it would be a longer line to construct, but it would benefit a much larger district. If you commence the line at Dubbo you will benefit no one at all. Directly you start from Mudgee you benefit the country between there and Gulgong, and then on to Cobborah.
625. The Railway Commissioners estimated that a line from Warren to Coonamble would just pay its way? I do not think it would. I do not like to assert my opinion against that of the engineers, but I do not think they consider the enormous expense of construction between Warren and Coonamble owing to the flooded country and the fact that thirteen bridges would have to be constructed.
626. It is now proposed to make a longer line from Dubbo to Coonamble, and there we are faced with a slight deficit;—if we went from Mudgee we should have a still longer line, and a still bigger deficit? No. My impression is that it would be the best paying line of any.
627. It would not matter if we spent a larger sum on the Mudgee extension so long as we get a larger profit;—do you think the larger profit would compensate for the larger capital spent? Yes; because every mile you made on the Mudgee route would add to the settlement. You are in good country as soon as you leave Mudgee.
628. One witness speaks of the land in the Talbragar as very poor? It is exceedingly good all the way from Mudgee to Cobborah, with the exception of an ironbark ridge.
629. I suppose you mean that that part where the line would cross the Talbragar valley is good? Yes.
630. Are there other parts of that valley which are good? It is all good until you get to the other side.
631. One witness has stated that all the way from Coolah to near Dubbo the country is poor? Yes; all the good soil comes from the Liverpool Range. When you get a few miles below Cobborah the good soil ceases, and the country is no good at all. There is hardly any good country between Dubbo and Cobborah.
632. But east of Cobborah it is good? Yes.
633. As far as the washing of the black soil has reached? Yes.
634. Do you think the Mudgee extension would really give us local settlement and local traffic? Yes, undoubtedly. It only awaits the construction of a railway to become very thickly populated. As I have stated, you cannot at present cultivate beyond Cobborah, because it will not pay to bring the produce to market.
635. How has that country stood this year of drought? Very well, indeed. There are very fine crops there this year. We were fortunate, because we had very fair rains.
6. Have the crops at Cobborah been paying? Yes.

- Hon. G. H. Cox, M.L.C.  
22 Mar., 1899.
637. Could you grow wheat at Mundooran this year? Yes.
638. Where does the Mundooran wheat go? I think what little there is goes to Coonabarabran, where there is a mill. It is chiefly grown for local requirements.
639. You are of opinion that neither the Warren nor the Dubbo line should be made? I contend not.
640. Do you think the Coonamble people would patiently wait until the Mudgee extension was made? From the very commencement they have advocated a connection with Mudgee, and they are doing it to this day.
641. I understand you to say that there is no long stretch of bad land between Mudgee and Coonamble, excepting a few miles here and there? That is so.
642. Is the gradient easy after you get to Cobborah? When you do get over the gap beyond Cobborah it is almost level country.
643. Is no part of that country flooded? No; you do not get to the flooded land until you get below Coonamble. When you once get on to near Walgett you get into flooded country.
644. How far from the river bank does the flood extend? About 6 miles.
645. Your opinion is that, notwithstanding all the surveys which have been made, it would be good policy to abandon the other two proposals and adhere to the Mudgee extension? Yes; I think the country has done perfectly right in going from Narrabri to Moreé, instead of turning off and going to Walgett.

FRIDAY, 12 MAY, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.	WILLIAM THOMAS DICK, Esq.
The Hon. ANDREW GARRAN, LL.D.	JOHN CHRISTIAN WATSON, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Hon. George Henry Cox, M.L.C., sworn, and further examined:—

- Hon. G. H. Cox, M.L.C.  
12 May, 1899.
646. *Chairman.*] Since you were here before have you had an opportunity of examining any more of the country between Mudgee and Coonamble? No; but I have had an opportunity of speaking to a number of people in reference to this matter, and have got some information which I think it is desirable to give to the Committee.
647. Would the line from Mudgee to Coonamble pass through more privately-owned land than the Dubbo route? Yes.
648. Then the cost would be increased considerably on account of the necessary land resumptions? I think not; the people there are so anxious to get this line extended that landowners whom I have seen are prepared to give their land free. I have here two letters in my possession which I should like to read to the Committee. I have seen two or three other gentlemen, whom I requested to write to me, but at present I have not yet received their replies. Here is a letter from Guntawang, which is owned by Mr. Richard Rouse, as follows:—
- Guntawang, 25 April, 1899.
- My dear Cox,  
Yours of the 22nd instant to hand by yesterday's mail. It struck me that the Commissioners were much impressed with the route Mudgee to Coonamble, and said there was no doubt about the country for settlement, but the extra cost of constructing the line was the obstruction. However this does not hold good, for the line from Dubbo has little or no settlement to be looked forward to. As to the railway line coming through this property of mine, I am quite willing to give the land, which has been surveyed for the line from Mudgee to Coonamble.
- I am, &c.,  
R. ROUSE.
- We ought to get this boon, and I am hopeful.  
To The Hon. G. H. Cox, Burrundulla.
- Messrs. George and Richard Rouse own some land through which the line will pass, and they also informed me last week that they are prepared to give the land free of charge.
649. *Mr. Levien.*] What is your opinion of the land? Mr. Rouse's land is fine, rich, red soil. The line which passes through his land does not interfere with his river frontage. It is at the back of his land, and therefore it really does not cause any loss by severance.
650. Is it rich, valuable land? Yes.
651. *Chairman.*] Is it suitable for closer settlement? Yes.
652. *Mr. Levien.*] If it were put up for sale by auction how much would it realise? £2 or £3 an acre. I have another letter as follows:

Galambine, Cullenbone, 27 April, 1899.

Dear Sir,  
As there are two lines surveyed through my property, one of them cutting off all my back land from the water which of course would make it almost useless to me, I can hardly see my way to give my land for nothing, but would be quite willing to exchange the land taken for an equal quantity adjoining. The other marks interfere in no way with my water, and I would be quite willing to give them free.

I am, &c.,  
J. R. ATKINSON.

Hon. G. H. Cox, Burrundulla.

There is another gentleman through whose land the line will pass—Mr. Lowe—who will give any land that may be wanted for railway purposes free. Those are the only people in the neighbourhood of Mudgee whom I have had an opportunity of seeing, but I know their example will be followed by all the others through whose land the railway will pass.

653. Would it pass through any land of yours? Yes; through about 2 miles.

654. Would you do the same? Yes; I promised that at the last meeting of the Committee I attended. I think my example has probably influenced these gentlemen, because I mentioned, when writing to them, that I would give my land free, and they have taken the same view.

655. *Dr. Garran.*] Is there any railway committee in Mudgee? Not now.

656. Could such a committee be formed to negotiate with the other landowners? Yes; that could be done. We have been in communication with the Coonamble people recently, and have requested them to give their countenance and support in this matter.

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657. *Mr. Shepherd.*] Is there much unalienated land on the Mudgee to Coonamble line? There is a great deal. I can only go by the report of Mr. Jones, whose report is here, and I referred to it the last time when I gave evidence. I think he says there are something like 7,000,000 acres unalienated.

658. Would not that depend upon the distance from the line on either side? Of course, that would refer to land which would be benefited by the railway. He would not go beyond a certain distance, probably 15 miles.

659. Is it fairly good agricultural land the whole way? No; there are portions that are not good. There is no part of Australia where you would get 140 miles of good land all the way. But the land all the way from Mudgee to Cobborah, with the exception of one ridge which divides the waters that flow into the Talbragar and Cudgegong Rivers, is all good land. Even that ridge is good in one way, because there is fine ironbark timber there which would be good for sleepers.

660. Is the land generally suitable for wheat-growing? Yes; it is deep red soil. The red soil which is cultivated in Riverina is a sort of sandy loam, totally different from the red soil I speak of. This is all red volcanic soil, deep and full of fertility. I do not want to run down the land in the Riverina, but the sandy loam which they are now cultivating there will not bear many crops without manuring. On this line the soil is volcanic, whereas the soil in the Riverina is merely washings. The soil on this line is eminently suitable for wheat-growing. In view of federation, most of these lands which are now largely occupied for wheat-growing in the Riverina would be more immediately connected with Melbourne, and, when the restrictions are removed, almost all the wheat will go to its nearest port, which is 200 miles away, whereas Sydney is 400 miles away. Therefore, it will be very necessary for us to encourage by all the means in our power the wheat-growing capabilities of our own districts, which must necessarily send their wheat to our own ports. I think that is a matter of considerable importance.

661. *Dr. Garran.*] Does not the Riverina wheat go to Melbourne in bond now? I daresay it does about Corowa.

662. Has there been any amount of wheat cultivation between Mudgee and Coonamble? Yes; not beyond Cobborah, because there is no means of getting to a market. Cobborah is between 40 and 50 miles from Mudgee, and their market is at Gulgong, where there is a mill. There is also a mill at Coonabarabran, but it is only a local one.

663. I want to know whether wheat has been grown on that land for a considerable time, in order to ascertain if the land is suitable for the purpose? No; but it has been grown on the land about Gulgong for many years, and that is just the same sort of land.

664. Does the soil there show any signs of giving out? No; there is no diminution in the yield.

665. Do you not remember that land around Camden and Campbelltown in the early days grew very good crops of wheat for many years? Yes; but eventually it was worked out.

666. But not for a good many years? Yes; but that was a much stronger soil than the Riverina soil.

667. The soil I am speaking of was not a red soil? No, it was strong clay soil. I lately visited another very large wheat-growing district—Grenfell—where, on one estate alone, 12,000 acres are cultivated, adjoining another estate where 9,000 acres are grown. One estate was owned by Mr. Greene, and the other by Mr. Wood.

668. What sort of soil is that? Very light; it is granite country. That gives very nice crops at present, but I ventured to tell those gentlemen that unless they went in for mixed farming and manuring, their crops would not continue to give much return. There is no body in that kind of soil.

669. *Chairman.*] I think you said there was more agricultural land on this line than on the Dubbo to Coonamble line;—of course, here there is a longer length of line, but is there a greater proportion of good agricultural land on the line from Mudgee to Coonamble than there is on the line from Dubbo to Coonamble? Infinitely greater.

670. What is the rainfall? Very good. There is an average of about 26 inches of rain over the whole of that district. Near Coonabarabran it is up to 29 inches. That is on account of the peaks breaking the clouds. It has also been said before, and remarked upon, I think, by the Commissioners on their trip, that directly you start from Mudgee the good land begins and continues for miles; but when you start across the country from Dubbo there is miserable country for 40 or 50 miles. It is quite useless for agriculture or pastoral purposes,—that is between Dubbo and Gilgandra.

671. Have you no hesitation in saying that a line from Mudgee to Coonamble will open up a large quantity of good agricultural land which will contain a big population? Yes.

672. Do you say that those conditions do not exist on the route from Dubbo to Coonamble? Certainly not. I may mention that the Commissioners in their report speak very favourably of the country through which they passed, but they really did not see a large portion of the very good country which this line would tap, that is, the land lying to the south and to the south-west of the Warrumbungle Mountains. They missed all that. It is almost the finest country that can be seen.

673. How far is that from the line? It is within 15 or 20 miles; in fact, I think it would be desirable to make a little detour in order to get into this country, and to keep a little to the north of the surveyed line. That would pass Mundooran a little to the right.

674. *Dr. Garran.*] What makes that country so rich about Coonabarabran? It is all volcanic.

675. Is it composed of washings from the Warrumbungle Mountains and is therefore volcanic? At Coonabarabran East no washings have come there, and the soil is very poor.

676. Does not the eastern side get as much rain as the western? Yes.

677. Is it not similar rock? It is sandstone on that side of Coonabarabran. There is another matter of very great importance. The leases of a great many of the large stations in that district will soon expire. For instance, there is a station belonging to Mr. Brown, Tandaburine, which is composed of remarkably good land. It will fall in next year. When it is thrown open, there will be a wonderful rush to get farms there. But what will be the good of people taking up land there for farms unless they have a railway.

678. *Mr. Levien.*] But will the Government throw it open? There will be such a clamor for it, that they will be sure to do so.

679. Will there be a larger area of farming land within 10 or 15 miles of the line which you recommend than on the line from Dubbo into Coonamble? Yes. This land away from the Castlereagh River is richer than the land on the river, and it would carry a larger population. It is because I wish the Committee to have the evidence of a gentleman who thoroughly knows all that country that I asked the  
other

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other day that the Committee should get evidence from Mr. Vincent Dowling. I do not pretend to know anything of the country beyond what I have spoken of. That gentleman, however, knows every mile of the country. I only know the country as far as Mundooran, and around the Warrumbungle Mountains.

680. *Chairman.*] Is there high land north of Coonabarabran? It is all level land. This curious mountain at Warrumbungle rises out of a plain and towers up in great peaks.

681. Do the head waters of the different creeks come from that mountain, some north and some south? Yes.

682. Apparently there is a range in there? There is no range; it is simply an isolated mountain peak, unconnected with any range whatever.

683. *Mr. Shepherd.*] What is about the average yield of wheat in the vicinity of Mudgee? I think I am quite within the mark in saying that it is over 20 bushels to the acre. Last year on two farms, on which I have tenants, the yield was respectively 44 and 46 bushels per acre. Of course that is only a small portion. It happened to be a dry year, and the land consists of rich river flats. In a wet season it would have been all spoilt.

684. Is there a considerable quantity of lucerne grown there? Yes.

685. What is the yield? Six crops in a year, and the average is about a ton per acre per crop.

686. That is a good yield? Yes. Lucerne is a wonderful plant. There is no other plant which has been introduced into the Colony which gives anything like such a good yield.

687. *Dr. Garran.*] Is it very exhausting to the soil? No; its roots go down 8 or 10 feet. The last three years have been rather disastrous years in the country, and there has been a great demand for lucerne. The yield in my district during the last three years has given a net profit of £8 per acre per year.

688. *Chairman.*] Is the Mudgee Railway line considered to be a paying line just now? No; it is quite the reverse.

689. What effect would a continuation of that line to Coonamble have? I am quite sure it would make the railway a paying line. It is gradually paying better year after year. But the limit is so slight that unless it is extended I do not think it will ever be a paying line. I think I remarked in my evidence before that the loss on this line is attributable to the enormous outlay which was made. £500,000 more than ought to have been spent was spent on that length of 84 miles, and that amount, at 5 per cent., means £20,000 a year. That is just the loss which the country sustains by the additional outlay which was made.

690. *Mr. Dick.*] That would be the loss for all time on that section? No doubt; but to recoup the present loss of £20,000 a year I am quite sure it is only necessary to extend the line, because we should then have a largely increased traffic.

691. *Chairman.*] Do you think that an extension of the line to Coonamble would convert it into a paying line? Yes, and I think the Commissioners are of that opinion too.

692. Besides being 34 miles nearer to Sydney than a line from Dubbo to Coonamble? Yes.

693. Would it be an advantage to the Coonamble people? Yes; and they would be heavily handicapped by having to pay for 35 miles extra for all time if the other line were made.

694. *Mr. Trickett.*] The line from Mudgee to Coonamble is 54 miles longer than the line from Dubbo to Coonamble, and it will cost £272,000 more;—have you looked at the question from that point of view, as to whether the game is worth the candle? I have, and I think the Railway Commissioners, who are much more interested than I am, have looked at it from the same point of view, and they have come to the conclusion that the Mudgee line would be the best paying line. Of course, I would prefer that they should be asked their opinion rather than that I should give mine.

695. Have you gone carefully into the matter? No; I am not sufficiently an expert to be warranted in giving an opinion.

696. But, generally, you think that it would conduce much more to the traffic of the main line, and also bring a great deal more land into cultivation than a line from Dubbo? Yes; at present no land beyond what I have now described can come into cultivation, because it is no use trying to grow grain unless you have a market. The land is cultivated on the banks of the Talbragar, because a mill has been established lately at Gulgong, and they have only to carry the grain 30 miles instead of 50 miles. To travel even 30 miles is a big handicap.

697. *Mr. Levien.*] What kind of soil is there along the Talbragar? It is black and red soil; they never attempt to cultivate black soil.

698. It would be better to cultivate that sort of soil than the yellow soil in the western country? Yes. From Dubbo to Gilgandra is a desert; it is a big ironbark scrub.

699. *Mr. Trickett.*] Has Coonamble long been looked upon as an objective point to carry a railway from the Western line? Yes; it is the centre of trade.

700. The only question is which is the best route to choose for connecting with the main line, so as to divide the country in a suitable manner;—do you think the Mudgee line would be the best? I do not think there can be any doubt about it. Anyone looking at the map will see that a line from Mudgee would divide the country between the Macquarie, the Bogan, and the Namoi pretty fairly in half. It would not do so quite fairly, because you cannot go much to the right without getting into rough country. As to the dotted line shown on the chart, I am not in a position to speak decidedly; but I think if there were a little detour to the right it would come into better country than if a straight line were maintained.

701. If a line were constructed from Dubbo to Coonamble would the people to the east of the dotted line about Coonabarabran be in any way benefited? Not the slightest.

702. Do you look upon the land about Coonabarabran as a district which should have railway communication? Yes; it is a shame to get people to go on that part of the country without giving them the means to get to a market.

703. You must regard it as a good thing that the line from Warren to Coonamble has been negatived? Yes. When the Mudgee people many years ago were striving for railway communication they did not look upon the line to Mudgee as a mere branch, but their object was to get a line from Wallerawang on the Western line to Coonamble and Walgett, by way of Mudgee. Mudgee was not the objective point. All the people of Mudgee are quite aware that it would almost have been better to start the railway from Mudgee outwards rather than to come to Sydney. It would have been a far better market for them.

704. Mr. Jones in his report in 1891 seemed to favour the Mudgee line? Yes, very much, and he took a great deal of trouble. It is a most exhaustive report, and he deals with a number of suggested lines.

705. *Mr. Dick.*] Where does the trade of Coolah, Dunadoo, Cobborah, and Mundooran go to at present? To Mudgee.

706. So that the Mudgee line gets that trade already? Yes.

707.

707. As far as the paying qualities of the line are concerned, an extension to Coonamble from Mudgee would not affect that as far as those points are concerned? No doubt. But I contend that the making of the line would increase the trade very much.

708. That trade which the line already has will not go to make up the loss of £20,000 a year? No; it is the increased traffic by settlement which will cause the loss to be recouped.

709. How does the rainfall from Mudgee to Dunadoo compare with that from Dubbo half-way up to Coonamble? I think we have a better rainfall, although it is only a few miles apart. It is extraordinary how much difference it makes. I have a rain-gauge at Dunadoo. I have a station there called Pine Ridge. Then there is a rain-gauge at Mudgee, another at Coonabarabran, and at other places, and they are as near as possible on the same footing. The average is 26 inches. I think at Coonabarabran it is a little more—29 inches.

710. What are the ruling grades on the 84 miles of the Mudgee line? Some of the grades there are, under the old system established by Mr. Whitton, 1 in 40. I think his surveyors were told "Make the line as cheap as possible, but not to exceed 1 in 40." There is one grade of 1 in 40 on that line.

711. Will not all the traffic have to go over the heavy grades of the Blue Mountains? Yes. Very small engines are running on the Mudgee line now; they are too small.

712. Then for all time that traffic will have to get over two sets of heavy grades? Not for all time, for I am sure the Commissioners will regrade that line, as they have on the Western line.

713. Would it not be very expensive to regrade 84 miles? It is not 84 miles. These bad grades are only on certain places. There is really only one place with a bad grade. There was a mistake made going from Wallerawang into the Capertee valley on the eastern side of the range. Under the high range it is rotten country. The line is just running through the debris of the precipice at an angle of about 45. It consists of clay, sand, and rocks. When you get wet weather it all falls in, and fills up the cutting. To avoid that, the Commissioners have now made another line outside that line on the edge of the embankment, so that any slips now come down on the old line of railway, and it has made the present line quite safe. Between Rylstone and Louie you cross a gap called the Tombong Gap, about 8 miles from Rylstone; you get down into the valley, and the grade is 1 in 40 for some distance. That is the back grade.

714. *Mr. Watson.*] Could that be avoided? Yes; by going round a little, instead of direct.

715. *Mr. Dick.*] How many miles would be involved in that deviation? About a mile.

716. *Dr. Garran.*] If the line which you advocate were made, giving a line north of Mundooran, would that be sufficiently near to the settlers on the good land on the Castlereagh to be available for them? Yes.

717. Would they be more than 15 miles from a station? I am afraid they would.

718. If you tried to catch the good country, would the railway lose the Castlereagh country? No; it would be a reasonable distance from the Castlereagh. It is better country there than on the river.

719. Would it throw them out? No. The projected railway does not go immediately on the river. The river winds about, and the railway takes a fairly direct course.

720. If the line which you advocate were carried out, would it tend to distribute the trade better on the Western line than a line from Dubbo would? Yes. I do not want to speak of Walgett, or cause any antagonism. If we wait until we get our line to Coonamble, and the people have their own choice, I am quite sure what their choice will be.

721. *Chairman.*] Mr. Dick asked you if the trade from Dunadoo, Cobborah, and Mundooran already found its way to Mudgee? Yes.

722. Is the best use being made of the land about there? No.

723. Therefore, if the railway is constructed by the route you advocate, the land about those places will be put to a better use? Yes.

724. Therefore, there would be more traffic drawn in from those places to Mudgee? Yes; if the population did not increase we would not be justified in making the railway, because we get that traffic already. But my contention is that the traffic will so enormously increase with the increase of population that the railway will pay handsomely.

725. Do you anticipate that all that country about Dunadoo, instead of carrying sheep, will then carry men? Yes; instead of carrying a sheep to the acre it would then carry human beings, and civilisation would follow.

726. Would there be considerably more agriculture? Yes.

727. Have you been at Gilgandra? Yes.

728. Is that on the eastern bank of the river? Yes.

729. Do you know whether at Gilgandra the settlement is on the eastern bank of the river? Of course, the river is only a mere big channel.

730. On which side of the river is the better country? To the east.

731. At Gilgandra there would only be some 18 miles, according to the map, from the surveyed line *vid* Mudgee to Coonamble? Yes; that is within a reasonable distance. Anything within 20 miles is a reasonable distance even for agricultural produce to be carried.

732. So that assuming that the good country going up from Dubbo did start at Gilgandra, then the people there would be nearly as well served near Gilgandra by the construction of the Mudgee line? Yes; very nearly.

733. And the good country will be better served? Yes; very much better.

734. A certain proportion of the land through which the proposed Mudgee-Coonamble line will pass is freehold? Yes.

735. As you go further west do you get into the leasehold country? Yes.

736. At about what point on that line would the leasehold country start from? It is chiefly purchased land between Mudgee and Cobborah. After you leave that there is very little purchased land; it is mostly Crown land.

737. Do you say that the leases will shortly fall in? Yes; next year.

738. Therefore, that land will be available for settlement? Yes.

739. *Mr. Levien.*] Is the country on the Mudgee route by far the richer land? Yes.

740. If you were investing your own private money in a railway, and you had these facilities given you for getting the land without paying for resumption, which route would you adopt? Many years ago I had an

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- an opportunity of buying a station at Tundaburine, and I have regretted ever since that I did not do so. I could have got it at £1 an acre, and I am certain it would now sell at £5 an acre with a railway.
741. Looking at the matter without prejudice, and if you were entering into this as a private enterprise, would you take the Mudgee to Coonamble route in preference to the Dubbo to Coonamble route? Yes.
742. *Dr. Garran.*] If the Government were to decide upon the Mudgee to Coonamble line, and if they made a railway reserve for 10 miles on each side, would there be sufficient Crown lands there to make a substantial contribution to the cost of the railway? If you will look at Mr. Jones' report you will find that he states the Government could make a railway out of the extra price which could be obtained for the Crown lands, owing to the benefit which would be conferred upon them by a railway from Mudgee to Coonamble. I think it is most desirable that the Committee should insist upon that being done.
743. *Mr. Levien.*] Would you recommend the Committee to visit those places? I would recommend it most strongly. I am sure you would come back with the same idea as the Railway Commissioners. I strongly urged the Commissioners to go on from Mundooran to Tundaburine, but they were quite satisfied with what they saw.
744. *Mr. Watson.*] I understand that in going about 30 miles beyond Mudgee, towards Cobborah, you enter the Central Division? Yes; the Talbragar River at Cobborah is the boundary.
745. How many miles is that from Mudgee? About 45 miles.
746. From there westward, is it mostly Crown land under lease? Yes.

TUESDAY, 30 MAY, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.	WILLIAM THOMAS DICK, Esq.
The Hon. ANDREW GARRAN, LL.D.	JOHN CHRISTIAN WATSON, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

John Harper, Chief Traffic Manager, Department of Railways, sworn, and further examined:—

- J. Harper. 747. *Chairman.*] At your former examination you were asked if you could give the Committee similar information to what you gave on the proposal to construct a line from Dubbo to Coonamble, taking Mudgee as a starting-point;—have you had an opportunity of preparing that statement? Yes; I have prepared some information.
748. Since that time you have been over the country between Mudgee and Coonamble? Yes.
749. Will you give the Committee the benefit of your researches in that direction? Well, my information must be taken by the Committee for whatever it is worth.
750. Comparing the class of country between Dubbo and Coonamble with the class of country between Mudgee and Coonamble, what is your opinion as to the capacity of the alternative line from Mudgee to Coonamble to carry people? It passes through better country.
751. More suitable for closer settlement? I think so.
752. From a railway traffic standpoint, which would you prefer? That is asking me too keen a question. I do not know that we expect immediate results from the line.
753. You have been over the route of the line from Dubbo to Coonamble, and prepared a statement, and you have also been over the country between Mudgee and Coonamble? Yes.
754. Well, comparing the two classes of country, which do you think is the better for carrying people? In view of the population on the route between Mudgee and Coonamble, as compared with the people on the route between Dubbo and Coonamble, I should think present circumstances point to the fact that, from a railway point of view, coupled with better country, a line from Mudgee to Coonamble would bring in more railway traffic.
755. When you got to Coonamble, I suppose the traffic would be about the same; but suppose you take the line from Dubbo to Coonamble, the Coonamble people would have to pay for a greater length of carriage by going from Dubbo than by going from Mudgee? Yes.
756. Would any difference be made to them in their rates? I should not think so. I should imagine that in the case of a sectional line like that, the more speedily it paid for its maintenance the more speedily would you have any local rates removed from it.
757. So that the probabilities are that if a line is constructed from Dubbo to Coonamble the Coonamble people will have to pay for all time some 30 odd miles more railway carriage? That might be so if the Coonamble people were prepared to sit down quietly and if it was the only means of communication.
758. Would the grades be similar? A grade of 1 in 80 I think Mr. Deane has undertaken to get on the Mudgee-Coonamble line; if so, that is as good as the grade on the route between Dubbo and Coonamble. I think the information is given on page 7 of the report of the Committee on the Warren-Coonamble Railway proposal. I may mention, incidentally, that I gathered from Mr. Deane that the information given then holds good to-day.
759. Have you prepared an estimate of the traffic which can be obtained by constructing a line from Mudgee to Coonamble? Yes; I have prepared an estimate for my own information, which I desire not to be treated by the Committee in any way as the Commissioners' estimate. I wish the Members of the Committee to distinctly understand that to-day I am simply giving my own opinions. Under conditions precisely the same as those which were applied to the Nevertire-Coonamble line and the Dubbo-Coonamble line—I mean deducting what the losses would be on the main line—I think the revenue would be about £18,000 per annum.
760. Can you give the particulars of your estimate? At this stage I prefer not to give the particulars; but after the Commissioners have made their report, I shall be prepared to give the information I have.
761. Would there be any objection to your giving the information from the Commissioners' standpoint? I do not think so. I think you would probably find that their estimate will not differ very much from my estimate;

estimate; but I am in this position, that you have not before you, in accordance with the terms of the Public Works Act, the Railway Commissioners' estimate.

762. I do not think there is anything in the Act to say that you should not give that information to us;— you must give information as to the line that was submitted to us? Yes; but, as a matter of fact, I have not given this information to the Commissioners yet. Allowing for a leakage on the existing main line, there will be a gross revenue of £18,000. It is practically both net and gross in this sense, that it provides for the loss on the existing main line traffic.

763. How would that compare with the estimated revenue from the proposed line from Dubbo to Coonamble? The gross earnings of that line per mile would be less than those on the Mudgee line.

764. Have you prepared a statement giving the cost of working the alternative line? That is another matter which I can only approach approximately, but my personal opinion is that it will not cost more per mile to work that length of 147 miles than it will cost to work a length of 92 miles between Dubbo and Coonamble. I think the annual cost of working the Dubbo-Coonamble line works out at about £76 or £77 per mile. I do not think the annual cost of working this other line will work out at any more than that. In other words, I think the working expenses of a line from Mudgee to Coonamble will not exceed £11,000 a year.

765. To sum up, I take it that you are of opinion that to construct a line from Mudgee to Coonamble will be preferable to constructing a line from Dubbo to Coonamble? No; because another consideration comes in, and that is the question of capital cost. The capital cost of a line from Mudgee to Coonamble is very much greater than the capital cost of a line from Dubbo to Coonamble. The estimate given here by the Construction Branch is £478,936 for the Mudgee-Coonamble line, £207,285 for the Dubbo-Coonamble line, and £150,000 for the Warren-Coonamble line.

766. Would you not charge the traffic to Coonamble with a portion of the cost of the line from Wallerawang to Dubbo? It would have to pay that certainly; but then you see you have that line constructed to-day. Mr. Deane told me the other day that these figures which were given in connection with the Warren-Coonamble inquiry may be accepted:—

1. Dubbo to Coonamble, 93 miles 45 chains; estimated cost, £207,285; average cost per mile, £2,215; ruling grade, 1 in 75; through distance from Sydney to Coonamble, 371 miles.

2. Mudgee to Coonamble, 147 miles; estimated cost, £478,936, average cost per mile, £3,258; ruling grade, 1 in 60; through distance from Sydney to Coonamble, 337 miles.

I believe for all practical purposes that is correct, with this exception, that the 1 in 60 grade which is mentioned there could be improved without very much difficulty, and at the same cost as a 1 in 80 grade.

767. *Mr. Trickett.*] The annual interest on the cost of construction will be £15,000, and you estimate your gross revenue at £18,000? I estimate the net revenue at £18,000. I can speak with a great deal of confidence. I am sure that it will all be realised.

768. At that rate would the total annual loss be greater or less on the Mudgee-Coonamble line than on the Dubbo-Coonamble line? I think it would be greater.

769. We have no estimate of the working expenses of the Mudgee-Coonamble line? Except that which I have given you, based on the same estimate per mile—£11,000 a year.

770. If the annual interest is £15,000, and the working expenses are £11,000, and the receipts are estimated at £18,000, it will involve the possible loss of between £7,000 and £8,000 a year? Yes.

771. When you were giving evidence on the last occasion, you did not seem to have quite as good an opinion of this Mudgee-Coonamble line, for at page 23 I see this evidence:—

Looking at the map, it would appear as though the better way to split up that country would be by going from Mudgee to Coonamble? But the Mudgee line would not bring in the traffic.

? No; but will you be good enough to read the previous question and answer, as follows:—

Do you think the construction of a railway to bring any traffic from Coonabarabran would be warranted? I do not think so.

I do not think so to-day.

772. In answer to the next question you say: "But the Mudgee line would not bring in the traffic";— what traffic does that mean? I do not know without reading back my evidence.

773. *Chairman.*] When the question was asked it referred to the whole of the country between the Great Northern line and the Western line? I think I know what it means. I will explain what it means on this map here. I was asked whether if a cockspur line were made from the Dubbo-Coonamble line to Coonabarabran it would bring in the traffic, and I said it would not; nor would it do so, because the Coonabarabran line is on the northern slope of the Warrumbungle Ranges, and the interests are absolutely different from those of the country which lies to the south.

774. *Mr. Trickett.*] You did not mean by that question and answer to say that a line from Mudgee to Coonamble would not bring in the intervening traffic? No; I would not care about it being put in that way. I wish to disassociate from your minds the idea that the Coonabarabran traffic or anything north of the Warrumbungle Ranges would be likely to come in on that line. I think it is very doubtful that it would.

775. You did not mean that answer to be disparaging to the line from Mudgee to Coonamble? No.

776. *Chairman.*] So that the Coonabarabran traffic would come in on the Northern line? It might, or it might not. At Coonabarabran they would be within about 33 miles of a possible station site on the surveyed route. I think they are to-day about 100 miles from Quirindi. I may say, for the information of the Committee, so as to be absolutely candid, that the Coonabarabran people will not have the Mudgee connection at any price. Probably there is a lot of force in what they say.

777. *Mr. Trickett.*] What do they advocate? They maintain that the northern connection is the proper one.

778. As the result of your recent inquiries, can the Committee take it that you are favourably disposed to a line from Mudgee to Coonamble? I think, in view of the whole of the circumstances, it is a matter which I might suggest to the Committee is worth considering. I feel convinced—and I am only voicing my own opinion now—that if a line were built from Dubbo to Coonamble to-morrow, we would not dispose of the public question of providing railway communication between Gilgandra and Mudgee. My impression is, even assuming that the Committee to-morrow decided upon building a line from Dubbo to Coonamble, that you would still have this district to dispose of, which is east of the Castlereagh. It is a district which is worth a good deal of consideration. It contains a good deal of good land and it has a good rainfall.



- J. Harper. 779. As a means of serving the country and that part generally if a line from Mudgee to Coonamble were constructed, would the same claims be put in on behalf of a line from Dubbo to Coonamble and that part of the county do you think? That, of course, is a question for you, gentlemen, to weigh when you are investigating it locally; but I may tell you that when we were looking into the question of the Dubbo-Coonamble line, the strongest arguments which were advanced by the people of Gilgandra were on account of the agricultural settlement east of Gilgandra.
- 80 May, 1899. 780. You think a line from Mudgee to Coonamble would get a lot of the traffic that would be served by a line from Dubbo to Coonamble? It would get the bulk of it. It would get all the Coonamble traffic; it would get all the Gilgandra traffic. It would get the best portion of the Girilambone traffic. It would get the traffic of the district which the people who advocate the Dubbo-Coonamble route say is the best portion of the district.
781. What is the distance from, say, Gilgandra to where it would strike the Mudgee-Coonamble line? I think between 15 and 20 miles. The best portion of the country is to the east.
782. Later on in this inquiry, will you be able to furnish the detailed results of your recent inquiries? I shall be able to show you every item—where it will be withdrawn from the present main line, and where it will go on to the other line.
783. *Chairman.*] Will you be good enough to state shortly the results of your researches in travelling over this country? As I have tried to indicate, the question is a big one, because it means practically the difference between an expenditure of £470,000 and an expenditure of £200,000, and it involves other grave considerations. My opinion of that country between Mudgee and Coonamble is, that there is a great deal better country between Mudgee and Tundaburine, which is a point east of Gilgandra, than there is between Dubbo and the same point; the rainfall is better, and it has the advantage of being closer to the markets for stock and agricultural produce; and in considering the question of giving Coonamble railway connection, which it has been decided it shall have, it is a line which deserves the most earnest consideration of this Committee. That is all I can say, and you may form your own conclusions. When I was here before, I could not say as much as I can say now.
784. *Mr. Trickett.*] In your recent researches, have you gone into the question of the possible future of this country in regard to traffic? Yes; that is one thing which I specially had under consideration.
785. As a running line, how would it compare with a line from Dubbo to Coonamble? According to the grades given by Mr. Deane, it would be practically the same, with this in it—that between Dubbo and Wallerawang there exists to-day 17 miles of 1 in 40 grades, while between Mudgee and Wallerawang there exists 7 miles of 1 in 40 grades. That is to say, there are 10 miles more of 1 in 40 grades between Dubbo and Wallerawang than between Mudgee and Wallerawang. I mention this because there appears to be a popular idea that the Mudgee line is an impossible thing.
786. You might tell us now, as Chief Traffic Manager, what you think of the Mudgee line now that it is improved as a permanent line? Personally, I think it could be made a good line at, probably, a very reasonable expenditure, but you would require the traffic to warrant this being done. I think that, with probably an expenditure of £100,000 on that line, you could have a grade of nothing worse than 1 in 75.
787. But it was regarded as a dangerous line? It is to-day.
788. In what respect is it still dangerous? On account of the slips.
789. I thought they had got the line away from these parts? So they have, but they will never get out of danger unless they deviate the road where the mountain slopes are slipping away.
790. What would this expenditure of £100,000 involve—a different line? A deviation probably.
791. To get away entirely from those parts which are apt to slip away? So I am told by the engineers. I would not say that it is warranted by to-day's traffic, but given a heavier traffic over the line probably it might be.
792. Do they work the line at night now? Yes.
793. Has it had any severe tests since the alterations have been made? It is being tested every week. There are always slips taking place; they occur in wet weather and dry weather. We run a pilot every night in front of each train.
794. Would that expenditure of £100,000 to improve that line make it longer than it is? I do not think it would add more than a mile to its length.
795. If we were considering a line from Mudgee to Coonamble, should we also have to take into consideration the extra sum of £100,000 for diverting the line to Mudgee? Not necessarily. The question of safety is really a minor consideration; it is only the infrequency of the trains which leads to the necessity of making frequent inspections.
796. There is no fear of any great calamity happening on that line? No.
797. Is there much unalienated land on the line from Mudgee to Coonamble? I did not go into that phase of the question, but judging from local inquiries I made, I think there is a lot. There are a number of leases falling in during the next two or three years. If you are going to seriously look at this line you might consider the question of keeping it, starting from Gulgong, further east. I should imagine that that would be a better location for the line.
798. In regard to the construction or in regard to the land? I think both as regards the construction and as regards serving the country. It struck me in travelling through that country that if the line were located further east it would be better.
799. Instead of going to Cobborah you would keep out more towards Coolah? I should be inclined not to pass through Cobborah at all; that is purely my personal opinion. There is a very good tract of country round Coolah.
800. Is there much agriculture carried on along the route of this line of railway? Yes.
801. What does it consist of? There is a mill at Mundooran, a mill at Cobborah, a mill at Coonabarabran, two mills, I think, at Gulgong, and so keen are they on milling in that district, and having a population of some 14,000 or 15,000, that they draw wheat from a comparatively long distance—from a point midway between Gulgong and Wellington towards Gulgong.
802. And wheat-growing is favourably carried on there? Yes.
803. Did you ascertain what is about the yield? They claim to have a yield of about 20 bushels per acre. I would not like to say that it is so. No doubt they have a lot of good country.
804. *Mr. Levien.*] Without railway communication it is no good to them? No.
805. *Mr. Trickett.*] This tract of country is fairly watered by streams? Yes.

806. Which part of the line would it be most expensive to construct, as far as you could notice? That portion between Mundooran and Cobborah. J. Harper.
807. Would there be very heavy cuttings between those two points? Yes; it is heavy when you are in the ranges. <sup>30 May, 1899.</sup>
808. *Mr. Levien.*] Rock or soil? Rock and soil; there is a range which runs east and west called the Goodiman Range.
809. *Mr. Trickett.*] Therefore, as compared with the line from Dubbo, the chief part of the expenditure on this line from Mudgee would be on the first portion? There is a question of acquiring land between Mudgee and Gulgong.
810. But independently of buying land, the chief part of the expenditure on actual construction would be on the first portion of the line? I should imagine that that is where the chief difficulty would come in; but the difference in cost is £1,000 a mile on the total length of the line. Of course, that may come in on some particular section, and it may be altered by reason of their locating the line differently.
811. *Mr. Levien.*] You know nothing about the line between Werris Creek and Coonabarabran? Yes; but there would be a difficulty in getting a line across country from Werris Creek. The Warrumbungle Ranges run practically south-west and north-east, and you have to get through those ranges with your line.
812. How far is it from Werris Creek? From Werris Creek to Coonamble it is 155 miles, and from Quirindi to Coonamble 160 miles.
813. And to Coonabarabran? About 95 miles.
814. *Mr. Trickett.*] Is it a fact that the Mudgee-Coonamble line would cost right through about £1,000 a mile more than the Dubbo-Coonamble line? The figures, as given here, are £3,258, as against £2,215 per mile.
815. When we get over that range, after leaving Mudgee, then is it fairly flat country? It is undulating country.
816. Suitable, as far as you could judge, for one of our newly-started light lines? Yes; there are no very great difficulties.
817. Without going into details, what would be the chief products carried on this railway? I should imagine wheat and maize. They grow a great deal of wheat to-day without railway communication, and it would carry, I think, a good many more sheep than it carries to-day.
818. And stock? Yes; it would carry more sheep than it is carrying to-day. It carries now a very large quantity of stock.
819. It is a large wool-growing centre? Yes.
820. In your inquiries, did you contemplate the extension of this line beyond Coonamble? Only to Coonamble.
821. You have only looked at it as a line to Coonamble? Yes.
822. I asked that question because Walgett has always been considered the point of attraction in running out in that direction? I do not think it is worth considering the question from our point of view.
823. *Mr. Watson.*] You say there is a good class of country for agricultural purposes between the two points? Yes.
824. Does that continue right from Mudgee as far as Mundooran? Not continuously. There are patches of country. There is a range running south-west—the Goodiman Range—which intersects the good country; and there is country there not of much value except to grow ironbark.
825. How far would that good country extend? Taking the existing route of the line, I should imagine you could reckon upon fully 20 miles of land on either side.
826. I mean in a direct line;—how far along the route would the good country extend—say to Cobborah? Yes; there is good country as far as Cobborah, and then between Cobborah and Mundooran you get into a range of country running south; but after passing Mundooran you get into the very best of the country.
827. Do you think, in view of the very heavy, increased cost of constructing the line to Coonamble from Mudgee, the increased productiveness of the country through which it will pass will make that cost good? I am inclined to think so. From the way in which I have gone through the country, I should not like to pronounce too strong an opinion; but personally I think it is a matter deserving of the utmost consideration.
828. If Coonamble were the only objective you would prefer to go from Warren? Yes.
829. A more complete view of the situation, from a railway standpoint, would be, I presume, to tap the country outwards from Mudgee, even if you did not go as far as Coonamble? From a public point of view, I think so.
830. Leaving out of account Coonamble as the objective for the present, do you think, from the traffic point of view, it would be possible to run a line out from Cobborah towards Mudgee? I do not think it would be wise, unless you had some other objective point.
831. Have you had anything to go upon in regard to projecting a line as surveyed there from Muswellbrook to Cassilis? No.
832. You have no information in regard to that? No.
833. I am informed that there is some good country round there;—have you heard that there is? Yes.
834. The idea has been mooted on several occasions, I understand, of reaching Coonamble from that point? I do not know; probably it has. I do not know what benefit would result to Coonamble. Taking the most favourable extension which can be made, the position to-day is this: the distance from Coonamble to Quirindi is 160 miles, and from Quirindi to Sydney 243 miles, and that practically makes Coonamble by that route 403 miles from Sydney.
835. You do not seem to think there is any value in reaching the port of Newcastle, so far as stock is concerned? I do not think so; 75 per cent. of the wool which reaches Newcastle comes to Sydney for sale.
836. *Mr. Dick.*] I think we can conclude from your statements that, on the grounds of public policy at any rate, the Mudgee extension would be preferable to the Dubbo-Coonamble line? My opinion is that it is a line which requires and deserves very great consideration indeed; because I think that if either one or other of the lines which have been before the Committee were built, the claims of that line would be pressed, and pressed with a good deal of force.
837. You do not think any determination should be come to in regard to the Dubbo-Coonamble line until the claims of the other line are carefully investigated? I do not think so. At the desire of the Committee

- J. Harper. I went over this country, and as the result of my visit I am more impressed than ever with the necessity of giving this line the fullest consideration, after seeing the character of the country and comparing it with the other country.
- 30 May, 1899.
838. *Mr. Levien.*] You mean consideration of the Warren-Coonamble line and of the Dubbo-Coonamble line? Yes.
839. *Mr. Dick.*] I think you said that it would require an expenditure of £100,000 to cut out the heavy grades and make the Mudgee line safer than it is? I said that by the way. I did not say safer, because the line as worked is safe now. It could be improved to the same grade which is promised on this projected line, at a probable cost of £100,000. But I am not going to say that that expenditure would be necessary in order to carry the traffic. I went on further to say that we had to get over 10 miles of worse grades on the main Western line from Dubbo.
840. Is it a fact that the worst part of the Mudgee line, a length of about 7 miles, can be wholly obviated by a deviation? I do not know.
841. Do you know if the engineers have had a scheme before them? We have had a lot of schemes. I do not know that there is anything very practical about them. I think the Commissioners have in view, when traffic warrants the expenditure, some scheme for improving the Mudgee line.
842. Where does the traffic from Gulgong, Dunadoo, Cobborah and Muntooran go to now? All the traffic from Muntooran, Cobborah, and Dunadoo, comes in through Gulgong to Mudgee. Of the Coonabarabran traffic, half goes to Mudgee and half to Gunnedah.
843. All that traffic would not be new traffic on the Mudgee line? No, it would join an extension further on. The Coonabarabran traffic is divided almost equally between Quirindi and Mudgee. The stock traffic of the district comes in to Mudgee.
844. Did you observe any evidence of the adaptability of part of that country from Mudgee to Coonamble for closer settlement? Yes; I think it is country which will be very thickly settled by-and-by.
845. Is it all country of fine character? There is a very large percentage judging by the country generally in the interior.
846. *Chairman.*] The country on the Mudgee-Coonamble line is much better fitted to carry a class of producers than the country on the Dubbo-Coonamble line? Yes, that is so.
847. In going over both routes did you notice the proportion of red soil to black soil country? Yes. It is country you can scarcely judge of as between black soil and red soil, because you can see both good red soil and good black soil on the route.
848. Is the black soil country on the Mudgee-Coonamble line good agricultural country;—did you see any of it cultivated? Yes, and carrying very heavy crops.
849. So that there is a much larger proportion of land fit for cultivation on the Mudgee-Coonamble route than on the Dubbo-Coonamble route? Yes, and it is carrying a larger population to-day.
850. You are quite clear on that point? Absolutely clear.
851. Had you any opportunity of ascertaining whether there was a difference in the rainfall? Yes.
852. There is a large number of stock on good grass about Muntooran? Which came from west of Coonamble.
853. The soil being good, I suppose the rainfall must also be good? It is claimed by the people of the district, and our railway records show, that it has a consistently good rainfall. I never remember having had to send any food for starving stock to that district. It is claimed by the residents of the district that they have never known what a failure of the harvest has been.
854. The Railway Commissioners say the line from Mudgee to Coonamble would open up and develop a more extensive and better agricultural area, and further, that it would help materially to more satisfactory results in connection with the working of the Mudgee line than have hitherto been experienced. From that statement are we to understand that if a line is constructed from Mudgee to Coonamble it will benefit the country traffic as a whole? It would make up full train loads on the Mudgee line which would warrant us in putting engines of a heavier class on the line.

WEDNESDAY, 31 MAY, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Alexander Wilson, stock and station agent, sworn, and examined:—

- A. Wilson. 855. *Chairman.*] Are you acquainted with the country which will be served by the proposed railway from Dubbo to Coonamble? I know the country from nearly every point of view. I know the whole of the country from the Western line to the Northern line. I have traversed that country in six or eight different directions almost completely, and sometimes bits in between.
- 31 May, 1899.
856. Taking the country along the proposed line from Dubbo to Coonamble, will you give your opinion of the value of that country as far as regards carrying people? Rather more than half of the land from Dubbo, with the exception of a few miles north of the Talbragar, is mostly very good agricultural land. From Dubbo to Gilgandra it is good agricultural land; some of that land is not quite first-class, but a great deal of it is land capable of great improvement, and with a good deal of value in the soil. You pass through a bit of bad country, but that is only for a very few miles, and you are at the edge of it. It is all bad to the eastward; there is no bad country to the westward scarcely; there is just a bit of bad land north of the Talbragar.
857. After leaving Dubbo, what sort of country is it going north? For about 16 or 17 miles it is all very fair agricultural land. For a distance of 8 miles from Dubbo it is good country; then for a distance of 6 or 8 miles it is all mixed country; but there is some very good land even within that stretch.

853. When you get north from Gilgandra, what sort of country is it? On the west side of the line from Gilgandra northward you might say that the whole way to Coonamble it is either fair wheat-land, or first-class pasture land. It is all flat country with very little natural water supply. A. Wilson.  
31 May, 1899.

859. What is the country on the east side? On the east side of the Castlereagh, about half-way to Coonamble, it is all fairly good agricultural land for some miles back from the river, turning off into poor piny and stony hills for a few miles back; from there on you get rich black-soil—boree plain, extending for some distance and widening out as you go down, spreading out more towards Coonabarabran. Closer in for about half the distance from Gilgandra towards Dubbo on the west, and extending for some distance, it is mostly very fair agricultural land, and some of it is first-class. On the east, from where you begin to approach near to the Castlereagh River going north, it is mostly poor, grass-seed country. It is of very little value for anything. It is very poor, sandy soil with no heart in it.

860. Do you consider the country between Dubbo and Coonamble is sufficiently good to warrant the construction of a railway? I have had that opinion for a good many years.

861. And Coonamble would be a depôt for the country to the north? Coonamble ought to be an important centre for a considerable population, chiefly pastoral, but with some land very well suited to agriculture.

862. Does any traffic from Walgett come in towards Coonamble? Yes; most of the heavy traffic that comes into Walgett goes through Narrabri, except when the river is up, which, of course, is always an important consideration. The road from Narrabri to Walgett is one of the old main pastoral roads, and a direct road was only opened up from Coonamble to Walgett fifteen or eighteen years ago.

863. Are you acquainted with the country from Mudgee to Coonamble? I have been from Mudgee to Gulgong frequently, and to Cobborah and Munderooran; I have not followed that line exactly into Coonamble, but I have been to Coonabarabran, and I have been all through the patch of country in between those two lines, that is in the great bend of the Castlereagh.

864. How would you describe the character of that country? From Mudgee to Gulgong, which is an old-settled district, you get some very good land, and some very poor land. Close about Gulgong there is a considerable area of very good arable land. After crossing a creek some 3 or 4 miles from Gulgong, the land is rather inferior until you get on to the alluvial flats on the Talbragar. It is rather inclined to be piny ridges, and although well grassed at times it is not good country. Some of it is fair wheat-land, but will require considerable expense to clear. It is pretty thickly timbered with fair-sized trees and considerable undergrowth of pine and other scrubs.

865. *Mr. Watson.*] Do you think it would stand continuous cropping if cleared? No; it is land which would be very fair arable land with ordinary treatment.

866. It would want long spells? Yes; if you take three or four crops it would want some recuperation before you could get another crop. There is no strong land there at all except that there are patches on the Talbragar of really first-class alluvial deposit; sometimes there is none and sometimes there may be a few thousand acres. I think, perhaps, the largest patch, and certainly the best, is the property of Mr. Rouse, at Cobborah. I think it consists of 8,000 or 9,000 acres of chiefly old grants, which I find are pretty good evidences of the value of the land in out-lying places, especially if taken up by a Rouse or a Lawson. There is a very fine patch there. The moment you cross the Talbragar, going along to Munderooran, it is really very poor land; it is not worthless, but where it is fairly flat, and is not too heavily timbered or scrubby, it is of the same light character, although a good deal of it is fair wheat-land. Unless wheat is at a higher price than it seems likely to be, I doubt whether there is any money in it for some time to come. From Munderooran, for a good many miles, it is of the same class—rough, and grass-seedy.

867. Light soil? The same light, indifferent soil, and it continues hilly, ridgy country right away till you get on to the same big plain approaching Coonamble. There are occasional patches through there of decomposed trap soil, volcanic patches of 500 or 1,000 acres occasionally, extending for a good few miles through that country on Yarragreen and Tundaburine. That patch of country is all pretty well closely settled. From a few miles north of Munderooran till you get out to the open country towards Coonamble it is all pretty well closely settled. It is settled by men with from 1,000 to 2,560 acres each.

868. *Chairman.*] Are there many patches of that volcanic soil? No; there are, perhaps, half a dozen. I do not suppose they would run to more than 10,000 acres. Round about, they are striking features cropping up, otherwise it is rather poor country.

869. *Dr. Garran.*] In your travels about this country, I presume from your occupation you have looked at the land more through the spectacles of a pastoralist than through the spectacles of an agriculturist? Most of my visits have been to see what value was in the land. I was always a bit of a farmer, even when I was a pastoralist, and my work has taken me a great deal into the settled districts. I always make it a feature in my reports to say what land I think is valuable. For instance, whether it is lucerne land, wheat land, or corn land.

870. You judge the land from a double point of view? Certainly.

871. Do you know the original proposal to reach Coonamble was from Nevertire to Warren? Yes; I gave evidence at the inquiry.

872. Do you know that a previous Committee reported against that proposal? Yes.

873. Do you know the route from Warren to Coonamble? Yes.

874. Is the soil there black soil mostly? It is nearly all black soil on that low-lying somewhat wet plain known as the Macquarie Plain.

875. It is all alluvial, I suppose? It is all alluvial; it is not rich alluvial, but it has considerable strength.

876. Do you consider that wet, black soil suitable for wheat cultivation? No; I have formed the opinion, and my experience shows, that it is practically unsuitable for growing wheat.

877. If that line were made it would not settle small, wheat farmers? No, as an extensive business I think they would be very unwise to start. Of course, there are patches of red forest occasionally in these places, and that is very fair agricultural land.

878. Which do you think on the whole is the better soil—the alluvial soil and the washing of the hills, or the disintegrated red trap soil? For cultivation purposes the disintegrated red trap soil is the better.

879. Is not that also the best for pastoral purposes? That is rather a difficult question, because so much depends upon the seasons.

880. Does it not grow a sweeter grass? It does, but if you get an abundant season there is an enormous growth.

A. Wilson. growth on that heavy black plain; in fact you could hardly describe its capabilities. On the other hand, a moderate rainfall which will produce a useful effect on red land is absolutely worthless on black soil.

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881. Is it too hard for the rain to get in? No; I think there is something in the soil. In winter time it is rather cold, and it is much more friable on top. It does not make a firm covering for the seed and the roots. In bad seasons it produces very little vegetation—we describe it as practically coming out of the ground; whereas with a firm soil the moment you get sufficient rain some growth takes place at once.

882. Will that black soil grow lucerne? It will, but it is not at all suited to lucerne. The clay is too near the surface. It has only a comparatively thin covering of black rich soil on top.

883. It is rather a critical business for a farmer to work that black soil? It is practically unfit for farming.

884. And even for pastoral purposes it is only at its best in particular seasons? That is all.

885. Whereas the red soil is always good when you have a fair supply of rain? It brings out a very much better average result.

886. If we look to the settlement of population, we should do better to take the railway through a red soil district than through a black soil district? Even apparently through a poorer country.

887. Then on the whole you do not think the previous Committee erred in judgment in deprecating the extension of that line from Warren? Certainly not. I gave evidence unfavourable to it.

888. Are you aware that the immediate proposal before the Committee is to make a line from Dubbo to Coonamble, and that as a rival route there has been suggested an extension of the line from Mudgee to Coonamble? Yes.

889. We are to some extent now considering the respective merits of those two routes? Yes.

890. Previous witnesses have differed rather from your estimate of the value of the land immediately north of Dubbo. We have been told that the country from Dubbo nearly to Gilgandra consists of ironbark ranges? I have ridden over a good part of the road, and I saw little or no ironbark.

891. Is it not a great place for ironbark? Yes; this patch of country to the east, and a long distance to the east, will be of no value for anything but timber for a long time to come.

892. Of course when you say to the east you mean the country between Dubbo and Cobborah? From Dubbo to Mundooran.

893. It is a great place for getting sleepers? Yes.

894. And even in the valleys is the land poor? There are no valleys. It is poor land all the way, because where there is soil it is that red soil with very little in it, and it grows nothing but spear grass. I think there is a good deal of iron in the soil.

895. The washings of that particular formation do not make a good soil? No.

896. Suppose these ranges north of Dubbo exist, are the valleys between them fertile? The ranges are not of any altitude. It is only undulating country. I do not think any of the hills would be more than 300 feet or 400 feet above the general level. There might be odd places where it is a little more.

897. We have been told not to expect settlement or cultivation between Dubbo and Gilgandra? I know there is some very excellent arable land for a good many miles. I have ridden there, and I have ridden off the track, too. I always reckon that I form a very much better idea of country from riding about than from travelling in a buggy or in a coach.

898. I suppose the road surveyors like to get the sounder country? Yes.

899. That is very often the least productive country? Very often.

900. So that you have to go off the route to see the richest land? Yes.

901. Then we have been told that between Gilgandra and Coonamble the land is well fitted for settlement for pretty well the whole distance? So it is. Of course a great deal of the land as you get near Coonamble is alienated in large blocks.

902. Coonamble is on a rich plain? Yes; and practically that is the character of the surrounding country for a good distance.

903. Does that plain begin at Gilgandra? You might almost say you are on the edge of it at Gilgandra, because all down the Marthaguy Creek there are streaks of plain mixed with valleys, and it gradually trends out into more open country.

904. You formed the opinion that the land between Gilgandra and Coonamble is fit for fairly close settlement? Yes.

905. Now, we come to the extension of the Mudgee line. Your description seems to imply that the land is variable in quality for the whole distance—nearly until you get to Coonamble Plain? Once you leave Gulgong it is not very variable; it is of a very low average quality.

906. All the way? Practically all the way.

907. Is half the land you pass through on either side good and half bad? A great deal of it is very fair grazing land, especially where it has been improved, as it has been, owing to the settlement on the Yarragreen Run and some of the surrounding places.

908. *Mr. Watson.*] Towards which centre? North-east from Gilgandra; I fancy the red line on the map would go right through the heart of Yarragreen run.

909. *Dr. Garran.*] I asked that question because previous witnesses led us to think that the special recommendation of the Mudgee line is that it will go through better country on the whole than the Dubbo line, and will lead to more permanent settlement hereafter? I am sorry to say I cannot endorse that opinion.

910. Your opinion is that taken altogether the Dubbo-Coonamble line, mile for mile, would settle more land than the Mudgee-Coonamble line? I am. There is this to be said, that the best of the country is at either end, and the Mudgee end of course commands practically all Gulgong, and that is only 18 miles. The good country at the other end will be fairly served by the line under your consideration, and the great bulk of the intervening land will provide very little traffic.

911. Have you covered the country at all between Coolah and Gilgandra? Certainly; I have ridden over that country exactly in that way.

912. Will you describe the country as you went? You cross the Trap Hill about 4 miles out of Coolah, and from there the whole way to Gilgandra I do not think there are 500 acres of good land altogether. One large station there ruined the last owner, and practically he had to give it up to Mr. Thomas Buckland; I think there was no stock on it at all.

913. If that is the case, Mundooran would not have been able to feed stock sent from the west? The country all about Mundooran is really poor. A. Wilson.
914. We have had it in evidence that during this very bad season one squatter sent 25,000 sheep and that he pastured them at Mundooran? That is the sort of country on which the grass is never eaten unless there is nothing else to fall back upon. It is all poor grass-seedy country that ordinary residents cannot make a living off. There has been practically no stock of any consequence as a regular thing in that district for some years. I could refer you to stock returns from some of these places. For that reason this seedy-grass has probably stayed on the country there. 31 May, 1899.
915. Do you mean to say that the far western sheep are so hungry or so hardy that they would eat what local sheep will not eat? They would eat anything; they would eat scrub, box-grass. It is like a starving man in a boat chewing leather, and that is the condition of millions of sheep in the Colony at the present time.
916. Is that how you account for it? Yes.
917. Do they not go to the mountains in drought; to country which has been practically unoccupied for years—why do they go there? Because there is no other resource for them.
918. Suppose in going north or north-west from Gulgong, the country is so inferior as you say, shall we do any better by keeping more to the east? There is a little more settlement on Talbragar.
919. There would be no object in making Coonabarabran the point to aim at for the line, I suppose? You get into considerable difficulties up that way.
920. You get into the Warrumbungle Range? You get into a sort of pocket of that range.
921. So that you could not get out? No.
922. Coonamble is the point at which we must aim? Certainly.
923. The only question would be between taking a direct line, as marked on the map here, and bending a little to the east for a portion of the route? Yes.
924. Shall we gain by making such a loop? I can see no possible advantage to be gained.
925. So far as you know, the route laid out on that map is as good as we can take? I have a very decided opinion to that effect.
926. You would not deviate that line? Certainly not.
927. You think that is the best line between the two points? Of course there are other reasons which I think should weigh with the Committee in coming to a decision.
928. What reasons? I think, in the general interest of the country, it is well to maintain the importance of well established towns and not drag everything to Sydney. On many occasions, of course, there will be a great deal of traffic between Coonamble and Dubbo, which would not occur if they have to go to Sydney or continue to make the journey under existing conditions.
929. Is Dubbo a great farming centre? No, it is rapidly developing; but just round the town of Dubbo it is not.
930. Have they, this season, been sending produce up north and north-west? The Bourke people told me that they have been supplied better and more cheaply with produce from below Dubbo this year than ever they have been.
931. We have had one witness who said that he could get the stuff more cheaply from Dubbo than they could grow it at Bourke; do you think that possible? Certainly, because of the difference in climate.
932. We have had that stoutly denied by another witness? If you take into consideration the losses in the years when you had no crops at Bourke, I am quite certain that the average would come out not in favour of Dubbo but in favour of the country within 30 or 40 miles of Dubbo, Narramine, and Trangie.
933. The Upper Macquarie, say? Once you get past Warren there is practically no cultivation.
934. You can put Warren as the limit of the country which can supply fodder to the north-west? Yes; there would be little patches of country, but practically this is all flooded country in wet seasons, right away to the Barwon.
935. Is Dubbo a better place for getting fodder in for a place like Walgett than Mudgee would be? I think it would be altogether in favour of Dubbo.
936. Could you cultivate wheaten hay all the way to Coonamble? You could, but when you get on that black plain I reckon that unless you can get patches of hard, red, box country it is not worth the trouble.
937. Between Gilgandra and Coonamble could you grow lucerne hay for the squatters to the north-west? You could grow wheaten hay; there is very little lucerne country anywhere down there.
938. Could you grow garden vegetables for sending north? Yes.
939. Any quantity? Yes; it is only a question of water.
940. Can they grow vegetables at Walgett? Yes.
941. Without irrigation? In an ordinary season.
942. How far must we go back towards Sydney before you can grow lucerne hay? It is a question of soil practically. About Narramine they grow very fair lucerne, and there are some very fine patches of lucerne land about Dubbo and up to Talbragar. These flats, of course, are limited.
943. Can they do so at Wellington? Yes.
944. Between Wellington and Dubbo? Yes; there are very fair lucerne paddocks. I do not call it first-class lucerne land; but still it does give very fair returns.
945. But taking the country between Wellington and Narramine, may that be considered a fodder-producing country? Yes. I suppose half of it is under crop.
946. What sort? Nearly all wheat.
947. For hay? It all depends. A great deal of it is for hay. Hay from that district has been coming to Moree, Narrabri, and Tamworth this season.
948. *Mr. Levien.*] From where? From west of Orange. I bought hay there to send to Moree; I found that I could buy it more cheaply from Milthorpe, Orange, or Wellington, than I could buy it on the Northern line.
949. Railway freight and all included? Yes.
950. *Dr. Garran.*] Where did you buy this wheaten hay? I bought some from Milthorpe and some came from below Wellington.
951. *Mr. Levien.*] You sent the hay to Sydney, and thence to Moree? Yes; and it cost me less than I could buy the same stuff for in Tamworth. I applied to Garvin and Cousens, and when I wrote to tell them how it worked out, they ordered several trucks of hay to be sent up.

- A. Wilson. 952. *Dr. Garran.*] Apart from irrigation, the squatters to the north must depend for their fodder on the land to the south-west? My opinion is that that is the only route to Walgett.
- 31 May, 1899. 953. The squatters to the north cannot grow their own wheat and hay without irrigation? Practically, west of Nyngan I doubt very much if they can, because there are so many seasons of drought.
954. They must depend for their fodder upon the farmers to the south-east? I think so.
955. You think there will be a permanent trade in fodder from those districts with the north-west country? There must be always a considerable trade. It varies enormously according to the seasons.
956. Supposing this line were made from Mudgee to Coonamble, would not there be a good trade in lucerne and wheaten hay with the north and the west? I do not think there would. There would certainly be the natural growth even of that country, as I have described it, to supply all the west. I do not think Mudgee would supply any market out there, except in an excessive drought like the present one.
957. What part of that line would find a market to the north-west? I reckon there would be enough grown on the patch of country between Mundooran and Coonamble.
958. All the land between Mundooran and Coonamble would be a fodder-producing country? No; for the first few miles out of Mundooran the land is very poor, but afterwards all this country between the projected line and the Castlereagh would be very fair wheat land.
959. All that is good fodder country? No, there are some hard ridges in between; but there is a considerable extent of good land.
960. By the time you have reached Coonamble have you got to the northern limit of the hay-growing district? If you put it as a business affair I say yes.
961. Can settlers go north of Coonamble and hope to grow hay at a profit to sell to the north-west? Certainly not. For one thing, it is nearly all flooded country in a wet season, and it is all that low black flat soil.
962. To sum up, of the two lines to Coonamble, which do you think will be the more valuable to the north-west country in respect to the supply of fodder? I should say the Dubbo line. For one thing, the area of available country at Mudgee is so restricted. It is only a narrow valley for 25 miles or so.
963. The land round the foot of the Warrumbungle Range, on the western side, we are told, is rich—is that so? That is the upper edge of the same great western plain, but that does not commence until you are a bit away from Coonamble.
964. Would that grow good fodder? That is exactly the same country as a great deal of the Liverpool Plains, and I consider it is not suitable for cultivation at all. It is first-class grazing land.
965. Are there not any flats at the foot of the ranges? Near the ranges there is a little farming done; but once you get on to that western decomposed trap formation, my experience is that it is not suitable for cultivation with a profit.
966. Then, close settlement is hardly possible on the Warrumbungle Range? West of that range they are nearly all large properties; nearly all the good country is alienated.
967. But it is first-class pastoral country? Yes.
968. There will be no use in the railway edging close to that country for the sake of settlement? Not a bit.
969. So that we may as well take the surveyed line as the best line? That is my opinion.
970. Do you think the Coonamble line ought to go on to Walgett or to stop where it is? I think it ought to go on to Walgett.
971. Would you go right into Walgett or stop short of the flooded land? That is a question which will require a great deal of detailed inquiry. I am speaking from superficial knowledge, having regard to the cheaper access and the shorter distance to the sea-board.
972. Is there any part between Walgett and Brewarrina, on the south side of the river, where there would be a high dry site for the railway terminus? There might be a spot or two; there are different spots of high land there; but nearly the whole of that country, almost without exception, is liable to inundation.
973. The whole of the south bank? Yes.
974. You think Walgett is a natural centre? It is a natural centre which should be considered; and it is the head of navigation for all practical purposes. You have your main roads on both sides of the river north and west, and two roads going out in different directions to the north-west. You have the main road up the Namoi and the main road into Walgett; it is certainly a place to be considered.
975. You have said that in the earlier days Walgett was always approached from Narrabri. If we now make the approach from Coonamble should we not take trade away from Newcastle and bring it more direct to Sydney? I suppose it would suffer slightly in that way.
976. If the Walgett people are connected with Narrabri they would have a shorter road to use by way of Newcastle than by way of Bathurst? Slightly.
977. And cheaper transit? Certainly.
978. Do you know whether they have any preference in the matter? My opinion is that in most of these outlying places if they get a reasonable show for a railway they will grab at the first.
979. I suppose the gain of a railway is so enormous that to have a railway at all is more important to them than the choice of a route? That is the general opinion before the railway comes; they are not always of that opinion afterwards.
980. If the railway comes they will get their stores up by dray if it is a little cheaper? They will do all sorts of things until the railway comes; they will make any sacrifice to get a railway.
981. That implies that the evidence of people who live in the towns is to be taken with a little discount? I think you have had enough experience of that. I have given some little study to this question, and about a year ago I addressed to the Minister for Works a letter in which I gave a good deal of information as to distances, and made comparisons of all the routes you have suggested. I think the Minister promised to have an examination made of the country between Coonabarabran, Gunnedah, and Quirindi, in this connection, before the matter was finally brought up. I wrote rather a long letter to the Minister, and it was published afterwards.
982. In that letter, if I remember aright, you recommended a line from Curlewis westward? Yes.
983. That line would be more northerly than any line you have been describing here to-day? That line follows what you might call the natural contour of the country. It crosses the Dividing Range between the Namoi and the Castlereagh. I consulted Mr. Stawell, who surveyed this line, and he told me that he believed my selected route was the best for crossing that ridge, but that he found—he made an exploration of the

- the route—it was taking him too much to the north-west, and that therefore he could not possibly make use of it. He admitted that it was the proper place to cross the Warrumbungle Range.
984. *Mr. Watson.*] Why start from Curlewis in preference to Werris Creek? Railway managers will tell you that it is always a bad thing to start a line at a sharp angle from an existing line. One of my principal reasons for suggesting this route is that the whole of the land from Werris Creek to Coolah is in the hands of large owners, almost without exception, and besides it is nearly all a purely pastoral country. It is a rich pastoral district, and is practically in the hands of four or five persons. Curlewis is a sort of mixed country which did not tempt the early settlers, but it is proving to be land suited for close settlement. For a good many miles out of Curlewis it is all held in holdings of from 1,000 acres up to 2,560 acres, perhaps more. You scarcely touch any large estate from Curlewis until you get to Bomerah. You follow the natural contour of the country. You pass through the best portion of Yarragreen and the upper end of Tandaburine.
985. *Dr. Garran.*] You say you follow the natural contour of the country;—do you follow the range or the valley? No; it is all pretty flat country from Curlewis. Gilgandra and Curlewis, I think, are almost of the same altitude.
986. Suppose this line from Dubbo to Coonamble were made, and there came another from Curlewis to Gilgandra, would not that answer all the purposes of a direct connection with Dubbo? It is, I think, nearly 16 miles further by that route to Werris Creek than the so-called direct route.
987. This cross-country line is recommended as a starving stock route? I have a considerable opinion of it in that respect.
988. Would it not be as useful to go from Curlewis to Gilgandra for that purpose as to go from Werris Creek to Dubbo? Much more useful, because you are keeping much nearer the stock country, the country which is liable to suffer from drought, and if it is going from the north you see how little of a detour you have to make.
989. Even sheep from Bourke and Nyngan and Cobar would only have to come down to Dubbo and go up to Gilgandra to get along to that country? It is a fairly direct route to New England.
990. If the route itself were preferable to the other, both on engineering grounds and on account of the character of the country, it would answer the purpose of the line equally well? It would answer the purpose, I contend, better. There is a great deal of stock interchanged, according to the seasons, between these districts and those districts, and that enables them to keep in touch. You avoid all the large holdings by that route, and each line leaves the other practically at a right angle. Another point in its favour is that there is good coal at Curlewis.
991. Supposing we made the Mudgee line instead of the Dubbo line, then your cross-country line from Curlewis to Munderoran would not answer the same purpose? It could not be made to fit in to answer the same purpose.
992. Supposing that cross line were a desirable line for natural purposes it would fit in better with a Dubbo line than with a Mudgee line? It will not fit in with a Mudgee line unless you go right on to Dubbo with a through line.
993. *Mr. Levien.*] Is there any agricultural land between Curlewis and Munderoran as you pass through these large estates? For a few miles outside Curlewis it is all agricultural land. A great deal of the land on the western slopes is medium agricultural land. By my route I do not think you go through 3 miles of any estate. The only plain you cross is from below Wondabah house till you get to Tamerang mountain. That is the only piece of Liverpool Plain country which you touch on the whole route; the other is all box forest.
994. *Dr. Garran.*] How is the country between Quirindi and that point? As soon as you get away from the country surrounding Quirindi, where there is a fair settlement, for 6 or 8 miles you get on to very heavy rich Liverpool Plain country.
995. Near the Australian Agricultural Company's estate? You pass along the northern boundary of some of their estates, Walhalland, Mooki, Kickerbil, Bywarrah boundary, Coomoo Coomoo, Yarraman, Mooredevil, Rockgeidgil, Bundella, on to Oakey Creek.
996. For many things that would be a better line than a line going to Werris Creek straight? I think not, if there is to be a stock connection across country.
997. You think the Quirindi line is not a preferable line? I hardly think so, especially as it would pass through large properties the whole way.
998. Taking your line from Curlewis to Gilgandra, is there sufficient good unsold land on either side of that line for 10 miles to make a handsome endowment towards the cost of its construction? No; I think the main body of it, the Bomerah Run, has all been disposed of under the present Act. The leases of two or three places, more particularly Yarragreen, fell in three or four years ago, and it was all taken up under the conditional purchase clauses of the previous Act.
999. We could not look to any receipts from land sales to contribute towards the cost of making that line? Not to any extent.
1000. It will have to be made on its merits as a traffic line? As a traffic line, and any value it has as a connection between the northern and the western systems.
1001. A line made for starving stock is not a line which we hope to be used every week or every year? It is not profitable for the country at any time.
1002. Apart from the starving-stock business, do you think there will be a reasonable cross-country traffic to justify a light line from Curlewis? I think it would develop into a very satisfactory line.
1003. The Walgett people would then have a choice of ports? Yes.
1004. So would the Coonamble people? Yes.
1005. *Mr. Watson.*] How far is it from Curlewis to Gilgandra? 110 miles.
1006. *Mr. Levien.*] When all is said and done, will not all these railways pass through big estates? No. Take the Curlewis line; I think 3 miles is the most it will pass through any one holding.
1007. It will be all Government land that a line from Curlewis will pass through? No, small holdings. Wondabah is all cut up now. I think it crosses one or two blocks of Trinkey, and two or three blocks of Bando.
1008. Did you ever send in a plan of your line to the Department? No.
1009. You can send in a plan? I could have brought a plan here to-day if I had thought that it would be useful. I will send up a plan if it is required.



- A. Wilson. 1010. *Chairman.*] You acquired your knowledge of this country from having to inspect and report? Yes, in a great many cases; it compels you to have a knowledge which no mere observation will give you. It is a responsible examination I make, and I have to put my opinions on record afterwards.
- 31 May, 1899. 1011. *Mr. Dick.*] You seem to have an undoubted preference for a line from Dubbo to Coonamble? Yes.
1012. Do you base that preference upon general grounds of public policy? No; first, as an approach to Coonamble distinctly. I have held that opinion for years, and have expressed it publicly; on that ground alone I hold that it is the best route.
1013. You know there is a large triangular piece of country lying between the Western line and the Northern line, and the North-western line, which at present is unserved by any railway? Yes; I have taken that fact into consideration.
1014. The problem is, how is this large section of land to be best served by a railway? By this line from Muswellbrook to Coonabarabran *via* Cassilis; at some time, in the not very distant future, that line might be justifiable, and the existence of the line I have indicated will in no way render that unnecessary; at least, I conceive that if the country develops, as it probably will do, that line may be justified, and that will not unduly compete with any of the existing lines.
1015. Why do you think the necessity for a Dubbo-Coonamble line is at present more pressing than the construction of a line from Muswellbrook *via* Cassilis to Coonabarabran? For one thing, the question of cost makes an enormous difference.
1016. That would be the same whether the line is constructed now or in the future? Yes. Other considerations are the number of people to be served and the possibility of the line paying, and the distance from a market of any kind; these are considerations which weigh with me in forming the opinion that Coonamble is certainly entitled to be served by the readiest and best route. Out there there are no roads, only tracks, whereas the road from Mudgee to Cassilis is a beautiful road. A great deal of the passenger business goes to Mudgee. No doubt the valley of the Goulburn is a Hunter River settlement.
1017. Have you noticed that Coonamble, Cassilis, Muswellbrook, and Newcastle are almost in a direct line, whereas to go to Sydney from Coonamble you have to go practically round the arc of a large circle? It is a pretty direct line from Coonamble to Newcastle. I did not work out the figures of that line, because no figures were available. Without a survey it is a very unknown country to plunge into without a railway. We have to get over a great stretch of rough country from Cassilis to Coonabarabran.
1018. Where is the rough country? Pretty well all the way from Cassilis to Coonabarabran, because you are following the line of the main range. You cross a very considerable range to get out of Cassilis, and you cross a very high range between Talbragar and Coolaburragundi Creek. Then of course to get out of Coolah you have to get over a very high ridge nearly 2,000 feet high on the surveyed line, and then you have to practically follow broken country along this Warrumbungle Range to get any where near there.
1019. You made a statement, I think, that it would not be much further from Walgett to Newcastle, *via* this proposed connecting line, than from Newcastle, *via* Narrabri to Walgett? Yes. I was surprised to find how near it was.
1020. Will you state the distances from your published letter? From Walgett to Newcastle, *via* Narrabri, it is 361 miles. Then from Newcastle to Werris Creek it is 153 miles; from Werris Creek to Curlewis, 182 miles; from Curlewis to Gilgandra, 110 miles; and from Gilgandra to Walgett, 122 miles; or a total length of 418 miles.
1021. I think you have an objection to sending railway lines through large estates? I think it is bad policy distinctly.
1022. By large estates, I suppose you mean large pastoral estates? Yes, especially when the country is almost purely of a pastoral character.
1023. Is it not a fact that pastoral products are the best paying products which a railway line can cater for? I should not think so. The product bears the highest rate of carriage, I suppose, or nearly so, but then the annual output is comparatively small. Shearing lasts only four, five, or six weeks, and there is no traffic for the rest of the year except perhaps a little stock. Poor agricultural country will give both a passenger and a mixed traffic. An acre of this country will grow 4 or 5 lb. of wool in a year and it would take a lot of acres to make a big traffic, not that I wish to disparage the encouragement of the pastoral industry.
1024. From actual observation you are able to tell us of the character of the land between Dubbo and Gilgandra? Yes, except a little bit where I have not happened to go.
1025. It has been stated in evidence here that from Dubbo for some distance towards Gilgandra the line will pass through a rather ridgy and sandy piece of country, but that there is not much of it? That is almost exactly what I said.
1026. What are we to gather from the statement that "there is not much of it"? For one thing, you are just crossing the tail of this large patch of more or less really poor country. You just get the left wing of it. If you went a few miles further to the west, you would not touch that country at all.
1027. What is the character of the country immediately west of the section from Dubbo to Gilgandra? Nearly all this country is good agricultural land till you get out near Gilgandra.
1028. Do you know why it is proposed to keep to the eastern wing of that sandy country rather than enter the good country to the west? If you go further to the west it will involve further cost in crossing the Macquarie. That route has been the main line of traffic for many years.
1029. Do you not think that mile for mile you would have more agricultural settlement on the Mudgee line than on the Dubbo line? It is rather a difficult question to answer, because for the last 30 or 40 miles, as you go into Coonamble, the land is mostly in the hands of a few proprietors, and the line will not induce much settlement there.
1030. That will be the same in the case of both lines? It will. I should say that mile for mile the country along the Dubbo-Coonamble line will be more productive—that fewer acres would maintain a family.
1031. Do you think that that line, if constructed, would absolutely preclude an extension from Mudgee? No. It is quite possible to my mind to conceive, and at no very distant date, an extension from Mudgee to Coonabarabran, or from Muswellbrook through Cassilis to Coonabarabran. I contemplate that possibility, as I mentioned in my letter.
1032. From your own observations, which of those lines would offer the greater engineering difficulties? The Muswellbrook-Coonabarabran line, because you have to cross the main range to get from the eastern to the

the western waters, whereas at Mudgee you are over the main range. Between Cassilis and Coolah there are two or three leading ridges. From Hall's Creek to Coolah your line will be along the foothills of the main Liverpool Range, crossing a great many creeks and considerable ridges.

A. Wilson.  
31 May, 1899.

1033. *Mr. Watson.*] And consequently expensive? I should think the most expensive sort of construction you could have.

1034. *Mr. Dick.*] Would that proposed connection between Curlewis and the Western line offer any facilities other than a facility for the transit of starving stock? For one thing, the whole of that route would be in the hands of small holders; and for another thing, a cross country connection avoids getting on to the mountains at all. You keep on the natural level of the interior fairly well. Another thing which I think would probably be of some importance is the coal at Curlewis. It is the only good coal which so far has been developed west of the range.

1035. Would not the line you indicate have to cross Warrumbungle Range two or three times? No; only once.

1036. At a point in a direct line between Coonabarabran and Cassilis? Yes; it would cross the Warrumbungle Range about 20 miles on the Cassilis side of Coonabarabran.

1037. Could not the Cassilis extension cross the Warrumbungle Range at the same point. No.

1038. You could not carry the Cassilis extension to the east of the Warrumbungle Range? No.

1039. You would have to make a considerable detour? You would.

1040. Is the country through which that detour would pass, good agricultural country? No; the only bad bit of country along that line is along the tail of the Warrumbungle Range.

1041. *Mr. Watson.*] Does your projected line pass through any good agricultural country? It passes through what I call fair agricultural land the whole way, with the exception of the Warrumbungle Range. I am distinctly of opinion that it makes the best cut through that country.

1042. *Mr. Trickett.*] When the Warren-Coonamble line was under consideration you gave similar evidence to that which you have given to-day? Practically the same.

1043. You also indicated the line which you seem now to favour between Curlewis and some point on a line from Coonamble to Dubbo? Yes.

1044. So that your opinions have not changed in any way? No; anything I have learned since has only confirmed my former opinion.

1045. How does the rainfall compare between the Dubbo-Coonamble line and the Mudgee Coonamble line? I think the rainfall at Mudgee would be from 4 to 6 inches greater than the rainfall at Dubbo. Once you get out to Talbragar it is much of a muchness in this patch of country.

1046. When you get beyond Cobborah it would be pretty well a uniform rainfall whichever route you took? Yes. There is a great similarity about the country. Once you get on the plain the rainfall immediately becomes less.

1047. Starting from Wellington to Nyngan on the west, and then going from Muswellbrook to Narrabri on the east, and starting somewhere in the direction of Mudgee on the various lines which have been brought under our notice—the Warren-Coonamble, the Dubbo-Coonamble, the Mudgee-Coonamble, or the Curlewis to some point between Coonamble to Dubbo—which of these lines do you think would serve that tract of intervening country the best? Two lines of railway would be necessary—one from Dubbo to Coonamble and one from Curlewis to a point between those two centres, and I suggest Gilgandra, because it is a centre of population.

1048. Looking at it from this point of view, that if only one railway were to be constructed to serve the intervening country I have mentioned, with Coonamble as its objective point, which do you think would be best? From Muswellbrook, *via* Cassilis, to Coonamble.

1049. Do you think it is a tract of country which can possibly be served by either of the existing main lines? I do not.

1050. *Mr. Watson.*] I think you said you thought it would be a proper thing to extend the Coonamble line to Walgett? The country between Coonamble and Walgett is nearly all low-lying pastoral country.

1051. Do you think it would be advisable to run a railway right on to Walgett from Coonamble? I think the day is not far distant when it would be justifiable to do so.

1052. You are aware that in ordinary seasons Walgett sends a good portion of its traffic down the river? I have always kept that point in mind, as it is at the head of navigation.

1053. Do you think a railway could compete with the river traffic, especially as we are to have a railway to Brewarrina? That is another question. I think the railway to Brewarrina is a mistake, and to some extent militates against this extension from Coonamble towards Walgett.

1054. In view of the certain construction of a line to Brewarrina, do you still think it advisable to take a line on to Walgett? It is about 80 miles from Brewarrina to Walgett—two short days' journey. It is mostly very good country right up into Queensland. If we were at Walgett I have no doubt that we should get still more of the Queensland traffic.

1055. If you were going to approve, as a private speculation, of the construction of a line of railway towards Coonamble, would you make Dubbo or Mudgee your starting point? I would not consider any place but Dubbo.

1056. No doubt the main portion of the traffic over any line in that direction will be collected at, and sent on from, Coonamble? Yes.

1057. Coonamble will be an important depôt, and it will have their traffic along whatever line is taken into Sydney? Yes.

1058. In the construction of a railway, you would not depend to any large extent upon the traffic which you could pick up between Coonamble and the junction with the main line? No.

1059. At whatever point you junction with the main line, the greater portion of the traffic over the extension will come *via* Coonamble, and, therefore, will not be picked up *en route*? Yes.

THURSDAY, 1 JUNE, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. WILLIAM JOSEPH TRICKETT.WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Charles Edward Rennie, Chief Draftsman, Department of Lands, sworn, and examined:—

C. E. Rennie.  
1 June, 1899.

1060. *Chairman.*] You are Chief Draftsman in the Department of Lands? Yes.

1061. Have you prepared a map showing the country to be served by the proposed railway from Dubbo to Coonamble? Yes; the map I produce shows the tenure of the lands within 20 miles on each side, except the south-west side, where the width is narrowed to allow of the influence of the Western line from Dubbo onwards. The space between the two lines is divided equally. The lands within that limit comprise alienated land, 1,177,000 acres; settlement and improvement leases, 115,800 acres; reserves, 520,000 acres; and Crown land, 650,600 acres. The alienated land is shown by blue tint, the settlement and improvement leases by blue hatching, the Crown lands by brown tint, and the reserves by green tint. The Crown lands within the leases which expire between 1899 and 1900 comprise 540,000 acres, the lands held under occupation license 43,200 acres, and lands untenanted, unless it may be by annual lease, 67,400 acres. I might add that the railway reserve, No. 1,612, which was notified approximately along the route from Dubbo to Coonamble contains about 73,000 acres. The trial line now under consideration is within the boundaries of that reserve for about 14 miles—that is, in broken pieces. Here and there it goes into the reserve to a total length of 14 miles, and the length of the reserve itself is about 92 miles.

1062. *Mr. Watson.*] The reserve practically continues all the way with the line? Yes; but it is broken here and there.

1063. *Chairman.*] The line, as proposed now, leaves the reserve? Yes.

1064. The broken pieces, if added together, make about 14 miles; so that although the railway reserve is 92 miles long, the proposed line only follows that reserve for about 14 miles? Yes.

1065. How much land did you say is available for settlement? About 650,600 acres.

1066. Those lands are not occupied at all? Those lands will include leasehold areas and occupation licenses.

1067. Are there any propositions to withdraw any of the lands from lease? Many of the leaseholds are now being inspected and prepared for subdivision when the leases expire next year. We are now taking steps to have them inspected and ready for subdivision.

1068. I suppose you anticipate getting increased rentals if the railway is constructed? I could not say that. I suppose it might be reasonable to believe that it would improve the conditions of settlement. Whether the total rent would be increased it would be hard to say.

1069. You do not know the quality of the land along the line? No. The only indication I could give of its quality would be a statement of the rents.

1070. Starting from Dubbo and going towards Gilgandra how do the rents compare with the rents further along the line? From Dubbo towards Gilgandra the rents run from 2½d. to 2¾d.; and from Gilgandra, they range from 2¾d. to 4¼d.

1071. From that statement, you would judge that the land up to Gilgandra is not so good as the land further on? No; it is better further on.

1072. Would land that would bring in a rent of 2d. be considered good land or comparatively poor land? Comparatively poor land.\*

1073. Do you produce a map in reference to the alternative line from Mudgee to Coonamble? Yes; the area is taken out for 20 miles on each side of the line. The alienated lands comprise 2,059,000 acres; lands held under settlement, improvement, and scrub leases, 241,800; Crown lands, 1,194,200 acres, and reserves, 573,200 acres. The Crown lands are made up as follows:—Leasehold areas expiring in 1899 and 1900, 552,000 acres; held under occupation license, 155,000 acres; and untenanted, unless on annual lease, 487,200 acres. That line passes through the railway reserve for a distance of about 48 miles in broken pieces.

1074. Can you state the length of the line running through alienated land? I have not had that information taken out.

1075. How are the various forms of holdings indicated on this map? The brown tint shows the Crown lands; the blue tint shows the alienated land; the blue hatching shows the lands held under settlement, improvement, and scrub leases, and the green tint shows the reserves. Here the pastoral rents range from 1d. near Cobborah to 4¼d. near Coonamble. The pastoral holdings commence at the boundary of the Central Division.

1076. *Mr. Watson.*] How far is that boundary beyond Gulgong? About 15 miles.

1077. And at that point the Central Division pastoral leases commence? Yes. There are rents as high as 4¼d. near Coonamble, close to the line.

1078. The land about there is common to either line? Part of it would be; I could not say how much from the map.

1079. *Chairman.*] What are the rents about Munderooran? The rents range from about 1½d. to 2½d.

1080. Judging from those rents, would you say that that land is poor too? It is comparatively poor. There is a considerable area of land untenanted, unless it may be by annual lease, on the southern side of the line, west and south-west of Munderooran.

1081. Do you know the character of that country? No; but I believe it is scrub country. I know, generally, that the land is inferior in those two patches of country.

1082. Otherwise, the land would have been alienated long ago? Yes. There is no land taken up there at all, although it has been open for a long time. I believe there are annual leases here and there; but they do not require residence.

1083. There is a greater proportion of alienated land on the Mudgee line than there is on the Dubbo line? There is more alienated land on this line. 1084.

\* NOTE (on revision):—Rent is not in itself conclusive evidence of relative value.

1084. I mean in proportion to the length of the line? There is not very much difference in the proportion, because there only about 2,000,000 acres on this line, and nearly a million and a quarter on the other.
1085. *Mr. Watson.*] Once you get out of the Eastern Division the proportion is about the same? Yes.
1086. *Mr. Shepherd.*] Are you personally acquainted with that county? No.
1087. You judge of its value chiefly by the rentals? Yes; I am really giving the rentals as an indication of the character of the country. I have not sufficient local knowledge to speak authoritatively about its value.
1088. And the proportion of unalienated land on each line is about the same? We were speaking just now about the alienated lands. As regards the unalienated lands, when you get beyond the Eastern Division the proportion is much about the same, I think. Perhaps there is rather more unalienated land on the Mudgee line than on the Dubbo line.
1089. Judging from the rentals, should you imagine that there is more good land on the Mudgee line than on the other? I hardly think so. There is more good land on the Dubbo line, I think, than on the Mudgee line.
1090. Do you think it is possible that any of these lands have been taken up in view of a railway coming there, and that a higher rate possibly has been given on that account? It would be hard to say.
1091. You are aware that very often areas are taken up in anticipation of a railway coming in that direction? Yes.
1092. I wish to know if you are of opinion that any of these blocks have been taken up with that expectation? I hardly think so, to any extent.
1093. *Mr. Watson.*] The pastoral leases which will run out in 1900, and which cover most of the Crown lands within the area specified, were entered upon a good while ago? Yes; they are leases of long standing.
1094. Consequently they would not have been taken up with a view to gain an advantage from the construction of a railway? It is not at all likely.
1095. In each case the rentals would have been fixed some years ago? Yes; quite independently, I should say, of any probable future railway communication.
1096. The most recent date at which rentals could have been reappraised in that division was at the least five years ago? The general reappraisal took place about ten years ago.
1097. There was a possibility of getting a reappraisal under the Act of 1895, but I think that was confined to the Western Division, was it not? Yes.
1098. In any case there would have been no reappraisal recently with a special view to the possibility of a railway being constructed? I do not think that is at all likely.
1099. From the rentals which you have given it would appear that the land around Mundooran is not as good as the land between Dubbo and Gilgandra? No.
1100. It was given in evidence here that the land along the Mudgee route generally is much superior to the land along the Dubbo route, and more especially superior to that between Dubbo and Gilgandra? Judging by the rentals, that would not be borne out I should say.
1101. Is the land round Mundooran and Gilgandra in the same Land Board district? Part is and part is not. Part of this area is within the Dubbo Land Board district and part within the Tamworth Land Board District.
1102. How near to Mundooran does the Dubbo Land Board district extend? It takes in Mundooran and goes a mile or two easterly from it.
1103. So far as the land to the west of Mundooran is concerned, the rentals would be appraised by the same authority as would appraise the land between Dubbo and Gilgandra? Yes, unless in any special circumstances. It is not likely there were any.
1104. The probability is that the rentals were fixed by the same authority so far as recommendation was concerned? Yes, except one or two holdings immediately north of Mundooran.
1105. Therefore they would have a knowledge of both classes of country? Yes; it would be done by the same chairman with different local members.
1106. You stated that there is a large area of unoccupied land south-west of Mundooran;—it is possible that that land is occupied under annual lease? It may be; but I know that a large part of it is unoccupied.
1107. Is that any considerable area approximately? I could not make a guess; I will supply the area.\*
1108. The presumption is that, as it is unoccupied, it is worthless? Comparatively speaking, yes; it is scrub land.
1109. Do you know the total length of the railway reserve between Mudgee and Coonamble? The length occupied by the railway is 48 miles.
1110. I thought, perhaps, close at hand to the railway there might be a further length of railway reserve which would be available, perhaps, to exchange for other land? Yes; but I could not tell you how much without looking it up.
1111. Can you say whether, in addition to the 48 miles of railway reserve which it traverses, there is any considerable area of Crown land which it passes through? Yes. For the greater part of the way the Mudgee-Coonamble line traverses Crown lands or reserves.
1112. Although not specifically a railway reserve, it goes through Crown lands for a considerable part of the way? I would not say the major part off hand, but it does for a large part of the way anyhow.
1113. Coming now to the Dubbo-Coonamble line,—you stated that there is a railway reserve for practically the whole distance, although the railway does not follow the reserve for any considerable length? Yes.
1114. In the event of alienated land being required for the construction of the railway, there would be land available for exchange or sale for nearly the whole distance, would there not? For a good part of the way there would be land available.
1115. In the event of the line going, as projected, along the western boundary of the Castlereagh, and largely through alienated lands, there would be Crown lands, in the shape of railway reserves, available for exchange? Yes; but it might not be suitable to exchange it, because, unless that reserve joins the lands already held, it would be of no use to give it to the holder; there is only a narrow strip facing the railway required to be resumed or given in exchange.
1116. Do you know whether the holdings, say right out to Gilgandra, are small or large? They are various;

\* NOTE (on revision).—The area referred to contains, approximately, 170,000 acres.

C. E. Rennie. various; there are selectors holdings and there are groups held by pastoral lessees; I could not say the proportion in each case.

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1117. Do you know whether the selectors there still remain in occupation or have their selections been transferred? I could not answer that offhand; in fact, it is hard to arrive at the actual ownership; the Conditional Purchase Inspector could give you a general idea of the proportion held by the selectors.

1118. I suppose you could not let us know, without referring to the records, how the rentals run beyond the 20-mile limit north from Coonamble? I could find out.

1119. Are these rentals 15 or 20 miles north of Coonamble indicated on your map? Yes; the rentals within the 20-mile limit are 3½d. and 3¾d.

1120. Further out, I presume there would be a gradual decrease in the rental? I could not say without looking up the rentals.

1121. You are not able to say whether it is as good land further out, from which you would expect a similar amount of stock or other traffic? I would not like to answer the question without having sufficient information.

1122. In any case, the land about Coonamble is for pastoral purposes, bearing a fairly high rental, as considered in your Department? Yes.

1123. As compared with some of the more western country, it is two or three times as much? Yes.

1124. The probability therefore is that it is very good land as far as pastoral purposes are concerned? It is good pastoral land.

1125. *Mr. Trickett.*] With regard to the varied rentals, where do the best rents start—near Dubbo? There is a group of good holdings just to the west of Gilgandra which go up to 4d. and 4½d. These holdings are just on the 20-mile limit; they surround the village of Collie.

1126. That block of land which you say returns good rents is a considerable distance from railway communication? It is 25 miles to Warren from the centre of that group of holdings.

1127. *Chairman.*] Suppose that land is of the same class as the land at Mundooran; the reason why you would get higher rents in that case is that it is nearer railway communication than Mundooran is? No; I think it is mainly due to the character of the country, not to railway communication.

1128. *Mr. Trickett.*] Are we to infer from that statement that railway communication is not a factor in inducing higher Crown rents? I would not say that at all, but I know casually from Departmental reports that the country about Mundooran is inferior. I know that the character of the country about Mundooran is inferior to that of this group of holdings apart from the question of railway communication.

1129. *Mr. Watson.*] Railway communication is not of a special value to pastoral land; the difference in the carriage of wool does not affect the rentals very much? It would affect them to some extent because it must facilitate business.

1130. *Mr. Trickett.*] Railway communication is of greater advantage to agricultural land than pastoral land? I suppose it would be.

1131. On both these lines it appears that about half a million acres of Crown lands will fall in during this year and next year? Yes.

1132. Those lands are comprised within an area of 20 miles from either side of each line? That is so.

1133. Within these respective areas there must be a number of patches of good agricultural land? There will be some.

1134. Is there any provision in the Land Acts whereby these lands could be reserved from alienation until a railway is made available so that we should get more than the nominal rent which we would otherwise get? There is power in the Land law to reserve these lands if the Department thinks fit.

1135. What reserves would you call them? We might make them classification reserves—that is reserves pending determination of the form of settlement.

1136. Has that plan ever been adopted? Not specifically for the purpose of railway communication, so far as I am aware.\*

1137. Seeing that these agricultural patches would be so largely benefited by railway communication do you not think it would be rather a good thing if they could be set aside when a railway is projected, so as to get a fair rent for the lands and help to pay the cost of the railway? All these leases which are about to expire are now being inspected and the lands classified by the inspecting surveyor. He goes over each holding; he inspects the land and classifies it and says how it shall be dealt with—what is the best way to dispose of it, whether by pastoral occupation or agricultural occupation. If in any case it is thought desirable any areas he points out as agricultural lands may be reserved and so kept back if the Department thinks it wise to do so, with a view to railway communication coming along at a later date. But they are all being classified; they are not thrown open indiscriminately. There is still the question as to whether the Government may introduce any fresh policy for the disposing of these leasehold areas.

1138. I suppose one can recognise that agricultural lands which are brought nearer to, and within speedy despatch of, the market are thereby considerably increased in value? I should think so, decidedly. I do not think there is a very large proportion of agricultural land there because, although the land is good, the seasons are so uncertain.

1139. Will you state what are the rentals from Dubbo to Coonamble? Between Dubbo and Coonamble they vary from 1½d. to 4½d., and between Mudgee and Coonamble they vary from 1d. to 4½d.

1140. Is that a sufficient difference in rental to indicate any very great difference in the character of the country? You can hardly put these two statements alongside one another because the length of line is different and the pastoral holdings to which these rents refer are unevenly distributed. For instance on one line you might have only one holding at 4½d. and all the rest at 1½d., while on the other line you might have half a dozen holdings at 4d. and only one holding at 1d.

1141. You could not strike an average? I could take out all the rentals on both routes and strike an average.

1142. It would not be much of a guide? No; because the distribution is so uneven.

1143. *Mr. Dick.*] Referring to the Dubbo-Coonamble line, I think you said that from Dubbo up close to Gilgandra there is a considerable area of poor land, judging by the fact that a lot of it has not been taken up? The most of the land, which is not taken up, is on the Mudgee line—that is between Cobborah and west of Mundooran.

1144.

\* NOTE (on revision):—Railway reserves, that is reserves one mile wide on each side of a projected railway line, have frequently been made, including all classes of Crown land within that limit.

1144. The tintings on both maps refer to the same class of holding, do they not? The brown tint on each map shows the Crown land; all the land to the east of Mundooran, although it is coloured brown, is untenanted; but that other brown tint is occupied as pastoral land. C. E. Rennie.  
1 June, 1899.
1145. Take the Dubbo-Coonamble line; there is a considerable area from Dubbo to Gilgandra coloured brown;—is that under occupation? Yes, with the exception of portions on the extreme 20-mile limit east of Gilgandra.
1146. What is the character of that land, judging from the rentals paid? In a great number of cases it is not so good as that nearer Coonamble. The rents are only about half what they are up at the Coonamble end.
1147. You stated that south-west of Mundooran there is some inferior land;—how far from Mundooran towards the Dubbo-Coonamble line does that inferior land extend? It extends to about 15 miles from the line, south-west and west.
1148. You also stated that round Cobborah there is an area of poor land, too? Yes; the rents are low about Cobborah.
1149. Taking the big wall map, would it be correct to assert that that corner of land, bounded by Gilgandra, Mundooran, Cobborah, and then down to Dubbo on one side, and by the proposed Dubbo-Coonamble line on the other, is of inferior quality? Yes; taken as a whole it is.
1150. On that map, from Mudgee to Gulgong, what is the character of that land? I do not know anything about that country at all. It is nearly all alienated land. All that blue tint is alienated.
1151. The greater part of the leased lands in the Central Division on the Mudgee line will revert to the Crown next year? Yes.
1152. Have any of the leased lands, not in that particular district, but in the Central Division, recently reverted to the Crown? Some leases have expired recently; some leases this year, and some leases last year.
1153. What has been the policy in regard to their future disposition? We have had them inspected and the areas classified and set apart for settlement according to the character of the country. That which is suitable for agriculture is set apart for agriculture, and what is suitable for pastoral tenancy is set apart for pastoral occupation.
1154. Can you offer an opinion as to the possible disposition of the Crown lands in the area along the Mudgee line? I could not venture an opinion.
1155. Do you know whether it is of such a character as to render it fit for agricultural settlement? I could not say.
1156. That area of good holdings round the village of Collie is practically within the sphere of influence of the Warren railway, is it not? The extreme southern edge comes to about 20 miles from Warren.
1157. Does that good land extend close towards the proposed Dubbo-Coonamble line? Yes;—it runs practically the whole width across from the proposed line to the 20-mile limit.

Edward McCarthy Allman, Assistant Engineer, Roads Branch, Department of Public Works, sworn, and examined:—

1158. *Chairman.*] You hold the position of Assistant Engineer in the Roads and Bridges Department? Yes. E. McC.  
Allman.  
1 June, 1899.
1159. Have you prepared a statement showing the cost of maintaining the roads in the district affected by the proposed railway from Dubbo to Coonamble? I have a statement here showing the expenditure for the last four years on the roads which may be affected by the construction of that railway.
1160. Will you be good enough to read that statement? It is as follows:—

STATEMENT of Expenditure on Scheduled Roads which may be affected by construction of proposed Railway, Dubbo to Coonamble.

Name of Road.	Mileage.	1895-6.	1896-7.	1897-8.	1898-9 (to date).	Total.
Coonamble to Combogolong .....	41	£ 442	£ 216	£ 286	£ 293	£ 1,237
„ towards Billarcy .....	15	65	30	4	30	129
„ „ Quambone .....	38	30	.....	67	65	162
„ „ Baradine .....	45	83	75	100	100	358
„ „ Coonimbia .....	36	.....	.....	52	52	104
„ to Pilliga .....	58	40	.....	92	89	221
„ „ Tunderburine .....	43	110	110	100	80	400
„ „ Gilgandra .....	53	756	500	502	698	2,456
„ „ Warrèn .....	65	842	549	492	343	2,226
Bourbah to Gulargambone .....	13	.....	.....	67	70	137
Budgeon to Gilgandra .....	48	.....	138	59	60	257
Gilgandra, via Collie, to Bemunnel .....	50	.....	.....	25	60	85
Quambone to Boundary Gate .....	52	244	73	150	148	615
Coonabarabran to Tenandra .....	44	400	328	400	491	1,619
„ „ Timor Rock .....	8	41	50	55	115	261
„ „ Mundooran .....	44	1,250	708	950	914	3,822
„ „ Black Stump .....	43	499	300	400	378	1,577
Belah to Tannabah .....	10	142	100	100	94	436
Binneway to Merrygoen .....	26	.....	.....	.....	27	27
Boogaldi to Pilliga .....	62	151	84	100	69	404
Mundooran to Tunderburine .....	41	676	305	400	436	1,817
Redbank to Merrygoen .....	17	11	50	30	41	132
Dubbo towards Cobborah .....	47	788	463	187	458	1,896
„ to Gilgandra .....	42	735	1,210	1,198	1,500	4,643
Cobborah to Gilgandra .....	60	766	629	648	598	2,631
Walgett to Combogolong .....	29	126	85	92	78	381
Pilliga to Walgett .....	66	448	275	310	263	1,296
„ via Bugilbone, to Eurie .....	60	191	115	129	110	545
Total .....	.....	8,836	6,393	6,995	7,650	29,874

- E. McC. Allman.  
1 June, 1899.
1161. Do you also produce a tracing? I produce a tracing showing the position of the roads mentioned in that schedule, and the route of the proposed railway, with a 20-mile limit shown on either side.
1162. Is roadmaking costly in that district? Fairly so; there is an absence of roadmaking material, especially towards Coonamble, I understand. I have no personal knowledge of the district.
1163. Do you think the construction of a railway would relieve the Department of any considerable expenditure on those roads? I do not think it is likely. It is scarcely possible to say exactly how it would affect the road expenditure; but it is not likely, I think, that it would be reduced to any material extent, and it is possible that it might be increased.
1164. If there is closer settlement, or settlement for agricultural purposes, the chances are that there will be an increased expenditure? It is quite likely. Some of the roads, no doubt, will be reduced in their expenditure, and others might be increased in theirs.
1165. *Mr. Trickett.*] Do you know this road? No, I have no personal knowledge of that district. I have never been further from Mudgee than Cobborah in that direction.
1166. Of what class are the roads which you enumerated? They are of various classes. We do not schedule them as roads of different classes now exactly, although some may have a larger expenditure than others.
1167. Do you metal these roads at all? Towards Coonamble, I think, they chiefly use corduroy; about Dubbo, of course, metal is used.
1168. I suppose the traffic is not very great? I cannot speak of that, as I have not been over the roads.
1169. Some parts of this country are slightly flooded? I should imagine so.
1170. I suppose the use of corduroy indicates that it is slightly flooded? It indicates a want of other material chiefly—bad country as far as roadmaking is concerned, and want of stone.
1171. *Mr. Shepherd.*] As a rule, corduroy is not used unless it is over boggy ground? No, unless other material is available. We should prefer stone if we could get it.
1172. *Mr. Trickett.*] Have you observed in the Department that, when a railway is constructed through a district, the road expenditure is increased or decreased? I think experience generally tends to show that there is very little alteration in the expenditure; that probably, if anything, it is rather increased than otherwise.
1173. That would be done by feeding-roads? Exactly. We reduce the expenditure on parallel lines of road and increase it on others.
1174. Is the road from Mudgee to Coonamble of the same character as the road from Dubbo to Coonamble? I do not know; I only know the road from Mudgee to Cobborah.
1175. Will you describe the country you saw on the road from Mudgee to Cobborah? It is fairly good from Mudgee for some distance out towards Guntawang, and further on it passes through a good deal of rather poor country right on to Cobborah, with patches here and there of rather better land; but, on the whole, poor from Guntawang on to Cobborah. Of course some of the roads which are mentioned in this schedule are at a considerable distance from the proposed line, but they are included, as probably bearing on it to some extent.
1176. *Mr. Shepherd.*] Do these figures indicate about the annual expenditure? Yes; it would be about £7,500.
1177. *Mr. Trickett.*] I suppose, except in cases where there is a metal road, the construction of a railway does not save much expense in road construction? I think, on the whole, it does not. Where we save on one road we probably increase our expenditure on another.
1178. *Mr. Shepherd.*] If the railway is running parallel with the road, I think it must relieve the road a good deal? Yes; as a rule, it does, but not always to the extent one might imagine. Suppose there are stations along a railway line at different intervals, you must have a road along the railway to bring the traffic into those particular stations; so that sometimes they use a parallel road a good deal more than would be supposed; but, on the whole, it certainly does reduce the expenditure on a parallel road.
1179. *Mr. Trickett.*] Is this a cleared road from Dubbo to Coonamble? It is almost sure to be cleared, because there is a pretty heavy expenditure on the road.
1180. *Chairman.*] Judging from this list of the roads, would that indicate that there is a considerable settlement in that district? It would seem to do so. I do not know what the settlement or the population in the district is, but it is fairly well served with roads.

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William Henry Hall, Sub-editor, Statistical Year Books, Government Statistician's Office, sworn,  
and examined:—

- W. H. Hall.  
1 June, 1899.
1181. *Chairman.*] What position do you hold? I am sub-editor of the Statistical Year Books.
1182. *Mr. Trickett.*] Have you brought any statistical information in regard to the production and the population on the route of the proposed line from Dubbo to Coonamble, and also on the route of the alternative line from Mudgee to Coonamble? Yes.
1183. Will you first state the population of districts which will be served by the construction of the Dubbo-Coonamble line? It is as follows:—Gilgandra, 1,420; Gulargambone, 1,200; Muntooran, 750; Quambone, 760; Collie, 500; Coonamble, 2,650; total, 7,280.
1184. When was that information taken? Within the last couple of months.
1185. How far from Dubbo do you start? At about 25 miles.
1186. Will you now state the area under cultivation, and the yield therefrom in that area? I have taken out the figures for two years so as to show a comparison between the land under cultivation in 1897 and the land under cultivation in 1898? I have taken out the figures of each district for which I have taken out the population.

1187. Will you be good enough to read the statement? It is as follows:—

W. H. Hall.

PROPOSED RAILWAY FROM DUBBO TO COONAMBLE.

1 June, 1899.

STATEMENT showing the Area under Cultivation and Yield therefrom, for the years 1897 and 1898, which would be served by the construction of such a line.

Table with columns for District, Year, Total Area Cultivated, Wheat, Maize, Other Grains, Hay (Wheaten, Oaten and Barley, Lucerne), Green Food, and Area under various crops (Potatoes, Grape Vines, Oranges, Other Fruit Orchards, All other Crops). Includes a SUMMARY section at the bottom.

1188. It is only fair to add that the depreciation in 1898 is, in all probability, accounted for by the prolonged drought? Yes.

1189. You did not give us any comparative figures as to the population? No; in a general way I referred to the census, and I found that the increase in the population was slightly in excess of the general average of the colony. That, of course, may be attributed to the throwing open of the runs in the Central Division for settlement.

1190. Now, with regard to the alternative line from Mudgee to Coonamble, have you prepared an estimate of the population which it would serve? Yes. In the district of Gulgong, 3,060; Cobborah, 1,100; Leadville, 800; Mundooran, 750; Gilgandra, 1,420; Gulargambone, 1,200; Quambone, 760; Coonamble, 2,650; total, 11,740.

1191. Does it show a similar increase? Yes.

1192. And it is accounted for in the same way as the other? Yes.

1193. Have you prepared a statement with regard to mineral production? Yes. So far as I could ascertain, there is no mineral production on the Dubbo-Coonamble line. The statement reads as follows:—

SUGGESTED RAILWAY FROM MUDGEE TO COONAMBLE.

STATEMENT showing the Mineral Production for 1897 and 1898 within the area which would be served by the construction of such a line.

Table showing Mineral Production for 1897 and 1898, with columns for District, Mineral, and Value. Includes data for Gulgong and Cobborah.

1194. Have you prepared a statement showing the area under cultivation along this line? Yes; it is as follows:—

SUGGESTED RAILWAY FROM MUDGEE TO COONAMBLE.

STATEMENT showing the Area under Cultivation and Yield therefrom, for the years 1897 and 1898, which would be served by the construction of such a line.

Table with columns for District, Year, Total Area Cultivated, Wheat, Maize, Other Grains, Hay (Wheaten, Oaten and Barley, Lucerne), Green Food, and Area under various crops (Potatoes, Grape Vines, Oranges, Other Fruit Orchards, All other Crops). Includes a SUMMARY section at the bottom.



- W. H. Hall. 1195. I suppose in this case also it is only reasonable to say that any deterioration in the crops is accounted for by the prolonged drought? Yes.
- 1 June, 1899. 1196. In going through the returns which you have given, has it occurred to you which portion of the country is the more productive as regard these two lines? No, I never looked into that matter. I do not think it would be of much assistance to the Committee, for this reason: that in all these places you will find flats which are particularly suitable for agriculture and you may find perhaps that on one line they may be more settled than on the other. Again, perhaps, there is a greater rainfall on the Mudgee line than on the Dubbo line, and that would assist cultivation to a very great extent.
1197. Do you know the two lines? No.
1198. *Mr. Shepherd.*] You have not at your disposal, I suppose, any returns for the years previous to these four droughty years? Not in that form. We have to destroy the returns.
1199. Can you remember if the average returns were really better before these droughty years commenced? I could not say.
1200. You could hardly take the returns for two droughty years as a fair criterion of the value of the land? No. You would have to go back for at least from five to seven years to get a fair average.
1201. You have not calculated, I suppose, the average between these two lines? No.
1202. The reason why in some cases there is no return for 1898, is because the 1898 season may have been more severe than the 1897 season? Yes.
1203. In such cases the statement would hardly show a fair return for any progress which might be made in those districts? Yes.
1204. A bad season would discourage cultivation altogether? Yes; but I think it is only in the case of Gulargambone that there was no return in 1898 and that only in regard to that area under oranges.

George Charles Yeo, Draftsman, Stock Branch, Department of Mines and Agriculture, sworn, and examined:—

- G. C. Yeo. 1205. *Chairman.*] You are an officer in the Stock Branch of the Mines Department? Yes.
- 1 June, 1899. 1206. *Mr. Watson.*] You know that it is proposed to construct a railway from Dubbo to Coonamble, and that there is an alternative proposal to take the railway from Mudgee to Coonamble? Yes.
1207. Have you got any information as to the disposition of the stock within those districts? I have a return of the stock in both areas likely to be affected. I have a map showing by red tint the area of stock which is likely to be returned over the Dubbo-Coonamble line, and by blue edging the area of stock which is likely to be returned over the Mudgee-Coonamble line.
1208. Taking the Dubbo-Coonamble line, what information have you brought? I have prepared this statement:—

PROPOSED RAILWAY FROM DUBBO TO COONAMBLE.  
NUMBER of Stock and Weight of Wool in area tinted pink.

Year.	Wool.	Horses.	Cattle.	Sheep.
	Tons.			
1895 .....	.....	11,867	29,253	2,238,717
1896 .....	.....	12,126	32,716	2,298,494
1897 .....	5,522	11,301	27,101	2,152,307
1898 .....	5,515	10,860	23,235	2,148,560

1209. Have you a return with regard to the stock traffic? Yes; it is as follows:—

*Stock traffic up the Castlereagh towards Dubbo.*

Year.	Horses.	Cattle.	Sheep.
1896 ... ..	780	7,800	300,000
1897 ... ..	710	5,000	205,000
1898 ... ..	500	5,000	250,000

1210. Has there been any marked falling off in the quantity of sheep or other stock during the last few years? There is a falling off of about 90,000 in sheep from 1895 to the end of 1898.
1211. Even then they do not seem to have done so badly as pastoralists in some parts of the more western country? No.
1212. I do not think you mentioned the exact dimension of the red patch;—how far does it extend on either side of the line and beyond Coonamble? I start at 16 miles from Dubbo.
1213. From there on how far does it extend on each side of the line? West from Gilgandra 32 miles, and easterly from the projected line 60 miles.
1214. It continues at these respective distances from each side of the line until you get past Coonamble? Yes.
1215. How far past Coonamble does it go northerly? 50 miles.
1216. That area which you have described is the area which comprises this stock? Yes.
1217. Do you think that is the maximum area which will be affected by the influence of the line? Yes; more especially having regard to the country to the north of Coonamble.
1218. Do you think the influence of this railway will not extend further than 50 miles north of Coonamble as far as stock is concerned? I do not think so, because they will work up the Namoi towards Narrabri; there are other ways of getting away.
1219. By the Namoi, towards Narrabri, I suppose on the east, and on the other side they would go towards the Western line? Towards Brewarrina.
1220. The red-tinted area is, in your opinion, the fair limit of the influence of the projected line as regards stock? Yes.
1221. Where does that stock go now;—does it go generally towards Dubbo, Mudgee, or the Northern line? Generally towards Dubbo, perhaps some of it would work to Warren.
1222. Do you know if any of it goes towards Mudgee? It goes down to Mudgee; another lot works down through Cassilis and Merriwa.

1223. Is there any considerable portion of that stock sent towards Newcastle? I could not answer that question. G. C. Yeo.
1224. Do you know anything of the character of the country between Dubbo and Coonamble? I have never been there. June, 1899.
1225. Or of the country beyond Coonamble? No.
1226. You cannot tell how far it would contribute fat stock towards supporting the line? No.
1227. Can you say whether there is any marked amount of disease in stock there? No; that is a question for the Chief Inspector to answer.
1228. Does the stock from Walgett come down through Coonamble, or go towards the north-west line at Narrabri? There is a drift from Walgett, by the Castlereagh, to Dubbo.
1229. Has the number of large stock within the area described been stationary during the last few years? Since 1895 there has been a falling-off of about 6,000 in cattle, and of about 1,000 in horses.
1230. Can you give any information as regards the stock on the suggested line from Mudgee to Coonamble? Yes; that area is edged blue on the map.
1231. How far from Mudgee do you start? Starting at a point 20 miles north of Mudgee, it extends 20 miles on each side of the line, and eventually includes all the portion tinted red—that is, the portion to which the statistics I gave in relation to the Dubbo-Coonamble line refer.
1232. The information you are about to give is really an addition to that which you have given? Yes.
1233. Will you read the return? It is as follows:—

SUGGESTED RAILWAY LINE FROM MUDGEE TO COONAMBLE.  
NUMBER of Stock and Weight of Wool in area edged blue. Area about 9,600 square miles.

Year.	Wool.	Horses.	Cattle.	Sheep.
	tons.			
1895 .....	.....	14,614	39,820	2,396,419
1896 .....	.....	14,886	42,338	2,481,958
1897 .....	5,959	13,244	37,091	2,321,397
1898 .....	5,973	13,716	33,602	2,326,891

1234. That return includes all the figures which you gave previously? Yes.
1235. With the addition of the stock within the boundaries of the district you have marked as being affected by a line from Mudgee towards Coonamble? Yes.
1236. It includes what was given before, and in order to get the number of the stock within the added district we should require to subtract the figures which you gave previously? Yes. The same drift of stock which passes up the Castlereagh also affects this area, but there is an additional drift going Coonabarabran way towards Mundooran.
1237. Have you prepared a statement on that point? Yes. It is as follows:—

*Stock traffic from Coonabarabran towards Mundooran.*

Year.	Horses.	Cattle.	Sheep.
1896 ... ..	600	500	40,000
1897 ... ..	500	400	38,000
1898 ... ..	500	600	41,780

1238. You have not been over any of the land along this line either? I have not been in that part of the country at all.

FRIDAY, 2 JUNE, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.

The Hon. WILLIAM JOSEPH TRICKETT.  
WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Alexander Bruce, Chief Inspector of Stock, Department of Mines and Agriculture, sworn, and examined:—

1239. *Mr. Watson.*] Mr. Yeo was unable to tell the Committee, yesterday, the number of fat stock which might be expected to travel along the proposed line from Dubbo to Coonamble, or what influence the construction of a line between those two points would have upon the more easy getting of fat stock to market;—have you any ideas on that point? I should say that the country he pointed out to me on the map is almost wholly fattening country. A. Bruce.  
June, 1899.
1240. Therefore, you think the construction of this railway would result in an increased number of fat stock being carried towards market? I believe it would. It would mean a considerable saving to the owner, and in the condition in which the stock was landed at Sydney.
1241. It is difficult to get fat stock to market in condition if you have too great a distance to take them to a railway? Yes, even in an ordinary season. Travelling stock reserves are either being largely sold or let, so that as a rule, if the stock have to travel any distance on foot, they are greatly deteriorated.
1242. As a rule there is no grass on the stock routes? No; this process of letting the reserves, and of their being skinned by the lessees, is constantly going on more and more. In olden times, when a stock route passed through a run, the cattle got the benefit of the grass on the same footing as the stock on the run; but when they are let in small areas, and the lessee has land alongside, he has it in his power to skin the reserves and leave nothing on them.

1243.

- A. Bruce. 1243. Generally, he eats out the reserves, spelling his own paddocks in the meantime? Yes; and as soon as a flush of grass comes, his own stock are on the reserve and eating it down. If the railway charges could be so fixed that the store stock as well as the fat could make use of the railway, it would be an immense benefit to the pastoralist, and to the country generally. There is a waste going on which is very serious even in ordinary times; and millions of sheep have been lost through the difficulty in getting them from where they were starving to where they could get grass.
- 2 June, 1899. 1244. From what Mr. Yeo said yesterday, I understand, notwithstanding the bad seasons recently, there has been a loss of only 90,000 sheep in the districts which will be influenced by this railway? There have been favoured districts. I suppose it has come under your notice that there was a good crop of wheat in the Narramine district which is not very far away, and this district must have got the benefit of the rains which helped the wheat. I know that they have been comparatively well off.
1245. Do you think that during the last few droughty seasons they have been specially favoured in these districts or is it merely a continuing of their normal condition? The quality of their pasture land had something to do with it, but they have been specially favoured so far as rainfall is concerned, as compared with rest of the Colony.
1246. Have you been over the country between Dubbo and Coonamble? I have been at Warren; I have been through the country from Wee Waa to Coonabarabran; and I know, from the accounts I get, and from people who I know are interested there, that a large portion of it is good fattening country.
1247. What I wish to ascertain is whether you have been out from Dubbo towards Gilgandra, for this reason: that we have been told that the land for that distance of 40 miles is comparatively poor? I have been from Mundooran to Dubbo.
1248. There is a proposal made for an alternative line from Mudgee to Coonamble which would pass through Mundooran;—what is the character of the country about Mundooran? It is not such good country as the country from Warren to Coonamble.
1249. From Dubbo, what is it? It is not good country at a comparatively short distance from Dubbo; it is fair country.
1250. At a short distance from Dubbo is it poor country? Yes, out in an easterly direction.
1251. And in a northerly direction? It gets better as you go north.
1252. How is it about Mundooran? It is fair country; there is some good country there.
1253. Is it good pastoral country? Yes.
1254. It was stated in evidence yesterday by Mr. Rennie, from the Lands Department, that a considerable area of Crown lands about Mundooran is unoccupied; I understand you to say that the country on a line between Mundooran and Dubbo is not good country? It is not good country; it is poor country.
1255. But north-west from Mundooran it is good land? It is good land.
1256. That is following the route of the proposed line from Mudgee to Coonamble? Yes.
1257. Now, referring to the line between Dubbo and Coonamble, do you know whether any of the land on that route is specially productive of disease, or is it sound country for stock? It is sound country. There are some spots about Dubbo which have anthrax on them, but that is to be found in a good many parts of the Colony.
1258. Any foot-rot? No.
1259. You would regard it all as sound carrying country for stock? Yes, and especially as you go north.
1260. Do you think the land to the north of Coonamble is equally good for fattening purposes? Yes, right up to Walgett.
1261. So that we might reasonably expect Coonamble to be made a depôt for the shipment of fat stock if a railway were constructed to that point? Yes.
1262. *Mr. Dick.*] I think you made a statement about the character of the country between Wee Waa and Coonabarabran? Yes, that is poor country. I have been from Wee Waa to Coonabarabran, by Baradine.
1263. Have you any general idea as to the movement of stock in that area—say, from Coonamble north to Walgett, and over towards the North-western line;—does the greater part of it drift down the Northern line? There is a large drift of stock up the Castlereagh.
1264. When you travelled from Wee Waa to Coonabarabran, what direction did you pursue after that? I came on then to Mundooran.
1265. What is the character of the country between Coonabarabran and Mundooran? There was some poor country there.
1266. *Dr. Garran.*] Supposing stock going to market from the Namoi, or north of the Namoi, and aiming at Dubbo to be trucked, would it be a very great gain to take the trucks at Coonamble? Very great.
1267. How much a head would that be worth? At present they would have to go on to Warren. I should think it would be worth 3d. a head on sheep.
1268. Do you think it would cause more stock to be sent if they could take the train at Coonamble? I think it would do more in saving condition than in the number of stock, because you would need to get rid of the stock somehow.
1269. All the stock which now trucks at Dubbo would certainly truck at Coonamble? Yes.
1270. So that the Commissioners would get the whole of the freight on that line? Yes.
1271. Do you think there would be a fair amount of business of that kind? Yes. There is a large area of first-class country to the north of the Darling from which the stock would come there.
1272. Is there much fat stock sent to Sydney now by road? None where they can get the rail.
1273. In a very good season, when there is plenty of water and grass on the road, is there still a quantity of stock sent by road? It is very seldom that there would be grass where the owner would not lose much more by travelling than by putting them on the train.
1274. Travelling by road has almost gone out of fashion for fat stock? Yes.
1275. And the railways have a monopoly of this business? Yes.
1276. I suppose you travel by road a good deal still? Yes. The owners of store stock see the money going away, but they do not see the immediate return, and they do not make use of the railway as I think they might do; but the time must come before very long when store stock will be put on the line as well as fat stock. There is no doubt about that being done, because the reserves are getting into that state that it is starvation to be on the road. I do not know if anything could be done in the direction which I suggested

A. Bruce.  
2 June, 1899.

suggested some time ago that for store stock on the level country there ought to be a differential rate. I believe an engine can take three times the load on level country that it can on even a moderately-steep gradient. If that were done there would be no use for reserves except on cross-country routes, and the condition would be kept on the store stock. You may buy store stock now half fat on the station, but when you get them on the run they are as poor as rooks, and it is a matter of perhaps four or five months additional keeping of the sheep to bring them up to the condition they were in when they left the place from whence they came. I saw a statement in a paper not long ago that in America they carry goods at a farthing a ton per mile. For the carriage of our cattle, taking Nyngan as a medium distance, we are paying a penny and a fifth per mile. In America the railways are not Government concerns, but are constructed by private enterprise, and conducted on ordinary business lines. There ought to be some means, I think, of our stock-owners being put in the same position as the men are in in America. If the rate were reduced to one-half I have no doubt that all the store stock would be got on the line. I am not in a position to speak with any certainty, but I believe, on the level country, where there is no rise in the gradient, it would pay the Department very well to carry in that way if they got sufficient loads. That should be a mere matter of arrangement. For instance, if they were carrying out the traffic on three lines, say to Bourke and Cobar and Coonamble, the trucks could be engaged all the week by working two days in the week on each of the three lines. At any rate, there ought to be some means found to reduce the cost of carrying stock. One of the greatest wastes going on in this Colony is putting the stock on the road.

1277. Is there much store stock going from the New England country out west? Not out west. To a large extent the fattening of store stock is carried on on the eastern side of the Colony. The outlying western stations do not fatten sheep as a rule. They sell them as stores. Then, again, if in time of drought the stock were carried from, say, Hay to the point where the gradients are heavy, they would be brought to where there was some feed, and they could from there proceed to the mountains. All the country from Narrandera to Hay is a perfect waste now, and in other directions it is the same.

1278. The Commissioners have made heavy reductions for starving stock, and you want them to make a reduction for store stock? Yes, as a regular thing on the level as compared with what they charge on bad gradients—that is to say, from Hay to Junee, from Bourke to Dubbo, and from Werris Creek to Moree.

1279. Still, if store stock lose a little condition on the road, they have time before them to fetch that condition when they get on to the fattening land? That might lose a season, and very frequently they do; and after an animal is starved like that it is a long time before it makes up. Again, if you put sheep on the road, the fleece is destroyed to a large extent. Burrs as well as dust get on the fleece, and altogether there is a great deterioration in the fleeces.

1280. Would that be so immediately after shearing? Not so much, but they are removed at all seasons of the year.

1281. But, of course, with regard to fat stock coming down, if they lose their condition on the road there is no time to fetch that up? No; it is directly seen, and they feel it.

1282. But the other is lost? Yes, they are losing quite as much, and not seeing it.

1283. Your opinion is, that as much money is lost by travelling store stock on the road—wasting it—as there would be by travelling fat stock on the road? Certainly.

1284. Although the squatter does not see it? Yes.

1285. Of course if a fat sheep loses 3d. or 6d. a head in coming down to market, you feel that loss directly? Yes, the buyers would soon tell them.

1286. But if he loses it on store stock, he hopes to make it up before the time comes for fattening? They do not see it. If they get the number home that is practically all they look at.

1287. With regard to the line from Dubbo to Coonamble, is the country beyond Coonamble fattening country? Yes, due north from Coonamble.

1288. Where do they get their store stock from? It would be further out; sometimes, perhaps, Queensland stock.

1289. Is the very dry country between Coonamble and the Darling fattening country or store country? You might say that it is all fattening country. It is not turned wholly to that account now, for in a great deal of it breeding goes on. It is all a class of country which would fatten.

1290. Do they mostly breed their own stock or do they buy store stock? I think they breed a great proportion.

1291. There is not much movement of store stock into that western country;—there is no business of that kind to be got by the railway? The railway would eventually get the carrying of them from where they are wanted. In America the stock are all moved by rail.

1292. Is there any movement of store stock out into our far west from the more settled districts? There is of breeding stock.

1293. I mean store stock? That comes to the same thing; it is looked at in the same light. The breeding stock might go out there; but the flow of store stock is the other way.

1294. I can understand their sending breeding stock up; but what I want to get at is, do the far western people breed enough stock for their own purpose or do they import store stock? They breed.

1295. But there is no movement of store stock out to the far west? Except at occasional times.

1296. Is there any business for the railway taking store stock to the west? I should not say that there would be much traffic in that line.

1297. Then the far western people send their store stock eastward to be fattened? As a rule.

1298. You think that with fairly low freights the railway would pick up a great deal of that business? Yes, and help in times of drought.

1299. Has it paid the western country which has been within reach of a railway to send starving stock to the east? If the drought had broken up within a reasonable time it would; but with a continuous drought such as we have had, lasting you might say for three years, I am afraid they will lose all the expense they have gone to in trying to get food for their stock.

1300. Then practically they have not sent much starving stock away? In a good many cases they left it too long, and they could not; the stock died on the run.

1301. Do you think a westward extension of our railways would save any great quantity of stock? A great quantity.

1302. Would it pay the squatters to send them away? It would pay them well.

1303.

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1303. Is there room in the east for that stock to come in and pay? Yes, unless in an exceptional general drought. There is always room in the mountains and on the eastern side of the Colony in dry times.
1304. Is not the eastern part of the country as fully stocked or as over-stocked as the western part? No; immense numbers of stock go to the mountains where they do not, as a rule, keep sheep, except for a few months in the height of summer.
1305. That is about the Australian Alps district? Yes.
1306. Is not New England pretty well stocked? Yes, it is fairly stocked; but they could take more for the time-being.
1307. Could they take a million sheep from the west? More than that, I should think.
1308. In addition to what they have been feeding of their own? Yes.
1309. That seems rather extraordinary? They could do that.
1310. Do they not keep fully stocked up? No; they are in times of drought content with country upon which they would not in ordinary times put a sheep.
1311. Can they carry in summer time in New England a very much larger quantity of stock than they can carry in winter time? Very much.
1312. So that in summer time they have grass to spare? Yes. On the other hand, there are times out west when they could carry an immense number more of sheep than they can do on an average.
1313. Take the three seasons through which we have been passing. If in the first season the western squatters had sent their stock to New England they would not have been able to get them back for three years? No; as it happened they have not had a three years' drought in the north-east part of the Colony.
1314. I am talking of the western squatters—could they get their sheep back, say, on to the Darling? I do not know if they send sheep from much farther west than the Barwon. As it happened, at the beginning of these three years they were fairly well off, and it is only lately that they have suffered so much.
1315. Your previous answers would imply that if the north and north-west squatters had sent their sheep over during the summer they would have had to get them back again in the winter? Yes. What I wish to say shortly is this, that there is not the opportunity of moving sheep from one place to another that there used to be; but as the railways progress these reserves will not be needed, and, with all due deference, I put before you the suggestion that store stock will have to go upon the railways, and that provision should as far as possible be made for that turning up.
1316. I quite understand you, but I am supposing these railways made, and I am supposing the reduced rates and other inducements for the western squatters to send their starving stock in a very dry summer to the mountain country, and then I ask must they have them back in the winter, or could they afford to let them stay over there for three years? They must take them from the mountains about this time of the year.
1317. They cannot permanently keep them there? They are leaving the Australian Alps now.
1318. Where are they going to? It is very hard to say; they do not know where to go.
1319. They cannot go back to the runs? No.
1320. There is not a blade of grass there? No; their owners are riding all over the country to find places to put the sheep.
1321. Of course this has been a very exceptional series of bad years? Very.
1322. Do you remember anything like it before? No.
1323. Do old squatters remember anything like it? As a rule, no; but some say the years 1838 to 1840 were as bad.
1324. The country was not stocked up then as it is now? No.
1325. Taking the ordinary dry seasons, the small droughts we have, you think the extension of the railway into the pastoral districts, with fairly low prices for store sheep, would lead to a great saving of sheep? There is no doubt that it would lead to a great saving both in lives and in condition.
1326. A saving in the quality of the sheep as well as the number? Yes, and especially in that of the fleec.
1327. *Mr. Trickett.*] Is that opinion founded upon experience? Yes, and from looking at it in this light—that at Home, a person who buys a store beast counts every ounce of condition which is on it, and expects not to lose a pound till he gets it to his farm and starts it off feeding. Here that has not been the case; but anyone can see on looking into it how much waste goes on in starving stock, and taking all the condition off them by the time they get home.
1328. That idea you have just expressed about the saving in the condition of the sheep has always been urged in favour of the construction of the various lines which we have been considering for a number of years? Yes.
1329. Has the construction of the lines relieved the squatter in that direction? To a considerable extent.
1330. On what lines? On the Hay line they are moving their sheep; I had a large number of certificates to issue through my inspectors for starving stock. There has been a very general movement in that way; they have been sending cattle even from the coast district by train to Tenterfield, and travelling them down the Clarence for pasture.
1331. Has the Cobar line been used? I cannot recollect any case of that inspector issuing a certificate for starving stock.
1332. Has the Parkes line been used? Yes.
1333. Has it been of advantage there in that respect? Yes, and at Dubbo, and Forbes, and Condobolin the inspector has been issuing certificates for starving stock.
1334. *Mr. Shepherd.*] I suppose you are thoroughly acquainted with the whole of the country between Dubbo and Coonamble? No; I know the country from Dubbo to Warren, and from Wee Waa to Coonabarabran, by Munderoran; but I do not know the country between. I have been from Munderoran to Dubbo.
1335. You are not personally acquainted with the country between these two routes? No; only from what I know of the character of the runs and the stock which comes from them.
1336. Do you know what are the chief grasses in that part of the country? No.
1337. Do you know if salt-bush is grown there to any extent? Yes, at one time. I look more at the character of the country. A great deal of it is black soil country.
1338. Have you noticed any deterioration in the character of the pasture in any part of the country from over-stocking or continuous stocking? Yes; I know more from hearsay than any other way. I have not been out so much as I was at one time, but I know that is going on, and it stands to reason that it must be.
- 1339.

1339. Have you any idea of the extent of the country which would be served by a railway from Dubbo to Coonamble—that is, in different directions beyond Coonamble;—for instance, do you think that the people below Walgett would use the Coonamble line? It would draw to some distance south and east, and to a very large extent from the north.

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1340. Is this part of the country stocked chiefly with sheep or cattle? Almost entirely with sheep.

1341. Do they seem to fatten fairly well? Yes.

1342. And they are sent pretty largely to market? Yes.

1343. If a railway is constructed I suppose it would be largely used for conveying sheep? No doubt it would.

1344. The travelling stock reserves, I understand, generally have poor pasture on them; they seem to be overrun rather too much;—is that not so? Yes; the greater part of them are under lease.

1345. I understand that these lands were reserved entirely for travelling stock? They are reserved from sale, not from lease. Travelling stock are supposed to get a share of the grass which is on them, but they are still under lease. Up to a year or two ago there were 7,000,000 acres in the travelling stock reserves, and out of that area only 600,000 or 700,000 acres were reserved from lease. In all the western country there are mile wide drift-ways, and these are all under lease. I think the greater part of the travelling stock reserves in the Central Division are also under lease. The small reserves in the Eastern Division are, as a rule, not under lease, but the area is very small in the Eastern Division.

1346. Do you not think it would be desirable to entirely reserve these travelling stock reserves? Yes.

1347. Because if they are allowed to be used by settlers it is quite likely that beasts travelling on them would be starved? It is not necessary in the Western Division, because, as I said, they are in large paddocks, and travelling stock get the same privilege to grass as stock in the paddocks; but it is different in the Central Division and in the Eastern Division, because there they are small, and let to people who have not large areas of land, and who have it in their power to skin them if they choose.

1348. It seems that there is a large extent of unoccupied country on both the proposed railway lines; have you had any report as to the character of that unoccupied country;—is it utterly useless? It is utterly useless or it would be taken up. There are something like 20,000,000 acres, including the mountains, in the Colony unoccupied.

1349. It may be that it is not taken up because it is not well watered? That would be one drawback.

1350. The character of the country might be fairly good, but if there is no water it would be utterly useless? Yes; but if it is not poor as well as dry they would take it up and conserve or sink for water.

1351. *Mr. Dick.*] You informed us that it is a somewhat important function of railways to bring starving stock and even store stock from the dry districts in a drought to places where they can get feed? Yes.

1352. And the shorter the distance over which the sheep can travel for that purpose the better? Yes.

1353. Taking the district of which Bourke is the centre, in which direction would they most easily arrive at places where they could get food during a drought—to the south down towards Dubbo, or to the east towards the Northern line, presuming that a railway were constructed in either case? During these late droughts they moved in large numbers in the direction of Mudgee, and beyond Mudgee to the hilly country. If the railway were extended to Walgett from Narrabri, then of course they would go by the Namoi towards New England.

1354. You mean that if the railway were extended out towards Walgett? Yes.

1355. Do you think that a railway if constructed in that direction would be the means of saving a lot of sheep, and as a consequence a great amount of wool? Yes; it would effect a great saving, and there would be a large increase in the trade if store stock could get on the line and be moved easily from one place to another.

1356. If a line were constructed from Werris Creek westerly, or west by south, do you think that would have the effect of relieving the drought-stricken districts? Yes; they could get away in that direction towards the mountains.

1357. *Chairman.*] You have had a considerable experience over the whole of New South Wales? I have been over a good deal of the Colony.

1358. You have been on most of the railway lines as far as they have gone? Yes.

1359. Judging by the returns of the various lines which have been constructed, are you of opinion that the construction of a railway from Dubbo to Coonamble would be warranted by the probable traffic on the line? I would not like to offer an opinion.

1360. Judging from what has happened in the past, do you think it would? I would not like to offer an opinion, but I come back to what I said: that in looking at this question you must consider the fact that the store stock must get on the railway before many years pass.

1361. Do you think the district between Dubbo and Coonamble is as deserving of a railway as other districts to which railways have been taken? I only see the matter from one point of view.

1362. That is from the standpoint of travelling stock? Stock generally; but I may say, speaking broadly, that stock are the only sources from which revenue could be got if you get beyond the wheat-growing country.

1363. Is not that the case with nearly all the other lines in that direction? Yes.

1364. They are not constructed for agricultural purposes but for stock purposes? Yes.

1365. Judging the matter in that way, do you think there would be sufficient traffic from that district to warrant the construction of a railway? I think other crops might be grown as well as wheat.

1366. I mean from the stock standpoint? If there were by any means a junction from which these lines could be served by a twice-a-week train, then I should think the thing would pay. For instance, if there were a junction at Nyngan and the same plant could serve three lines, I believe that stock alone would almost make the railway pay.

William Boyce Wilkinson, stock and land agent, Dubbo, sworn, and examined:—

1367. *Mr. Trickett.*] What occupation do you follow? I am a stock agent and land agent at Dubbo.

1368. For how long? Twenty years.

1369. I suppose you are favourable to the project to construct a railway from Dubbo to Coonamble? I am not favourable to the construction of a railway from Dubbo to Coonamble, although I am a resident of Dubbo.

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1370. Will you kindly state your views on this proposal? I know every inch of the country not only from Dubbo to Coonamble, but right through to Mungindi. Between a point about 8 miles from Dubbo and Gilgandra there is a vast area of poor country on the right-hand side of the line. Towards Mundooran also there is an ironbark forest country. Here and there you may get a few acres fit for cultivation, but then only in small areas. The only advantage it has is that there is a large ironbark forest; the Railway Commissioners, some years ago, offered to spend £20,000 in putting a tramway down into this forest. A good deal of it is virgin forest which has not yet been tapped. I have now described the country as far as Gilgandra as the eastern side.

1371. Will you describe that patch on the western side of the proposed line? Starting from Dubbo on the western side for about 12 miles the country is better, especially towards the river where you see the best farming land we have in the district. When you get to about 12 miles from Dubbo then this poor country stretches on to the eastern side of the line and you have to go further in before you get this good country on the western side. You have to go in 4 or 5 miles before you get on to good country, although you get a little bit of wheat country about 25 miles from Dubbo. Then from Gilgandra on both sides of the line, you get all good pastoral country, and along the banks of the river, of course, good wheat-growing country, but anywhere when you get off to the westward of this line you get on to purely pastoral country and not such good rainfall. As you get on the eastern side towards the Warrumbungle Range, you get into all farming land, except at the top of the hills, some of which may be only second-class pastoral country. That takes you on to Gulargambone. Thence you cannot go very wrong for rich pastoral country till you get to Coonamble. There is no difference in the pastoral land once you get a few miles beyond Gilgandra, but you get no very good agricultural land owing to the seasons and to there being a great deal of black soil. It cannot be tilled to your satisfaction. You get then purely pastoral land. My experience is that the land about Coonamble is purely pastoral land. In good seasons, no doubt, you can grow very strong crops. There has been a line spoken of leaving the Western line at about Narramine, and going almost in a direct line to Coonamble. Being a land agent for some of the principal people there, I prepared a plan showing how the railway would not go through any alienated land. Leaving the main line at 6 miles on the eastern side of Narramine, and crossing the Macquarie, you get into about 70 miles of roadways and travelling stock reserves, where there would be no alienation at all. There is an artesian bore sunk at about 13 miles west of Gulargambone.

1372. I understand you to admit that starting from Dubbo there is some good agricultural land? For about 10 miles out.

1373. Does that district, for 10 miles out, comprise what is known as the parish of Terramungamine? It would go past that.

1374. Is that within the area you spoke of? That parish would about cover it.

1375. In that district there is an area of about 25,000 acres taken up in small holdings? The only land which has not been taken up in small holdings is land under leases which will not expire till next July.

1376. There are a great many farms of 100 acres and 200 acres there? Yes; they lie principally on the western side, within about 10 miles of Dubbo.

1377. Do I understand you to say that, from there northward, right up to Coonamble, there is no such favourable district as that for agricultural purposes, to your knowledge? Nothing like it on that line.

1378. Not even in small patches? Not even in small patches.

1379. It is to your mind purely a pastoral country? No; there are patches of agricultural land. As far as my experience goes, and it is a pretty long one, when you pass Gilgandra you get out of agricultural country, both from the seasons and from the nature of the country. In good seasons it will grow heavy crops.

1380. From Dubbo to Gilgandra, barring a distance of 10 miles north from Dubbo, there is nothing to compare with that large patch which has been largely developed as an agricultural district? No, especially on the western side of the line.

1381. And after you get to Gilgandra, and go further north, you get into pastoral country by reason of its being dry country? Yes; from climatic causes, and from the nature of the soil. There is a great deal of heavy black soil which is not good for agriculture.

1382. Have you anything more to say about that part of the line? I think I have exhausted that line. From Narramine to Coonamble you have good country on either side of the surveyed line.

1383. Would you, if you were advising a railway, take a straight line from Narramine to Coonamble, or would you strike Gilgandra *en route*? No; in preference to the Dubbo-Coonamble line I would advocate a line from Narramine to Coonamble in a straight line, not only because of the very good country it goes through, but because, owing to the stock reserves and other roadways, there is no land to purchase—travelling stock reserves and roadways run the whole distance. The line I have always advocated and worked for is a continuation of the Werris Creek line towards Mundooran, which is a national line, and tapping the Coonamble line at about Mundooran.

1384. In taking a line from Narramine to Coonamble, would there be any object in striking Gilgandra;—is it of sufficient importance to divert your line from Narramine? No; because the country to the west of Gilgandra is very poor till you get out 20 miles. You would have to go 20 miles to the east of Gilgandra before you got out of this class of country. There is nothing to be gained by taking a line from Narramine to Gilgandra, and from there on to Coonamble. The traffic on the western side of the line to Gilgandra would not be of much service. This land between Gilgandra and Mundooran is practically unoccupied, and from about 17 miles east of Gilgandra it is heavy ironbark country.

1385. This line you mention goes through a large extent of Government land? Yes.

1386. If it is such good land, how is it that it has not been taken up? Because it goes through travelling stock reserves and roadways. It has been taken up wherever it was possible; some of the leases do not expire till 1900.

1387. How far on that line would the agricultural resources be good enough to induce people to settle? It would give out at about 20 or 25 miles from Narramine.

1388. Should you get as good a class of land there as that which is already cultivated at 10 miles from Dubbo? No; because we get some of the river land here; barring the river land we should.

1389. In that particular part of the country wheat-growing has been a success recently? Yes; but not much below Narramine, you might say about 12 miles down the river from Narramine. That would be 12 miles north-west and west, and about 20 miles north. You get a better rainfall as you go north.

1390. Do you think wheat-growing would be extensively carried on along the line which you propose? I think so, up to 20 or 25 miles of it.

1391.

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1391. Have the crops been payable ones there in fair seasons? Yes, we have been very fortunate for years in that district; even last year we had a good crop.

1392. How long is it since wheat-growing has been carried on there to any large extent? To a large extent only during the last four or five years.

1393. And the graziers are giving their attention to wheat-growing now? Yes. I think they all recognise now that they will have to put large areas under crop and save their crops for dry times for feeding their stock. They are putting thousands of acres under crop for that reason.

1394. Looking at the matter from the railway standpoint, as this wheat-growing land only extends about 25 miles from Narramine, it would not be of very much advantage to the railway in that respect? I do not think so. The Coonamble people think it is agricultural land.

1395. Looking at it purely from the standpoint of the freights it would provide for the railway? In good seasons I have no doubt that heavy crops would grow, but it is not what I would think is good agricultural land, taking into consideration the seasons which you are likely to expect.

1396. Are there any engineering difficulties on that line from Narramine to Coonamble? No; there is simply the crossing of the river. If you started from Dubbo you would have several creeks to cross which you avoid on this route. Starting from Narramine you have both these large creeks to cross—I mean Coolbaggie Creek and Talbragar River.

1397. *Mr. Watson.*] Have you not then to cross Marthaguy Creek and another tributary of the Macquarie? They are practically without banks. From Narramine to Coonamble you would only have to cross the Marthaguy Creek, which is a very small one. It is not flooded or flat land; it is not flooded land like the land between Warren and Coonamble.

1398. *Mr. Trickett.*] Do I understand that the line you favour is a line from Narramine to Coonamble? In preference to a line from Dubbo to Coonamble.

1399. But it is not the line you favour? No.

1400. You have another line to suggest to the Committee? Yes. There are several lines surveyed from Dubbo to within the neighbourhood of Mundooran. This Werris Creek line, I think, comes within 2 miles of Mundooran. The valley of the Talbragar is all wheat-growing land, and there are farms for the whole distance as far as about 28 miles—all small farms. These farms extend all the way up till you get to Cobborah. There is a surveyed line which crosses the Talbragar at 30 miles from Dubbo, and does not go to Cobborah; it goes easterly in a straight line to a point about 2½ miles east of Mundooran. This wheat country extends all up to the Talbragar, and all round through this district, the Murrumbidgee holding. This area between Dubbo and Cobborah and between Cobborah and all round the other survey to Wellington—the whole of the area between those two surveys is all wheat land, and is cut up in small farms.

1401. Is it already producing wheat? Yes, wherever people have had a chance to secure an acre. All the leases in that area do not expire until July, 1900, so that any alienations which have taken place have only taken place on the resumed areas. In July, 1900, there are 750,000 acres of land on the northern side of Dubbo to be thrown open.

1402. So that that line would really bisect very rich agricultural land? Yes, for 30 miles; but when you leave this point where you cross the Talbragar—it is about 30 miles below Cobborah—to get across on to the water-shed of the Castlereagh, you must cross the same bar of ironbark country as I spoke of, between Gilgandra and Dubbo, only with better patches of agricultural country in it—larger flats.

1403. When you get to Mundooran in that way with your line you propose to go on to Coonamble? Yes, and with a branch line to Mudgee.

1404. The country from Mundooran to Coonamble is, I suppose, of much the same character as the country from Gilgandra to Coonamble? No; from Mundooran, until you get within about 30 miles of Coonamble, it is principally a wheat-growing country and not a first-class pastoral country. It is a heavy carrying country, but not a fattening country till you get within about 35 miles of Coonamble, and the pastoral country commences then on a run called Tundaburine.

1405. So that the line you indicate passes through a much greater area of agricultural land than either the line from Dubbo to Coonamble or the line from Narramine to Coonamble? Yes, and it has a better rainfall. The Warrumbungle Mountains run out to a bluff between Coonabarabran and Coonamble, and end there, and all the flats and all the holdings underneath these ranges get a better rainfall and a fine rich deposit of land. For instance, near a township called Tooraweena is some of the richest land I ever saw in the Colony.

1406. Do you know whether that country will be available for close settlement at the end of 1900? Some of it has been settled upon from Mundooran out to about 25 miles; a great deal of it has been thrown open, and is held in small holdings now under the 1835 Act. Then further on some of the leases expire in this July, and the balance expire in 1900.

1407. From Mundooran to Coonamble—would it be an easy line to construct? Of course the gradients would be more than on any of the western lines, because it is undulating country, whereas this is flat country, but it would be far better for closer settlement owing to the rainfall and being agricultural land.

1408. Of course the remaining portion of the road from Mundooran to Coonamble is really a continuation of the scheme which some people favour: that is, a line from Mudgee to Mundooran? Yes.

1409. Having explained that part of your scheme, will you now describe the country from Mundooran to Werris Creek? This route, which has been suggested *via* Cobborah and *via* Coolah, I would not recommend, for this reason, there are some very great engineering difficulties between Coolah and Dunadoo, except you take this route which they suggest, following round the valley of the Talbragar the whole way.

1410. What are the engineering difficulties? They are steep and bluff ridges and poor country.

1411. Would you take this northern route, indicated on the plan, from Mundooran? From what I know of the country I would, because it follows up the valley of the Castlereagh for some distance, and this range of mountains about the neighbourhood of Coolah ends in a bluff. By that route you have hardly to cross these mountains at all. There is a gap there with hardly any gradients past a place called Weetalibar.

1412. From there to Werris Creek it is pretty good country? Yes; magnificent country. The country from Werris Creek to Coolah, as far back as twelve or fifteen years, has been sold in large areas, where they had freehold land, at £2 10s. an acre for pastoral purposes.

1413. What is its carrying capacity? It would be, I suppose, from a sheep and a half at any rate to the acre.



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acre. It is some of the finest country in New South Wales—plain country, slightly undulating. The stations which bought at that price have been prosperous; they have held the land for years; they did not resell.

1414. Do they get pretty regular seasons there? The seasons are better there than to the westward. This spur of the Liverpool Range seems to draw the rain.

1415. Why do you favour that connection from Werris Creek to Mundooran? I look upon that line as a national line. It is a line without any gradients. It will take all the stock from the north and also the northern colony, with a contingent down south. It is a line where one engine can take about three times the load that an engine can take on the other line from Werris Creek through the coast ranges and on to Sydney.

1416. You regard that line as a national line, connecting the Great Northern line with the Great Western line? Yes; and as a line bringing the northern people into communication with the western people, without having to go round by the coast.

1417. We were told by a witness yesterday that at times fodder is brought from Wellington and Dubbo down the Western line and taken round to Tamworth;—are you aware of that ever having been done? No; it is madness. Whoever said so must have been misunderstood.

1418. It was Mr. Alexander Wilson who made the statement? I will leave it to the Committee; it is hardly worth arguing.

1419. You are not aware of that having been done? No; and if it had I must have heard of it, because, for a number of years I was a forwarding agent as well as a land agent. It might go from Wellington to Cobarah and thence to the Liverpool Plains.

1420. *Mr. Watson.*] The statement of Mr. Wilson was that wheaten hay was bought at places between Wellington and Orange, and was taken right round by rail to Tamworth, more cheaply than they could have bought the same fodder in the Hunter valley and taken it to the same point on the Northern line? Before I went to the Dubbo district I lived at Gunnedah for a number of years, and there is no better wheat-land in the country than there. There was more wheat-land then under cultivation in the neighbourhood of Gunnedah than there was round the district of Dubbo and Wellington. Some of the finest wheat-land in the Colony is to be found about the Peel River, and there would be no necessity for taking wheaten hay from the Western line to the neighbourhood of the Peel River estate.

1421. *Mr. Trickett.*] Having told us what you think would be the best route to take from Dubbo to Coonamble, can you tell us what kind of traffic we are likely to get by such a line? From that distance out from Dubbo, to, say, within 35 miles of Coonamble, it is principally agricultural land. Further on, you would get the same class of traffic—that is, fat stock and store stock, which is very little—as would come on these western lines.

1422. Your line would bring a great deal [more agricultural freight to the railway than either of the other routes? Yes.

1423. Would the freight be chiefly towards the main line, or would there be any outward freight in the direction of Coonamble to any extent? No; especially if the seasons were at all dry. All the wheat and fodder grown in Gulgong and Mudgee, and the valley of the Talbragar, we cannot bring into communication with Coonamble and those people who are buying wheat-fodder now.

1424. So that in dry seasons you think a great deal of fodder would be sent north? It must be in dry seasons, where they have no opportunity of sending now except by team.

1425. From Dubbo? From Dubbo, and up the valley of the Talbragar and Mudgee and Gulgong in this Mudgee to Mundooran line, and from this point, Talbragar, to Mundooran, and also from Dubbo to Gilgandra, there is a bar of poor country which either of these three lines must go through, although it is much narrower on the eastern one. The only line which will escape this bar of ironbark country is the line from Narramine to Coonamble.

1426. Do you know anything about the line from Mudgee to Cobarah and thence to Coonamble? I know the country it traverses.

1427. Will you describe that country? From Mudgee to Gulgong, until you get within 10 or 15 miles of Cobarah, it is all agricultural land, with some high top ridges which are only second-class pastoral lands.

1428. Does it compare favourably with the land from Dubbo to Cobarah? No, for this reason: from the point where it crosses the Talbragar it runs up a very fertile valley, whereas the other line crosses watersheds. The line from Mudgee to Mundooran would bring Coonamble into more direct communication with the metropolis; and if the line from Mudgee to Wallerawang is only a light line, the passenger traffic could go from Coonamble, *via* Mudgee, and the heavier traffic, with very little divergence if the Werris Creek line is built, could be carried on our main Western line, avoiding all those landslips which sometimes take place on the Mudgee line.

1429. Then, if the Mudgee *via* Cobarah to Coonamble line were constructed, your idea of connecting the Northern line with the Western line would not come in, would it? Oh yes; I would suggest its construction as part of the scheme.

1430. If the Mudgee *via* Cobarah to Coonamble line were constructed, the Werris Creek to Mundooran line would have to be continued on to Dubbo to meet your views as well;—you would want a kind of cross-line? Yes, for this reason: that all this country is a fine wheat-growing country. These people have no communication at all—they have no means of selling their fodder except they send it to the coast, or else they travel up round by Wallerawang and Bathurst, to get communication with the Western line. It brings all this agricultural land into communication with the western country.

1431. If the Dubbo *via* Cobarah to Coonamble line were constructed, and the Mundooran-Werris Creek line were constructed, would the district between Mudgee and Cobarah be fairly served? Yes.

1432. In what way? They would be in very easy communication with the railway. To make the scheme complete you must carry out my suggestion. I think from Dubbo to Coonamble, *via* Mundooran, is not much more than 35 miles out of a direct line.

1433. If you went from Narramine to Coonamble it would not be any further to the Dubbo people than by the way you suggest? No; I am not speaking in the interests of Dubbo. It is a line which I have always fearlessly advocated in the Press and in public.

1434. Are you in a position to say which line of the three will be the most expensive one to construct? Of course the cheapest line, at per mile, would be the line from Narramine to Coonamble; there are no engineering difficulties at all.

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1435. The next cheapest would be the Dubbo-Coonamble line, and I suppose the most expensive would be the Dubbo *via* Cobborah to Coonamble line? Yes. You must not forget that this length of 40 miles is part of a national scheme which should not be wholly charged to the line from Coonamble to Dubbo.

1436. How does the rainfall in the various districts served by the three lines compare? There is not very much difference in the rainfall. It does not come at such seasonable times in one district as in the other. In the Coonamble district they get a good deal of tropical rains which do not reach Dubbo. In the neighbourhood of Coonamble the rainfall may be as good as ours is. We get rain round this district from Dubbo to Cobborah, and round Mendooran they get the end of the coast rains, which come at more seasonable times. With farmers it is not quite so much the quantity of rain you get as the getting of the rain at the time when it is required by the crops.

1437. The advantages of railway communication from an agricultural point of view are apparent;—will you give us your ideas of the advantage of a railway from a pastoral point of view? It is confined only to the carriage of fat stock and wool.

1438. Store beasts are travelled? Yes, except in time of drought, which, of course, cannot be reckoned, because they are carried at a rate which will not pay the railway.

1439. From what one can see of the different phases, the project cuts both ways: we hear it contended often that a railway in very dry seasons will be the means of bringing large quantities of stock down to favoured districts, and then, on the other hand, we hear that good fodder will be grown down south and conveyed to the places where the starving stock are;—which would be most availed of? I listened to Mr. Bruce's evidence. His argument would apply a good deal down south, where they have that vast country—the Australian Alps and the snowy country; but I know that if you increase the advantages of bringing store stock to the mountains in the summer-time—in the mountains we have, or anywhere in that district—there is not sufficient area for them. Without railway facilities, we can absorb all the mountain country with stock from no further west than Coonamble. Any from a point further west than Coonamble would not find room for any pasturage to the mountains, simply because there is no room for them. Our mountains, to a certain extent, all the year round are stocked. Down at Kiandra and the Australian Alps they are not. There is nobody with any stock further west than Coonamble who could get any land on any of the hilly country which Mr. Bruce has spoken about in the neighbourhood of Cobborah or Coolah, simply because there is not enough country for them.

1440. *Dr. Garran.*] But could they on New England? The same thing applies in New England. It is fairly stocked, I suppose, to about 2 acres to a sheep, which does not apply down south. Mr. Bruce forgets that that mountainous country on the north cannot carry any more stock.

1441. *Mr. Trickett.*] In a big general drought, this theory about a very extensive carriage of starving stock to well-watered districts is rather exaggerated? It does not apply to our northern districts. It may apply to Kiandra and the Australian Alps, but not to ours, because it is fairly stocked as it is.

1442. We may conclude that in bad seasons the chief sources of revenue, except the carriage of beasts to market, would be the carriage of fodder up to the districts where it is required? Yes; and the carriage of starving stock would be all over in about three weeks. The country would be all absorbed in about three weeks.

1443. As a land agent of large experience, what stock traffic do you think would be diverted towards a railway at Coonamble? Presuming that the railway comes to Wee Waa, or that it was a terminus, I do not think it would bring any traffic, or very little traffic north of the Namoi, to Coonamble. The traffic would end at about Pilliga.

1444. *Mr. Watson.*] Taking the North-western line with a terminus at Moree, and with Narrabri as the nearest point to Wee Waa, from that point of view how do you think a railway at Coonamble would attract traffic in stock? I think it would take all the traffic between Coonamble and Pilliga, and on the south side of the Namoi, towards Walgett, and then all the traffic on the north-western side of the Barwon. The balance of the traffic, I think, would go into Moree or Narrabri.

1445. Westerly from Walgett, how far would the attraction extend, do you think? Anticipating the construction of a railway line to Brewarrina, it would follow down the Barwon, I should say not more than 15 miles below Walgett, and take in part of the Lower Macquarie, about 15 miles below Walgett, on the Barwon, and thence to a point south-west, half way between the Barwon and Nyngan Railway Station.

1446. *Mr. Trickett.*] One of the main stock routes passes through Walgett? Yes; two main stock routes meet at Walgett, namely, one—the Mungindi—which comes from the Queensland border, and one which comes up the Barwon.

1447. Should we get some of that stock from the Queensland border? Yes; you should get all the Queensland border stock between Collarendabri and Currawillinghi and the Narran Lakes.

1448. Stock west of the Narran Lakes would go into Brewarrina? Yes.

1449. Is the district which would feed this railway regarded as one of the best wool-growing districts in the Colony? I think it is the best fattening district; it grows wool, but not wool of the right quality.

1450. I suppose you favour railway connection with Coonamble? Yes. I do not think a railway from Coonamble to hit the Western line at Nevertire would ever compete with a direct line, or ever compete with the road traffic from Coonamble to Dubbo.

1451. The Warren-Coonamble line you entirely disapprove of? Yes. The carriers on our line are farmers who have their own teams, and grow their own feed. During the wool season they are idle on their farms, and they can carry the goods over the road (and they travel night and day, and feed their horses) at a rate which the railway could never compete with, taking into account the extra distance they would have to travel.

1452. *Mr. Watson.*] Would there not be a through rate from Coonamble to Sydney which would knock off a bit of the extra distance? Yes; but the railway would never compete with the road traffic. We can get road traffic from Coonamble to Dubbo at 2s. and 2s. 6d. If the farmers were not carrying they would be idle.

1453. *Dr. Garran.*] If these farmers who are residing on a road can always beat a railway, your proposed line from Dubbo to Mendooran, running as it is through a perfect nest of farms, would not be able to compete with these farmers? No; I do not say that, because that is on a direct line. I say, taking this line from Dubbo to Nevertire, and this line from Dubbo to Coonamble, with 30 or 40 miles extra carriage the railway could not compete with the carriers.

1454. *Mr. Trickett.*] If this railway were constructed to Coonamble either from Dubbo or Cobborah, by direct

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direct line, and it would be largely availed of for trucking sheep, do you see any probability of any other line or route being adopted which would interfere with it, or stop that always being their road out in the direction of Walgett? No; I do not think so.

1455. It is likely to be a permanent direct line out to that northern country? I think so.

1456. No other line could compete with it;—presuming the Wee Waa line is carried on to Walgett, it could never compete with this line? South of the Namoi there is a stretch of country where it would take from 30 to 40 acres to feed a sheep. The line from Narrabri to Walgett, or to Pilliga, until you get into the flat country outside the scrub area, could only be availed of by people on the north side of the Namoi. This is unproductive country lying idle now. From Coonabarabran to the Namoi—I have travelled the road with stock a great many times—until you get within 3 or 4 miles of the Namoi, there is nothing but white sand, spinifex grass, and scrub. As you get on to the west you get on to Liverpool Plains country.

1457. Would the line you suggest traverse much swampy country—the line from Dubbo and Cobborah and Mundooran to Coonamble? It is all rich country; it is all undulating country.

1458. It has been stated here in evidence that there is a good deal of corduroy-road construction out near Coonamble? As you get near Coonamble you get some difference in the black soil. After you get here you get into wet country in wet seasons; it is dry enough now.

1459. It is not flooded country? No; possibly you might come to a wash from a mountain which would only be for 100 yards, but that is all.

TUESDAY, 13 JUNE, 1899.

Present:—

THE HON. WILLIAM JOSEPH TRICKETT (VICE-CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.

ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Henry Chamberlaine Russell, C.M.G., Government Astronomer, sworn, and examined:—

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C.M.G.  
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1460. *Vice-Chairman.*] It is proposed to construct a railway from Dubbo to Coonamble, and I think it would be as well, as the Committee are considering a Warren-Coonamble line, a Dubbo-Coonamble, and a Mudgee-Coonamble line, if you could state the rainfall at Warren, Coonamble, and Walgett, and working over towards the Mudgee line? The rainfall at Warren is 19·52 inches for twelve years; at Nevertire, 20·98 inches for ten years; at Nyngan, 20·44 inches for fourteen years; Merryanbone, which is nearly due north-west of Warren, 21·32 inches for thirteen years; at Eenaweena, due north of Warren, 19·89 inches for seventeen years; at Combogolong, north of that again, 24·27 inches for thirteen years; at Nelgowrie, a little north-east of that, 20·94 inches for eighteen years; at Coonamble itself, 22·01 inches for nineteen years; at Nebea, a station due north of Coonamble, 22·84 inches for eighteen years; at Warrana, a station a little to the east of Coonamble, 21·89 inches for seventeen years; at Calga, to the south-east of Coonamble, 21·62 inches for twenty-five years; and at Merigal, about 30 miles nearly due west of Coonamble, 23·75 inches for fourteen years. That fairly represents the lower part of the line from Warren to Coonamble, and the surroundings of Coonamble. If I were to go on now south-west, it would bring us to Dubbo.

1461. Will you state the rainfall in that direction? The rainfall at Gilgandra is 27·60 inches for fifteen years; at Biambil, 25·63 inches for thirteen years; at Wambangalang, due north of Dubbo, 28·50 inches for thirteen years; at Dubbo itself, 23·48 inches for twenty-six years; at Terramungamine, 20 miles west of Dubbo, 23·10 inches for ten years; at the Springs, about 15 miles due south of Dubbo, 25·92 inches for seventeen years; at Wellington, which is about 30 miles south-east, 24·49 inches for seventeen years; and at Dundullimal, which is about 10 miles east of Dubbo, 24·81 inches for thirteen years.

1462. Will you now give the rainfalls starting from Mudgee? The rainfall at Mudgee is 27·13 inches for twenty-five years; at Katella, which is about 15 miles south-west of Mudgee, 28·39 inches for ten years; at Pine Ridge, due north of Mudgee, 26·26 inches for sixteen years; at Cobborah, in a direct line towards Coonamble, and about 30 miles distant from Mudgee, 29·63 inches for nine years; at Mundooran, in the same line north-west, 27·78 inches for twelve years; and at Coolah, a little to the east of Mundooran, 30·59 inches for fourteen years. Going north again, at Oakey Creek it is 28·18 inches for seventeen years; at Silent Dale, west of that about 30 miles, in the same latitude, 26·55 inches for nine years; at Ulamabri, 30·86 inches for ten years; at Gummin Gummin, 30·30 inches for thirteen years; at Calga, 21·62 inches for twenty-five years; at Warrana, 21·89 inches for seventeen years; and back to Coonamble again, 22·01 inches for nineteen years. That is as north as I can follow up the stations here on the three lines.

1463. Would you mind giving us the rainfall from Coonamble to Walgett? I am not prepared for the inquiry; but it makes very little difference. The rainfall going north from there would be about the same as it is at Nebea.

1464. At the places which you have mentioned, about south of Coonamble, the rainfall is heaviest? The heaviest rainfall is in the neighbourhood of Mudgee, because the land is highest there. The lands rise as you go to the east there, anyway away from Warren, and the rainfall is gradually increased. For instance, at Coolah, which is one of the most eastern stations, it is 30·59 inches. At Oakey Creek, another station to the eastward, it is 28·18 inches; and at Gulgong also, on the eastern side, it is 28·80 inches.

1465. Taking the three lines then, apparently the greatest rainfall is between Mudgee and Coonamble? Yes, considerably.

1466. Then, is the next largest from Dubbo to Coonamble? Dubbo comes in midway.

1467. And as you get out to the west it gets drier? Yes.

1468. Warren has the lowest? Yes; it is 19·52 inches.

1469. At what time of the year is the chief rainfall? The best rainfall occurs within the first five months of the year. 1470.

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1470. Is that a good time for agriculture in that district? No; it is unfavourable for agriculture.
1471. Is it too late in the season? It is too late.
1472. Is the rainfall occurring at that time favourable or otherwise to the growth of cereals? I believe not; I have not had much experience except in my youth; I grew up among the corn-cobs. September, October, and November seem to be the best months for wheat-growing; but to this district, especially as you get on to the high lands, the rainfall is better distributed than it is a little further north. Directly you get amongst the hills you get more favourable conditions for rain; you get more rain, and the rain is better distributed.
1473. From what you have been informed, could you not tell us whether a rainfall of 20 inches and over is not fairly favourable to the growth of wheat? No; the general experience in Australia has been that a rainfall of 20 inches is about a minimum for the safe growing of wheat.
1474. It ought to run up to 22 inches? It ought to be over 20 inches, and, in addition to that, the rainfall ought to come in the latter half of the year.
1475. Are these calculations obtained from the various station-holders? Yes; nearly all the names mentioned here are station-holders who have been keeping a record for me for many years—some of them for nineteen years.
1476. Seeing that the time of the rainfall, apparently, is not very favourable to wheat-growing, does it not seem somewhat strange that they are going in largely for the growth of wheat, in the neighbourhood of Dubbo, for instance? Yes; I could hardly express an opinion, except that the probability is that the high lands are helping them. I know that Mudgee has been considered a wheat-growing country for a long time. I suppose Dubbo has a somewhat similar climate. There is another thing about it there which does not appear on the face of things. The main range is lower to the due east of these districts than anywhere else, and when the coast rains ever do get across the mountains, that is the place they do get across. With a south-east gale it is quite a common thing for the coastal rains to cross the lower part of the main range about Mudgee and thereabouts, and travel across to the north-west, so that they have that additional advantage. In the highest parts, up about Armidale, and thence north-west, the coastal rains never go across the mountains.
1477. I suppose you are not able to give any information as to the soil up there? No.
1478. *Mr. Shepherd.*] Have you any record of the fall of rain in the various months from January to May? I have not the information here, but I could supply that. I know, from having worked at it a good deal, that to the north-west part of this district which is under discussion, it is looked upon as a matter of course that if they do not get their rains in the first three or four months of the year the probability is that they are going to have a bad season; that is not so much for wheat-growing, because, heretofore, the opinion has been expressed in regard to its grass-growing qualities.
1479. The months you have named would be very good months for rain if it were followed up a little bit? Yes.
1480. If there are seven months dry after May, there would not be sufficient to ensure the crops? No; elevation is a very material matter. As you go eastward you get on one of those pine ridges just about the top of the range there. Cassilis is only a few miles to the east of that again.
1481. Do you know if the rainfall between Mudgee and Coonamble, where a larger fall takes place, extends over a longer period, or is the fall confined to the same months? It is a little further to the west, and therefore a little more unfavourable than the Mudgee line. Mudgee is nearer to the main range. The average rainfall at Dubbo, for instance, is 23·48 inches; whereas the average rainfall at Mudgee is 27·13 inches, which is nearly 2 inches greater. At Mudgee the record runs for twenty-five years; Mr. Cox began keeping a record long before I got any records from there.
1482. The fall takes place in about the same months as in the other localities, but it is heavier, I suppose? Yes; it is heavier. That is considerably in excess of the quantity which is wanted, and therefore you may expect more rain, and probably enough to grow wheat in the latter part of the year with a rainfall of 27 inches.
1483. Of course, January would be too late to mature a crop if it has been starved all the time from May? Yes; I suppose with that climate the wheat would ripen a month or two earlier than it would in the south.
1484. *Mr. Dick.*] Can we take it as a general statement that the rainfall, as you go east from the proposed Warren-Coonamble line towards the proposed Mudgee-Coonamble line, gradually improves? Yes.
1485. And as you go still further east, I suppose a still greater improvement would take place? Yes.
1486. Have you the record for Cassilis? No, not here. It is over the range; it is on the descent to the sea. Cassilis gets a great many rains, especially the south-east rains. Any south-east rain gives Cassilis an abundance of water supply.
1487. Have you the record of Merriwa? No; I have not the record for any of the stations to the east of those I have given.
1488. Is the distribution of rain altered much as you go east from the proposed Warren-Coonamble line? Yes; the more westerly line is the least favourable, owing to the distribution of rain; they depend more on tropical rains which come in summer-time. Generally in February their great supply of rain comes in.
1489. Could you give the record for Cassilis and for Merriwa from this copy of your "Results of Rain, River, and Evaporation Observations made in New South Wales during 1895"? Yes.
1490. Will you give the record for Cassilis? The Cassilis record has extended from 1870 to the present date, and the average rainfall is 25·13 inches. At Pine Ridge—right on top of the ridge—it is 26·65 inches. The Merriwa record extends from 1882, and the average rainfall is 23·73 inches.
1491. At Coonabarabran? The record begins in 1879, and the average rainfall is 32·35 inches; I forget the elevation, but it is very considerable there. It is on the Warrumbungle Range, and directly you go up the rise of the hill you get more and more rain.
1492. *Mr. Watson.*] Your statement that a rainfall of 20 inches was understood to be the minimum for wheat-growing is to be taken in connection with the time at which the rain falls? It is largely affected by the rainfall. It is an "average" rainfall of 20 inches that seems to be about the limit of profit. Of course, in those years there would be some with a good deal less than 20 inches.
1493. Will you state the rainfall at Narramine, Nevertire, and Nyngan, on the Western line? At Narramine the rainfall is 21·58 inches, extending only over four years; at Nevertire, 20·98 inches, extending over eight years; and at Nyngan, 20·44 inches, extending over four years.
1494. So that although Nyngan is further west than some of the stations you quoted in relation to the Warren-Coonamble line the rainfall seems to be slightly heavier there? At Nyngan it is 20·44 inches.

H. C. Russell, 1495. I thought at some of those stations you quoted 20 inches was the average? It varies a little. The average for Nyngan is given from this record, which goes up to 1898; but in this book the record only goes up to 1896. The average for Nyngan for the whole period is 20·44 inches; and for this shorter period it is 21·76 inches.

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1496. For a longer period at Warren, which is east of Nyngan, it was a little over 19 inches? 19·52 inches.  
1497. There are local differences which are exceptions to the general rule of lowering all averages as you go west? Yes; and that is generally in cases of elevation.

1498. It is a fact that latterly they have been growing wheat along the Western line at Narramine, Never-tire, and Nyngan? Yes.

1499. So that it would seem they are not beyond the pale of possibility? No; wheat has been grown as far west as Hay.

1500. That would be in an exceptional season? Only in an exceptional season.

1501. At two out of the three centres I named, they have been going in rather extensively for wheat-growing—at Narramine and Nyngan? Within the last three or four years, and these have been unusually dry.

1502. I understood you to intend to convey that the whole matter of wheat-growing largely depended upon when you got the rains? Yes.

1503. They could do with less than 20 inches if they got the rain at the right time? Yes. In Victoria they are said to grow wheat on 12 inches; but then the rainfall in Victoria is much more reliable than it is in this Colony. The southern parts of this Colony have a much more evenly distributed rainfall than the northern; they are less liable to severe drought.

1504. In this case they have to depend on the rains which come in from the north? Yes.

1505. Which very often, being tropical rains, come in the summer-time and not in the early spring, when we want them? Yes. The southerly rains—that is, the winter rains—which are so valuable in Riverina, often do extend as far north as Dubbo, but they are just on the margin. For instance, this rain which is falling to-day has come with a southerly wind; it is a southerly rain which has gone right over the Colony; it is very little, it is true. Sydney has the heaviest rainfall, but still it has spread all over the Colony, except in the extreme west at Broken Hill.

Joseph Clarke, Inland Mail Clerk, Postal and Electric Telegraph Department, sworn, and examined:—

J. Clarke.  
13 June, 1899.

1506. *Mr. Dick.*] Can you furnish the Committee with details of the probable earnings of a railway from Dubbo to Coonamble for the carriage of mail-matter? I have prepared a statement.

1507. Will you read the statement? It is as follows:—

PARTICULARS OF MAIL CONTRACT.

Contractor's.		Postal Lines.	Dis- tance in Miles.	Frequency of Communi- cation.	Mode of Conveyance.	Annual Amount pay- able to Contractors.	Date of Termination of Contracts.
Name.	Address.						
196 Wm. M. Keogh	Warrana, Coon- amble.	Dubbo, Brocklehurst, King- albung, Gilgandra, Cur- ban, Gulargambone, Ben- nett's Flat, and Coonamble.	106	No. of times per week. Three ...	4-horse coach.	£ s. d. 1,000 0 0	31 Dec., 1901.

Number of mails, including parcels, exchanged on the line, with the approximate weight, per week:—166 bags = 48 cwt.  
STATEMENT showing the number of Letters posted at the post offices on the line, and the Revenue derived from the Post and Receiving Offices, during the year 1898.

Name of Office.	Number of Letters posted.	Revenue.			
		Postal.	Telegraphic.	Money Order and Postal Notes.	Total.
Dubbo .....	359,660	£ 3,067	£ 980	£ 166	£ 4,213
Brocklehurst .....	1,590	12	.....	.....	12
(Kingalbung) .....	.....	5	.....	.....	5
Gilgandra .....	35,940	618	132	29	779
Curban .....	5,390	51	7	.....	58
(Armatree) .....	.....	5	.....	.....	5
Gulargambone .....	20,100	318	102	21	441
(Bennett's Flat) .....	.....	5	.....	.....	5
Coonamble .....	159,700	1,221	692	86	1,999
	582,380	£5,302	£1,913	£302	£7,517

1508. For that service of 106 miles, £1,000 a year is paid by your Department for the carriage of mails and mail-matter? Yes.

1509. For the same distance on a railway line what charge would be made against your Department? We would start with a charge of £12 per mile per annum.

1510. You would pay £1,272 a year by rail as compared with £1,000 a year which is paid now? Yes.

1511. *Mr. Leven.*] But it would be a daily service? It would not be a daily service if this railway line were run only tri-weekly.

1512.

1512. *Mr. Dick.*] Can you supply the time-table? It is as follows:—

J. Clarke.  
18 June, 1890.

TIME-TABLE.

Leave Dubbo .....	Tue	Thur	Sat	10:15	a.m.	Leave Coonamble .....	Fri	Tue	Thur	3:30	p.m.
Arrive Brocklehurst .....	do	do	do	10:45	do	„ (Bennett's Flat) .....	do	do	do	5:45	do
„ <i>Yellow Creek Hotel</i> .....	do	do	do	1	p.m.	Arrive Gulargambone .....	do	do	do	8	do
„ (Kilgabung) .....	do	do	do	1:30	do	Leave do .....	do	do	do	8:30	do
„ Gilgandra .....	do	do	do	5:15	do	„ (Armatree) .....	do	do	do	10	do
Leave do .....	do	do	do	6	do	Arrive (Curban) .....	do	do	do	11:20	do
Arrive Curban .....	do	do	do	8:30	do	Leave do .....	do	do	do	11:45	do
Leave do .....	do	do	do	9	do	Arrive Gilgandra .....	Sat	Wed	Fri	2:15	a.m.
Arrive (Armatree) .....	do	do	do	10	do	Leave do .....	do	do	do	7:30	do
„ Gulargambone .....	do	do	do	midnight		„ (Kilgabung) .....	do	do	do	11:30	do
„ do .....	Wed	Fri	Sun	1	a.m.	„ <i>Yellow Creek Hotel</i> .....	do	do	do		
„ (Bennett's Flat) .....	do	do	do	4	do	„ Brocklehurst .....	do	do	do	1:30	p.m.
„ (Coonamble) .....	do	do	do	6	do	Arrive Dubbo .....	do	do	do	2:30	do

1513. It is a tri-weekly service, and for a charge of £12 per mile per annum you would have a daily service? It does not follow.

1514. Is it likely that you would have a daily service between two such centres as Dubbo and Coonamble, if the trains were running? It would depend on the railway service.

1515. Do they pay just the same if it is a daily service as they do if it is a tri-weekly one? The same; it is an average sort of payment.

1516. Does this charge of £12 per mile include the carriage of the mail matter from places close to the railway line to the train? No; we should have to arrange for all that. If the railway ran, and there were mails off any distance, we should have to send to and from the places.

1517. Now, looking at the route of the proposed line from Dubbo to Coonamble, you see that Gilgandra is between 4 and 5 miles from the proposed line;—would the officers of your department carry mails from Gilgandra to the nearest railway station? We should.

1518. On horseback, I suppose? The probability is that it would be by a conveyance of some sort. You get it done more cheaply very often by conveyance.

1519. Would it be done by contract or by an officer of your department? We should call for tenders.

1520. Have you any idea of what it would cost? A daily service for a distance of 5 miles would cost £30 or £40 a year.

1521. I suppose in the case of Terabile very nearly the same thing would hold? We have no office named Terabile, which is a railway or local name I suppose. We should have to arrange for any of those centres in that way in addition to paying the railway charges.

1522. *Mr. Watson.*] You also have a service from Warren to Coonamble? Yes; I have prepared a return.

1523. Would you mind reading it? It is as follows:—

PARTICULARS OF MAIL CONTRACT.

Contractor's		Postal Lines.	Dis- tance in miles.	Frequency of Communi- cation.	Mode of Conveyance.	Annual Amount pay- able to Contractors.	Date of Termination of Contract.
Name.	Address.						
222 Wm. M. Keogh	Coonamble .....	Warren, Tenandra, Bulla- green, Bourbah, and Coon- amble, <i>vid</i> Donohoe's, on the Merri Merri, and McMahon's on the west bank of the Castlereagh River.	80	No of times per week. Three ...	4-wheeled convey- ance, 2 or more horses.	£ s. d. 139 0 0	31 Dec., 1899.

TIME-TABLE.

Leave Warren .....	Wed	Fri	Mon	2	p.m.	Leave Coonamble .....	Sun	Mon	Wed	8	a.m.
„ Tenandra .....	do	do	do	5	do	„ Bourbah .....	do	do	do	1	p.m.
„ Bullagreen .....	do	do	do	8	do	„ Bullagreen .....	do	do	do	3	do
„ Bourbah .....	Thur	Sat	Tue	2	a.m.	„ Tenandra .....	do	do	do	6	do
Arrive Coonamble .....	do	do	do	9	do	Arrive Warren .....	do	do	do	9:30	do

Number of mails, including parcels, exchanged on the line, with the approximate weight, per week:—57 bags = 21 cwt.  
STATEMENT showing the number of letters posted at, and the revenue derived from, the post offices on the line during the year 1898.

Name of Office.	Number of Letters Posted.	Revenue.			
		Postal.	Telegraphic.	Money Order and Postal Notes.	Total.
Warren .....	179,670	£ 1,765	£ 583	£ 96	£ 2,444
Tenandra .....	3,580	22	.....	.....	22
Bullagreen .....	6,570	10	.....	.....	10
Bourbah .....	5,390	14	.....	.....	14
Coonamble .....	159,700	1,221	692	86	1,999
	354,910	£3,032	£1,275	£182	£4,489

J. Clarke. 1524. How do you account for the disproportion between the amounts paid for the carriage of mails from Dubbo to Coonamble, as compared with the amounts paid for the service from Warren to Coonamble,—being £139 in one case as against £1,000 in the other? Because there is about twice the weight of mail matter.

13 June, 1899.

1525. There is more than twice the amount of mail matter on the Dubbo-Coonamble route, because of the number of small centres at which they have to call? I am not so sure about that, because the Monday, Wednesday, and Friday mails from Sydney would be much heavier than the Tuesday, Thursday, and Saturday mails. Wednesday is the weekly-paper day, and on that day I suppose the weight of the mails, and so on, would be about more than the rest of the week, as so many large bags go out.

1526. Suppose a railway were taken from Dubbo to Coonamble, would you still have to maintain a through service from Warren to Coonamble if you had daily communication with Coonamble *via* Dubbo? I think so.

1527. Are there any centres of importance along your Dubbo-Coonamble line which it would be necessary to reach from Warren? There must be a certain amount of correspondence.

1528. That is, irrespective of the through traffic between Warren and Coonamble, there is an intermediate traffic? I fancy there must be.

1529. Have you any information as to the mail connections between Mudgee and Gulgong, Cobborah, and towards Coonamble? Yes; I have prepared a return.

1530. Will you read the return? It is as follows:—

## PARTICULARS OF MAIL CONTRACTS.

Contractors'		Postal lines.	Distance in Miles.	Frequency of Communication.	Mode of Conveyance.	Annual Amount payable to Contractors.	Date of Termination of Contracts.
Names.	Addresses.						
56 James Doyle ...	Gulgong ...	Mudgee, Eurunderee, Log Paddock, Home Rule, and Gulgong.	21	No of times per week. Six.....	Coach, 2 or more horses.	£ s. d. 81 0 0	31 Dec., 1899.
266 Robert Elliott	,, .....	Mudgee, Cullenbone, and Gulgong, <i>via</i> Slasher's Flat and Three Mile.	20	Three ...	Coach, 2, 3, or 4 horses.	20 0 0	31 Dec., 1899.
59 George Rowley	,, .....	Gulgong, Beryl, Cobborah, Merrygoen, Mundooran, Brelong, and Gilgandra, <i>via</i> Lahey's Creek, Goodman's, and Boybean.	85	Two .....	4-wheeled conveyances, 2 or more horses.	223 19 0	31 Dec., 1899.
Portion of Dubbo-Coonamble mail service (106 miles, £1,000 per annum), with proportion of cost calculated on mileage basis:—							
196 Wm. M. Keogh	Coonamble .....	Gilgandra, Curban, Gulgambone, Bennett's Flat, and Coonamble.	65	Three ...	Coach, 4 horses.	613 4 2	31 Dec., 1901.
Total cost per annum .....						£ 938 3 2	

NUMBER of mails, including parcels, exchanged on the lines, with the approximate weight, per week:—

Mudgee and Gulgong, <i>via</i> Eurunderee .....	107 bags = 45 cwt.
Do do <i>via</i> Cullenbone .....	18 ,, = ½ ,,
Gulgong and Gilgandra .....	60 ,, = 16 ,,
Gilgandra and Coonamble .....	85 ,, = 23½ ,,

STATEMENT showing the number of letters posted at the post-offices on the lines, and the revenue derived from the post and receiving offices, during the year 1898:—

Name of Office.	Number of Letters posted.	Revenue.			
		Postal.	Telegraphic.	Money Order and Postal Notes.	Total.
Mudgee .....	304,530	£ 2,632	£ 622	£ 147	£ 3,401
Eurunderee .....	2,890	18	.....	.....	18
Home Rule .....	5,800	63	.....	6	69
Gulgong .....	91,790	761	167	62	990
Cullenbone .....	1,320	13	.....	.....	13
Beryl (opened 1st September) .....	580	2	.....	.....	2
Cobborah .....	13,390	171	77	18	266
Merrygoen .....	6,250	55	.....	.....	55
Mundooran .....	23,520	281	51	16	348
(Brelong) .....	.....	5	.....	.....	5
(Gilgandra) .....	35,940	618	132	29	779
Curban .....	5,390	51	7	.....	58
(Armatree) .....	.....	5	.....	.....	5
Gulgambone .....	20,100	318	102	21	441
(Bennett's Flat) .....	.....	5	.....	.....	5
Coonamble .....	159,700	1,221	692	86	1,999
	671,200	6,219	1,850	385	8,454

1531. *Mr. Levien.*] How do you arrive at the weights of these parcels? When we receive a communication from this Committee we telegraph to the different centres to report what average weight of mails are sent to and fro.
1532. They did not weigh the parcels? No.
1533. They guessed at their weights? They are the approximate weights.
1534. *Mr. Watson.*] What do you pay for the yearly service from Mudgee to Gulgong? For service six times a week by Log Paddock, £81; and for service by Slasher's Flat, £20.
1535. And from Gulgong to Cobborah? From Gulgong to Cobborah, Muntooran, and Gilgandra, £223 19s.
1536. The total cost of the services would be £324 19s.? Yes.
1537. These services take you from Mudgee right up to Gilgandra, where it joins the Dubbo-Coonamble main route? Yes.
1538. Where does your service which reaches Coonabarabran start from? From Muntooran or Merrygoen.
1539. Does it terminate at Coonabarabran, or go right on northerly? It goes to different places; we have a line to Pilliga from Coonabarabran.
1540. It is a bi-weekly service? Yes, it is about twice a week in that direction.
1541. North from Coonamble have you a direct line towards Walgett? Yes.
1542. What does it cost? £249 a year.
1543. Do you go from Narrabri to reach Walgett with this main line of mails? From Narrabri towards Walgett, and half way to Coonamble.
1544. In the event of a line being taken from Dubbo, *via* Coonamble, to Walgett, it would be unnecessary to send the main quantity of mail matter *via* Narrabri? It would go by train.
1545. What are you paying for the conveyance of mails between Narrabri and Walgett? £1,350 a year.
1546. So that the total cost of reaching Walgett is, approximately, £1,600 a year? Yes.
1547. *Vice-Chairman.*] Is that charge of £12 per mile, per year, for the carriage of mail matter on a branch line a uniform charge which is paid? Yes; that is from the main line. On certain lines which were opened up to 1885, we pay £45,000 for the lot. Then, on all lines which have been opened since that year there is a uniform charge of £12 per mile per annum for a tri-weekly or daily service whichever it may be up to a certain weight, and over a certain weight we pay £20 per mile. And on the main lines, where we employ a travelling post office—that is where they have to supply a mail van, and we have the sorting done by mail-guards, and so on, we pay £36 per mile per annum.
1548. But £12 a mile, I suppose, is generally the rate you pay on a new line to begin with? Yes.
1549. Does that include the parcels? No; the parcel post came into operation in October, 1893, and after a good deal of correspondence they agreed to accept £3,500 a year for that service all over the Colony.
1550. On a line from Dubbo to Coonamble, a length of 93 miles, what would be about the amount paid for the carriage of parcels? I could not say; it would depend on the line. On some lines there are very many more parcels sent than on others.
1551. Will it be a case of payment by results? No; the lump sum covers all parcels. An increase in the parcels does not cause an increase in the cost.
1552. It is no advantage to the railway? No; we only carry up to 3 lb. or 11 lb.; the weight of a parcel depends upon whether it is to be sent out by a horse mail or by a conveyance.
1553. The distance from Dubbo to Coonamble is 93 miles by the railway survey, therefore you would pay on that line £1,116 a year for the carriage of mail matter? Yes.
1554. The distance from Mudgee to Coonamble is 147 miles, therefore you would pay the Railway Department £1,764 a year for the carriage of mails on that line? Yes.
1555. The distance from Warren to Coonamble is 67 miles, therefore you would pay £804 a year for the carriage of mails on that line? Yes.

J. Clarke.  
13 June, 1899.

MONDAY, 26 JUNE, 1899.

[The Committee met at the Court-house, Dubbo, at 2 p.m.]

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

William O'Neill, farmer and grazier, Narramine, sworn, and examined:—

1556. *Chairman.*] What are you? I am a farmer and grazier, residing at Narramine. I represent the people of Narramine and of the district. I have been deputed to come here by the railway league at Narramine, who, I believe, have been in correspondence with your secretary for some time on the question of the extension of railway communication to Coonamble.

W. O'Neill.  
26 June, 1899.

1557. You are prepared, I understand, to place your views on this question before the Committee in the form of a statement? Yes. In the first place I wish to place before the Committee the following statement of the traffic at Narramine railway station in the year 1893, and in the first six months of the year 1899:—

NARRAMINE Railway Traffic, years ending May, 1893 and 1899.

Year.	Goods Traffic.			Stock forwarded.				Wheat— Bags.	Wool— Bales.	Passengers booked.
	Inwards.	Outwards.	Revenue.	Horses.	Cattle.	Sheep.	Figs.			
1893 .....	Tons. 1,400	Tons. 3,700	£ 6,000	21	271	30,000	50	No. 1,500	No. 8,000	No. 2,600
1899 (6 months) .....	3,600	11,000	12,000	429	543	47,000	74	47,000	6,000	6,000
Increase .....	2,200	7,300	6,000	408	272	17,000	24	45,500	.....	3,400



- W. O'Neill.  
26 June, 1899.
1558. What area of country provides that traffic? The goods traffic took in about 50 miles in 1893. I think since the Parkes line was opened the goods traffic has not extended further than 26 miles.
1559. You mean an area of 50 miles due north? Due south, not north; because the Parkes line has taken a lot of that traffic away. Very little of this traffic comes in from the north.
1560. The traffic from the south side would come in whether this line is constructed or not? Yes.
1561. How much country north of the line towards Coonamble is under cultivation? It extends about 15 miles; but there is very little cultivation because it is too far away from a railway station. All the settlers who come in from Coonamble, *via* Narramine, are always complaining of the want of facilities to get to market. It is populated generally with a lot of enterprising men, quite as capable of producing within six years on that line, what the people round Narramine have done during the last six years. I have no doubt that the men are quite as energetic, quite as industrious, and equally intelligent; and the land is equally as good, if not better, in some places.
1562. How do you account for so much development south of the line, and so little north of the line? Merely because the railway has come out to us; the railway has done everything for us. Wool has gone off here by 2,000 bales, and wheat has increased by 45,000 bags.
1563. If you have increased your production 20 miles south of the line, why have you not increased the production north of the line? Until the last three years there were no facilities for getting across the river; but now there is a little bridge, and cultivation has increased considerably. That it would extend all the way down the line to Coonamble, and the other side of Coonamble, I have no doubt. It is all good wheat-land.
1564. It is merely a matter of roads? It is merely a matter of conveniences to get the stuff to market.
1565. Do you know the country well between Narramine and Coonamble? Yes.
1566. We want to ascertain the area of land which, in your opinion, is fit for smaller settlement, and of that which is purely pastoral land;—will you describe the character of the country between those two points? From Narramine to the Merri Merri Creek—a distance of 25 or 26 miles—it is rich alluvial soil; from that it is intersected with myall plains, rich red-soil flats lightly timbered, and splendid wheat-land.
1567. How far does that description of country extend? For about 30 miles from Narramine—to the Marthaguy Creek. I have no doubt that artesian water extends all the way to Coonamble; it has been found in several places.
1568. What area of land is there that is fit for agriculture? I do not think there is a great area that is not fit for agriculture right on to Coonamble, if I may except a small strip of the Monkey Scrub, which I believe this line would cross at the east end. It is a sand-bed; it appears to me to be an old watercourse, which has been filled up with sand. There is water all over this Monkey Scrub. I think this line would just touch the Monkey Scrub; that is the only piece of land on the route which is unsuitable for wheat-growing.
1569. How much of that land is there? Very little; I do not think it would extend above half a mile, or a mile at the very outside.
1570. You spoke about artesian water. Has it been practically tested south of Coonamble? It has been tested south of Coonamble on the Marthaguy Creek—that is, just immediately west of a line going from Narramine to Coonamble—and splendid artesian water was found. I have no doubt that it extends all the way to Coonamble. I was the first person that advocated artesian boring; and, without wishing to be egotistical, I might go further, and say that I was the means of getting a provision introduced into the Land Bill which Mr. Brunner brought in when he was Minister for Lands. At that time I advocated that bores should be put down at Coonamble, Nevertire, and Nyngan, and artesian water has been found in two places out of the three.
1571. At what depth? I forget the exact depth; but the bore is not very deep at Warren. I do not think it is very deep even at Wonbobbie, on the Marthaguy Creek.
1572. Is there a flow of water from these bores now? I think there is at both Wonbobbie and Coonamble.
1573. Are you acquainted with the country between Dubbo and Coonamble? Yes, as far as Mr. Body's station, 35 miles out.
1574. How would you describe that country? I would describe the first 6 miles of the country as very good wheat-land, and the next 30 miles I should describe as very inferior land.
1575. Comparing that line with the line you advocate, the land is not so good? No. It is a different formation altogether; it is a different kind of soil.
1576. You advocate the starting of the line from Narramine in preference to any other point of the Western railway? I believe, in the public interest, Narramine is the best place to start from. If I were speaking merely in my own private interests, I do not think it would be the best starting place; it would cut up my land, and I would not get sufficient remuneration; but I put that consideration out of the way altogether. My opinion is that it would be the best feeder which the Western line could have.
1577. Can you advance any other ground in support of that route than just your bare opinion? From my knowledge of the land, I believe it is the best route, most decidedly.
1578. What about engineering difficulties? There are none.
1579. It would cross the Macquarie River and two creeks? That is the only engineering difficulty, and I believe it is a matter of £10,000. The creeks to be crossed are only mere culverts.
1580. Do you know the country between Warren and Coonamble? Yes.
1581. How will the land between those points compare with the land more to the eastward? The land more to the eastward is more fertile.
1582. That is to say, the line you advocate passes through land more fertile than the other would? It is more fertile for agricultural purposes.
1583. *Mr. Shepherd.*] You say the line from Narramine to Coonamble is superior to the line from Dubbo to Coonamble? Most undoubtedly.
1584. What is the distance from the Narramine line to the Dubbo line? Twenty-one miles.
1585. And yet you say the country varies so very much that the country from Narramine to Coonamble is very much superior to the country from Dubbo to Coonamble? Most decidedly. The country from Narramine to Coonamble is all a splendid, fertile, agricultural country, while the country, for the first 30 miles out of Dubbo, is an ironbark forest; you might say too sour and hungry for any kind of agriculture whatever.
1586. And then between that and the Warren line it gets poorer? The land is not so fertile; it is more difficult to work for agricultural purposes.
1587. So that there is really a good strip of country up to the Narramine line? Yes.

1588. What width is that strip on either side of the proposed line? You might say that it is 15 or 20 miles on each side. W. O'Neill,  
26 June, 1899.
1589. *Chairman.*] Suppose you were north of Coonamble, and wanted to get your produce away to Sydney or to your markets, which do you consider would be the best line to take from Coonamble, which, as you know, is a *dépôt* for a large area of country? There is no doubt that Dubbo or Narramine would be the proper outlet from Coonamble to Sydney.
1590. But your preference for the line you advocate is based solely on the ground that there is a better class of country between Coonamble and Narramine? Yes; together with what I believe to be a better class of settlers.
1591. A better class of settlers? A more energetic class—men with more go and intelligence, although I am not saying anything about the men between Dubbo and Coonamble.
1592. I suppose it does not matter much where the men are? I am personally acquainted with these men, and I know that they would produce on the north side of the Macquarie River equally as well, and become equally as industrious as the men on the south side of the river. All they want is facilities to clear their land and cultivate it.
1593. Do you think there is a better class of settlers along that Narramine line than along the Dubbo line? I am certain there is.
1594. Do they come from different countries? I do not know.
1595. Do you base your calculations on the present population and settlement about Narramine, or on the prospective population and settlement? A good deal on the facilities which are afforded them. I know that the population about Narramine would be very little indeed but for the railway. The railway has made Narramine and all the people round it.
1596. *Mr. Watson.*] Is there any land north of Narramine which by the construction of a branch line would become settled and thus add to the general prosperity of the country;—is it open for settlement now, or would it be if the line were made? I think the greater portion of it is settled. Certainly there is a lot of leasehold areas, but I am not conversant with them. Very likely the Government will take its own course in dealing with them afterwards.
1597. These leasehold areas should be open to settlement in a couple of years at the outside;—are any of these leasehold areas within a reasonable distance of Narramine? I think two or three of them are.
1598. What area would they represent? I am not quite certain.
1599. What land do you think would be available for close settlement if a railway were taken through there? 30,000 acres on Burraway were thrown open two or three years ago. I think there must be 40,000 acres of leasehold on Burraway run.
1600. That would be on the track of the line you advocate from Narramine? It would go right through Burraway.
1601. With regard to the land which is already settled on—do you think that the construction of a railway would give any impetus to cultivation? There is no doubt that it would.
1602. Is there much cultivation on the north side of the Macquarie now? Just merely a fringe of the river here and there.
1603. You think it is land which is suitable for cultivation? Most undoubtedly.
1604. And that a railway would conduce to cultivation? It would conduce to very much cultivation on that side.
1605. Have you heard of a proposal to take a railway from Werris Creek to either Dubbo or Narramine, and thence down to the Southern line? Yes; it has been talked of in Dubbo for thirty years.
1606. Have you any knowledge of the country between Dubbo and Tomingley, and between Narramine and Tomingley? Yes.
1607. How does the country on the one route compare with the country on the other? I should call the country from Dubbo to Tomingley no good at all.
1608. Is it rough country or flat country? It is a sandy, ironbark, scrubby waste, between Dubbo and Tomingley.
1609. You think it is not good country? Not for agriculture.
1610. What is it good for? If it were cleared, it might become fair pastoral land. It would take an immense amount of money to keep it in a condition as good as even ordinary, pastoral land.
1611. What is the character of the country between Narramine and Tomingley? It is rich, alluvial soil.
1612. Much more fit for settlement? It is all fit for settlement; except the tops of two small ridges of 20 acres each, perhaps. With that exception, every bit of it is splendid agricultural land.
1613. From your point of view, Narramine would be a better junction for any line to Sydney? In the public interests, I believe so, most decidedly.
1614. *Chairman.*] How is land mostly held along that line from Narramine? Some settlement leases have lately been opened on Burraway, but all the rest of the land is, I think, either Crown land or conditional purchase land.
1615. What would be about the average price which the selector would require for his land if resumed for railway purposes? I do not know. Land has been offered along that route, down all these creeks, for 10s. and 15s. an acre—for conditional purchase, conditional lease, and all, with, in some instances, the stock given in.
1616. *Mr. Watson.*] Although it was taken up at £1 an acre nominally? Yes.
1617. They bought at the rate of £1 an acre, with interest added, and they take 15s. for their interest after how many years occupation? They would two years ago.
1618. How many years had they been on the land? I really could not say.
1619. Speaking roughly, was it five years, ten years, or fifteen years? From 1884, certainly. A good deal of the land has been taken up under the 1884 Act.
1620. *Chairman.*] Suppose the Government decided to construct a line to Narramine, and it were necessary to resume some of that land, have you any idea what they would ask for the land? I do not think they would ask any more. I believe they would be glad to get a railway even without that if it were resumed.
1621. Would it go through your holding? It would go through some of my land.
1622. What should you require? It would only go through my land for half a mile; and that would be through the township you might say. I should want about £70 or £80 an acre.
1623. Have you got much of it? No; if the line were 3 chains wide it would be about 12 acres very likely. I am not quite certain whether it would go through my land.
- 1624.

- W. O'Neill. 1624. If it did, would you require that sum? Yes.  
 26 June, 1899. 1625. *Mr. Levien.*] Suppose the line went through your holding, would you be inclined to give your land for railway purposes? I would certainly make a reduction to the Government, but I would not be inclined to give my land. I do not approve of the betterment system.  
 1626. Suppose you got your land from the Crown for £1 an acre, and that it is worth only £1 an acre, you do not feel inclined to give the land wanted for the railway for nothing? Certainly not.  
 1627. *Mr. Watson.*] Does your land consist of town allotments, or is it country land? Some of it would be town lots; it would depend upon where they turned off, and it would be for only a short distance any way.

Edward Cahill, stock and station agent, Narramine, sworn, and examined:—

- E. Cahill. 1628. *Mr. Dick.*] Have you had an opportunity to examine the wall map showing the three rival routes to Coonamble? Yes.  
 26 June, 1899. 1629. In your opinion, which line is likely to prove the most profitable? I think the line *via* Narramine.  
 1630. On what grounds do you base that opinion? Because it passes through better country than the others do, and because the distance from Coonamble to the Western line is shorter by that route than it is by the other routes, except by the line *via* Warren. According to the map, the distance is not much over 80 miles, and there are no engineering difficulties to be surmounted except the crossing of the river, and it is very superior land for cultivation.  
 1631. Practically you base your opinion on four grounds—first, that the country is better; secondly, that the distance is slightly shorter; thirdly, that there are no engineering difficulties on the route; and, fourthly, that the country, which is better, is suitable for agriculture? Yes, and the few extra miles to the Coonamble people—I think it only makes a difference of 12 miles to them. The benefits to the State would greatly outweigh the extra haulage.  
 1632. You understand that a railway serves a certain tract of country on each side? Yes.  
 1633. If you will look at the wall map, you will find that the Narramine-Coonamble line practically entrenches on an area which is supposed to be served by the Nevertire-Warren extension? On one side.  
 1634. Do you not think that a line further eastward would serve a larger area of country than would a line from Narramine to Coonamble? No; because the country on the east side of the Dubbo-Coonamble line is not so good as the country on the west side. The country on the east side is unproductive, and, therefore, railway communication is no good, except for getting timber.  
 1635. Do you include in that charge of inferiority the whole of the land from Dubbo to Coonamble? No—for the first 40 miles at any rate.  
 1636. That leaves about 42 miles of good country on the Dubbo-Coonamble route? Yes.  
 1637. Will not that line serve a larger area to the east than a Narramine-Coonamble line would do? I think not, because the Narramine line would tap country on both sides.  
 1638. But a good deal of that land on the west side of the Narramine line is now served by the Warren extension? No.  
 1639. How far for agricultural purposes do you think a railway acts as an influence? From 20 to 25 miles at the outside. If you have to draw wheat more than that distance it is unprofitable.  
 1640. Is it not a fact that the further you go west, taking the three rival routes, the smaller is the annual rainfall? I believe it is; but, taking the line from Warren to Coonamble, the difference in the rainfall is not very great for 40 miles to the east of that line.  
 1641. Still, it must have some influence? Yes; but an average rainfall of 18 inches is plenty for growing wheat.  
 1642. You say that for 40 miles along the Dubbo-Coonamble route we have inferior ironbark country? Yes, particularly on the east side.  
 1643. In the course of this inquiry, this evidence has been given:—"The map shows a blank for the first 20 miles out of Dubbo? That is ironbark ridge country. The greater portion of that is Crown lands but it is of very little use," and other evidence shows that after that 20 miles of country there is good agricultural land;—do you agree with that opinion? Not altogether.  
 1644. You stick to the 40 miles? On the east side. There is a vast difference in the country on each side; the further west you go the better is the country.  
 1645. You think there is no inferior land along the Narramine-Coonamble route? No; very little, if any.  
 1646. Taking the route from Dubbo to Coonamble *via* Munderooran, are you acquainted with the country along that route? I do not know the country well enough to give evidence as to its character.  
 1647. The Coonamble-Narramine route would mean extra haulage for all time for these people? Yes; but very little—so little that it is not worth mentioning. The extra haulage would not be more than 12 miles. The line will run through country vastly superior to the country on any of the other routes.  
 1648. There is no flood country in that tract between Narramine and Coonamble? No, except on the bank of the river; there are a few creeks to cross.  
 1649. You say that there are no engineering difficulties on the Narramine-Coonamble route? No, excepting at the river.  
 1650. Are you an engineer? No; but level country cannot require much engineering, I should think.  
 1651. Are there any engineering difficulties along the Dubbo-Coonamble line? Nothing very extra, I should think, but certainly more ridges than on the other.  
 1652. Do you call a ridge an engineering difficulty? It has to be cut sometimes and manouevred about to get round it.  
 1653. *Mr. Levien.*] Have you any land? I have a little.  
 1654. Have you any idea whether the line will pass through or near your land? Nowhere.  
 1655. Suppose it were to pass through your property, would you be inclined to give your land? I would give land for the railway.  
 1656. What do you value your land at? I gave £4 10s. an acre for my land, which is to the south of Narramine; it was a private purchase.  
 1657. And even though you purchased privately, you would be prepared to give the land on the betterment principle? Particularly if I were any distance from the township, or from the existing railway line—more so than if I were near a township.  
 1658. *Mr. Watson.*] Do you know anything of the country between Dubbo and Munderooran? I know a certain part of that country, but not sufficient to give an opinion about it.  
 1659.

1659. You said that the only expensive item in the construction of a line from Narramine would be the crossing of the Macquarie River;—do you regard the crossing of the other creeks on that route as unimportant? As compared with the other lines I do, because the further west you go the flatter the country is. There are no big creeks to cross; they are very small creeks, and in some places you cross almost without knowing that they are creeks.

E. Cahill.  
26 June, 1899.

1660. If you were informed that the line between Dubbo and Coonamble was taken more easterly with a view to getting round the heads of these creeks, and thus avoiding the expense of bridging them, do you think that would be a proper idea? No; certainly not.

1661. You do not think they are sufficiently important to necessitate a detour? No; I think there would be 10 miles of line saved which ought to nearly pay for the bridge.

1662. *Chairman.*] Do you know what the country east of the Castlereagh is like? Not above Gulargambone.

1663. Between Gilgandra and Gulargambone what is the country like 20 miles east of the Castlereagh? It is good country.

1664. The sphere of influence of the proposed Railway from Dubbo to Coonamble—say 20 miles east of the route—would embrace a large tract of country, would it not? Yes.

1665. The further north you go both lines serve the same country? Yes.

1666. Taking the proposed line from Dubbo to Coonamble, what is your view of the country on both sides of that line north of Gilgandra? It is good country. The further you get down the Castlereagh the better is the country.

1667. So that the only advantage which the Narramine line would have over the Dubbo line would be that the country nearer to Narramine is better than the country between Dubbo and Gilgandra? Vastly.

1668. Have you any statement which you wish to make? No, except that the reason why the country north of Narramine has shown such poor returns is because the settlers on the north side of the river could not get to the railway with their produce when the river was not bridged. To get to the railway before the river was bridged was impracticable.

1669. *Mr. Watson.*] How long is it since the river was bridged? They have only been using the bridge about five months, because after it was put up there was no road on the other side of the river to get out to the country.

1670. *Chairman.*] Is there much clearing going on now? A good deal; one man has cleared 1,200 acres since the bridge has been opened.

1671. Others, I suppose, are following in his footsteps? They are beginning to follow in his footsteps. There is a lot of Crown land on the route of the line between Narramine and Coonamble.

Richard M'Gee, Railway Station-master, Dubbo, sworn, and examined:—

1672. *Chairman.*] For the carriage of goods, inwards and outwards, what revenue have you received? For the year ending 31st May the revenue was £25,406 2s. 5d. in 1897; £26,792 15s. 10d. in 1898, being an increase of £1,386 13s. 5d.; and £30,670 17s. 11d. in 1899, being an increase of £3,878 2s. 1d.

R. M'Gee.  
26 June, 1899.

1673. How many bales of wool did you carry? Outwards, 18,039 bales in 1898, and 25,981 bales in 1899. I did not take the number of bales inwards; it is usually a couple of thousand.

1674. Have you a return of the live stock? It is as follows:—

LIVE STOCK—Inwards.

Years.	Horses.	Cattle.	Sheep.	Pigs.
1897 .....	48	863	18,963	55
1898 .....	770	908	22,866	59
Increase .....	722	45	3,903	4

LIVE STOCK—Outwards.

Years.	Horses.	Cattle.	Sheep.	Pigs.
1897 .....	152	2,755	106,048	71
1898 .....	268	6,113	155,216	28
Increase .....	116	3,358	49,168	...

For the five months of this year, ending May 31st, the traffic in live stock was as follows:—Outwards—379 horses, 1,476 cattle, 152 calves, and 53,743 sheep; being an increase of 24,460 sheep, 495 cattle, and 250 horses; inwards—362 horses, 372 cattle, 15,396 sheep, and 34 pigs, being an increase of 9,700 sheep, 58 cattle, and 336 horses.

1674. What was the coaching revenue during those years? For 1897 it was £7,904 6s. 3d., and for 1898, £8,249 3s. 3d., showing an increase of £334 17s. We issued 8,800 tickets in 1897, and 9,672 tickets in 1898, being an increase of 872 tickets. The sale of tickets for the first five months of this year shows an increase of £102 8s. 5d. over last year's revenue. During February of last year a cheap excursion train was run which brought in a revenue of over £200; but notwithstanding that fact the revenue for the first five months of this year shows an increase of £102 8s. 5d. We do not count a return ticket as two.

1675. *Mr. Watson.*] Taken altogether, these statistics show a steady increase in the amount of traffic at Dubbo? I think so; I take it as such.

1676. Do you think any of the increase this year as against other years is due to the severity of the drought and the consequent shipping of stock, or would you put it down as merely normal? I should think it would be about balanced, because in previous years, when we did not have a drought, the meat works and boiling-down place attracted the stock inwards. This year this establishment is not working, and

- R. M'Gee.  
26 June, 1899.
- and I think the severity of the drought in other parts of the colony did bring the stock inwards ; but I do not think the traffic outwards is affected.
1677. You do not think the increase is at all abnormal? No.
1678. You think it is steady, and is due to the progress of the district? I think it is steady, and is owing to the increased settlement which has taken place.
1679. There has been increased settlement during the last year? I think there has.
1680. Can you say whence the great amount of this traffic is derived—we are not particularly anxious about the district south of the existing line; but we wish to know what proportion of that traffic comes from the north—that is, from the country towards Munderoran, and thence describing a route round to Coonamble, and down to the Western line? I think about 75 per cent. of the country traffic would come from the north.
1681. Of the proportion which comes from the north, would the larger amount come from the country towards Cobborah and Munderoran, and round that way, or from the direct track from Coonamble? As we know it, it is principally from Gilgandra, Gulargambone, and Coonamble.
1682. And they seem to make Dubbo their objective? Yes.
1683. What class of traffic is it generally to and from Dubbo—case goods? Yes, general goods.
1684. Do their general goods come through Dubbo, and thence go by team to Coonamble? Yes; and station supplies.
1685. That is, in preference to the Mudgee route? Yes.
1686. Do you know whether any goods come *via* Dubbo which go further out than Coonamble to any distance? Yes, they go out beyond Coonamble.
1687. Not as far as Walgett, I suppose? We have sent goods to Walgett, and we have received wool from Walgett.
1688. But usually, I suppose, goods would be sent *via* Narrabri to Walgett? Yes.
1689. As regards places between Coonamble and Walgett, do you think that they go *via* Dubbo? Yes; we should stand a good show of getting that traffic—we do, really get most of it now.
1690. Would it be in a specially dry season, when the Barwon was low, or during a normal season, that you would get wool from Walgett? In a normal season.
1691. I thought that, perhaps, the river would beat you? It might affect it.
1692. Do you have a lot of wheat shipped at Dubbo in the season? It is increasing.
1693. Do you know whether any of the wheat which is shipped here comes from as far as Munderoran? I could not say.
1694. You would have an idea if it did come from there, would you not? Not personally, without inquiring into the matter; I have merely a record of the number of bags.
1695. It has been stated in evidence that a great deal of the produce grown about Cobborah and Munderoran goes towards Mudgee now? I have no idea; I think it will come here.
1696. Would it be likely to come here? I think so.
1697. Do you get any of the Coonabarabran traffic? We get some of that.
1698. Of what character is it? General goods.
1699. Do you get any wool? We get wool from that district too.

Alderman James Andrew Ryan, financier and landowner, Dubbo, sworn, and examined:—

- Alderman  
J. A. Ryan.  
26 June, 1899.
1700. *Chairman.*] What are you? I am at present a financier and landowner. I carry on the business of a financier in Dubbo, and I have land outside Dubbo. I have resided in Dubbo for nearly thirty-three years.
1701. *Mr. Shepherd.*] What have you been chiefly engaged in during that time? For twenty years I was farming and raising stock, and ever since that time I have been off the land. My land is now leased to tenants.
1702. Are you thoroughly acquainted with the country between Narramine and Coonamble, and the country between Dubbo and Coonamble? Yes; I have been on every station between Dubbo and Mount Harris on the Macquarie, and between Dubbo and Coonamble.
1703. What kind of country is it between Dubbo and Coonamble? From Dubbo you pass out to the Talbragar. The land is all held in small areas; it has been sold as a freehold. The land is all first-class between Dubbo and the Talbragar, a distance of 4 miles. Beyond the Talbragar again, it is also first-class agricultural land following the course where the line has been surveyed along the Mogriguy Creek. The valley of the Mogriguy Creek is a volcanic basin. It is about 12 or 13 miles from Dubbo. Then the line keeps slightly to the left; it crosses the dividing water-shed between the Mogriguy Creek and the Coolbaggie Creek. A portion of the land across that way is forest land. There are also some patches of volcanic soil, too.
1704. It is all good land up to that point? Yes; it is within a distance of, say, 3 or 4 miles of the creek; but away from that there are ironbark forests along the line. A good deal of the land on the Coolbaggie Creek is scrub land; but a lot of this has been selected and cleared, and is proving to be first-class agricultural land, that is, for the production of wheat and hay. Land that was rejected by graziers thirty or forty years ago is proving now to be the best agricultural land.
1705. *Chairman.*] The reason why so many people have described it in the past as being poor land or worthless land, was simply because the land was not improved? The graziers considered it was poor land because it was not good grazing land with the timber on it.
1706. What class of timber is it? Box, pine; in some places box and ironbark mixed, and just where the ironbark does occur it is very sandy soil, but even that will produce crops. These are the principal timbers which are growing along the line.
1707. *Mr. Shepherd.*] What distance does that take us from Dubbo? Twenty-two or 23 miles—beyond the Coolbaggie Creek. Along the Drillwarrina Creek it is all good agricultural land as far as you like to go on either side of the creek, but it has been heavily timbered land. It is very expensive to bring this land under cultivation, but after it is brought under cultivation it is first-class productive land. Then between the Coolbaggie Creek and the Marthaguy Creek the land is all good, agricultural land. It is being taken up round there and brought into cultivation. The line would cross the Marthaguy twice, as there is a loop in the creek. It would take you on to the country between the Marthaguy Creek and the Castlereagh River. You can describe it all as good land, that is, within the influence of the line for a certain distance.
- 1708.

Alderman  
J. A. Ryan.  
26 June, 1899.

1708. It is your opinion that the whole country between Dubbo and Coonamble is good land? It is all good land; it can all, with an expenditure of capital, be brought into productiveness. On the eastern side of the line, between Dubbo and the Marthaguy, there is a very valuable ironbark forest which will produce a lot of timber for the railways. That land may not be brought under cultivation for a long time, if ever. It is a most valuable forest timber; it is all arable land.

1709. How far does this good land extend on either side of the proposed line? On the western side, as you go down, you get on the heads of these creeks running down towards the Macquarie. They would have to be crossed by a line from Warren to Coonamble. All the land on the heads of the creeks is good land.

1710. Is the country from Dubbo to Coonamble chiefly red, loamy soil? A good deal of it is black volcanic soil, and a good deal of it is red loam. In the ironbark forests it is a decomposition of sandstone.

1711. Is there much land under cultivation on this particular line? People went in more for grazing; they are only now bringing the land under cultivation. Wheat-growing has enabled them to expend money to improve the land.

1712. The land under cultivation now is chiefly devoted to wheat-growing? Yes.

1713. What is the average production? I could hardly say what the average is, but I know that up to 32 bushels an acre have been got off land along the Mogriguy Creek. Mr. Tripp, a farmer on the Mogriguy, got 32 bushels of wheat to the acre, which he advertised for sale as prime seed-wheat. And Mr. James Reid, a farmer on the Mogriguy, took first prize for wheaten chaff at the Dubbo show this year.

1714. *Chairman.*] Is there any amount of good, volcanic country? Yes; and away on to near the Coolbaggie.

1715. *Mr. Shepherd.*] Will you now describe the country from Narramine to Coonamble? After crossing the Macquarie at Narramine it is box and pine country with a loamy soil. I dare say that most of it could be brought under cultivation in time; it is fairly good land.

1716. Does that extend the whole distance? When you get further out you would get on to these creeks. There is some very good land along the creeks, but some of it would be flooded country. I have crossed the route at various points.

1717. The land extends on both sides, similarly to what it does on the line from Dubbo, for some considerable distance? Yes.

1718. Is there any particular difficulty in railway construction on either of these lines? You would have less bridging to do on the line from Dubbo to Coonamble than on any other line which is proposed, because when you reach the southern bank of the Castlereagh, near Gilgandra, the line runs parallel with the bank of the river. There are no creeks running into the Castlereagh on the western side. The west bank of the Castlereagh is the highest point, and it is really the watershed of all these creeks which fall from the west. On the eastern side there are a number of creeks coming in which will have to be bridged if the line is taken on that side of the Castlereagh.

1719. Have you any idea whether the owners of the land on this line will be willing to give the necessary land to the Government in the event of a railway being made? No; I could not say.

1720. Do you own much land on either line? My land is situated between 5 and 6 miles from Dubbo, not far from the proposed railway.

1721. How do you feel disposed to deal with the Government? The line would not go through any of my land. There is one line which passes through some land for which I am the trustee; the first line which was measured goes through my married sister's land; but the second line goes outside it.

1722. Are you acquainted with the proposed line from Mudgee to Coonamble? I have been over a good deal of the country at various points—Gulgong to Mudgee, Gulgong to Cobborah. I have ridden from there to Coonamble; but perhaps not just where the line goes.

1723. How would you describe the country from Mudgee to Gulgong? It is good country from Mudgee to Gulgong, but a little way after passing Gulgong I should describe the country as very poor country. It is rather hilly country; it is what they call speyey country in wet weather; it is very poor country. Along the valley of the Talbragar there is a narrow strip of very rich soil.

1724. Disregarding all private interests, which line do you think would best serve the country? Speaking in the interests of the country, I say that the line from Dubbo to Coonamble would. It was one of the first lines proposed a number of years ago. It was proposed long before the Byrock-Brewarrina line was thought of. It is a mystery that it has ever gone so long without being constructed. I think it is certainly the best line to construct. I think the Coonamble country ought to be brought into union with the main Western line. It is of great importance to all the places east of here to Bathurst that they should be brought into communication with the Coonamble country. There always has been a good trade in produce and one thing and another between all the towns from Bathurst to Dubbo and in the Coonamble country, and if the line were taken from any other point it would cut off all the trade communication which has existed for thirty odd years to my knowledge. Besides, I think, the southern trade from here, that is in the direction of Melbourne, will, as time goes on, increase. There has been a good deal of stock traffic here in the past to my knowledge, and the stock which used to travel by the roads in old times, will, I think, in the future, all go by rail. I think all stock-owners are disposed to send stock by rail when they can do so. There will be, no doubt, a large trade in years to come between those northern districts and Melbourne. The more these lines are made to converge somewhere about here the better I think it will be for the railway system of this colony. It should touch this main Western line at Dubbo.

1725. To which station does the chief traffic from Coonamble go now? Dubbo seems to be the central point of the traffic, because, notwithstanding the fact of the railway being taken to Warren from Nevertire, the trade from Coonamble to Dubbo has increased since that extension of 12 miles has been made. Stations that previously used to send their wool to Nevertire now send their wool to Dubbo by team.

1726. *Mr. Watson.*] Why is that? It is level country, with a good road and no creeks to get stuck up in, as there is in other country.

1727. *Mr. Shepherd.*] Are you acquainted with the country within a radius of 20 miles beyond Coonamble? Yes. When you get down below Coonamble you get into country where the water of the Castlereagh spreads out. It is all magnificent grazing country, no doubt; but you cannot call it agricultural country. In very wet seasons it is almost a sea of water.

1728. So that really an extension of the railway to Coonamble would not bring very much traffic in grain or agricultural produce from beyond Coonamble? No.

- Alderman  
J. A. Ryan.  
26 June, 1899.
1729. You believe the extension of railway communication to Coonamble will largely increase the cultivation area? Yes, between Dubbo and Coonamble. Narramine has got a great name for wheat-growing during the last few years. In the neighbourhood of Gilgandra, and all round there, they have land which is quite equal to the land at Narramine, and which is capable of producing from 40 to 50 bushels of wheat to the acre.
1730. Is there much land alienated between Narramine and Coonamble? I could not tell the quantity which is alienated; but all the land which was available for selection has been taken up.
1731. Agriculture is increasing? Yes; it is increasing out this way, although they have to send wheat in 30 miles by team. They are growing wheat round Gilgandra, which is 40 miles away.
1732. Is not that considered rather an excessive distance from a railway-station for growing wheat? Yes, and they have to get very heavy crops to make it pay.
1733. *Mr. Levien.*] Have you ever been over the route between Werris Creek and Dubbo? No; only to Cobborah; but I will give you an opinion about the Dubbo-Werris Creek line. It ought to be thought of fifty years hence when there is population to make the line pay.
1734. Do you not think it may become the main line from Queensland to Victoria when the great cause of Federation is consummated? Yes, it will be a grand thing; but my opinion is that we should build commercial lines which will pay.
1735. You do not believe in this line at all? Certainly it would never pay in our time. It would be a grand thing to have this line if we had the money to build it; but there is nothing at present, in my opinion, to warrant its construction.
1736. Is there not any sheep traffic? Nothing to make a line pay.
1737. What kind of country is it for agricultural purposes? Some of the country is very good. There is some good pastoral land and some inferior country. I do not know what it is on the other side, except from reading the papers.
1738. You have never been further than Cobborah? No.
1739. *Mr. Watson.*] You stated that pastoralists who previously had sent wool to Nevertire had, since the construction of the Warren extension, commenced to send wool to Dubbo. What reason can you give for that change. Would not the presumption be that they would not go past a railway line? From what I have heard from people down there, it is such good country to carry on that carriers are able to carry as cheaply as the railway. The extra distance it would have to go to reach Nevertire would be equal to, or, perhaps, greater than, bringing it direct by team to Dubbo.
1740. Am I to understand that these pastoralists would have altered their place of shipment whether the Warren extension were made or not? It has not had the effect of taking the wool round by Nevertire.
1741. It has not had the effect of causing those who previously went to Nevertire to go to Dubbo? No; I suppose it was a matter of £. s. d. with the others, and they got it carried cheaper by the teams to Dubbo.
1742. Have the roads been especially good for teamsters to travel on during the last year or so? Last year they were very good for teams, but this year it has been very dry.
1743. Was there any question of back loading which might be a factor in reducing the freights this way? No; the same thing would apply to either Nevertire or Dubbo as regards back loading.
1744. Still, you say that there is a great proportion of the wool traffic from north-west of Warren which now comes to Dubbo? Yes; and there has been a good deal of loading going back; but I think the route from Dubbo is particularly suited to the construction of the railway line. It is very level country; there is very little bridging to be done, and they will be able to get all kinds of timbers that will be required.
1745. Do you anticipate that the land between Dubbo and Gilgandra will contribute anything towards the up-keep of a railway? Yes.
1746. Irrespective of timber? Round Gilgandra it will grow into a very considerable town.
1747. The country between the Talbragar and Gilgandra is acknowledged to be the poorer land, comparatively speaking;—do you think that country in itself will contribute towards making the railway pay? Yes.
1748. Do you think that land will be a factor in making the line pay later on? Yes; it is not so bad, but what it can be made productive. I suppose there is not one acre which you cannot break up with the plough when the timber is off it. There is a little bit of sandstone outcrop here and there perhaps.
1749. It has been suggested, with a view of reaching Coonamble, and with a view also of connecting some day with Werris Creek, that Coonamble should be reached from Dubbo, *via* Munderooran;—what do you think of that project? I would say it is ridiculous. I have noticed myself that the bulk of the trade of Australia goes to the seaboard; that is the main traffic as between the seaboard and the point desired to be reached. The more direct way you can get there, if the country is not too bad to get over, the better it must be for the railway system.
1750. You would not favour the adoption of that route as a means of reaching Coonamble? I think it is a ridiculous proposal.
1751. In view of your knowledge of the intervening country, you think it is a ridiculous proposal? Yes; the bulk of the trade is between the seaboard and the points desired to be reached. If you build a railway in the wrong place you will simply have the teams competing with the railway taking the products along the natural route.
1752. Referring to the question of wool coming here from north-west of Warren, is it a fact that the reason why that wool at one time went towards Nevertire was owing to some disagreement between the carriers and the pastoralists? Yes, nearly all the wool came here originally. There was a carriers' strike here, and the result was that the agents in Coonamble simply opened a new line to reach the railway with another set of men.
1753. Which temporarily diverted the traffic? Yes, from Dubbo.
1754. And the traffic is now coming back to its original course? Yes.
1755. *Chairman.*] You are well acquainted with the whole of the country on each route which has been mentioned? Yes.
1756. During the last year or two it has been very dry weather? Yes.
1757. Have you been over the country lately? No; I am speaking of my knowledge of the country years ago. I have travelled over the Talbragar, and camped on it. I think I could describe every bend in the Castlereagh; I am in communication with the people, and know what is going on.

1758. Do you know the difference in rainfall between a line west of the Castlereagh and a line from Narramine towards Coonamble? The difference is some few inches. The rainfall on the line between Dubbo and Coonamble is more than ample for wheat-growing.

Alderman  
J. A. Ryan.

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1759. To produce the best quality of wheat you do not require a very heavy rainfall? Twenty-six inches is more than enough to grow wheat well.

1760. Now, west of the line which has been advocated from Narramine to Coonamble, is the rainfall sufficient for wheat-growing? It is sufficient for wheat and hay-growing.

1761. Have you been out that way this season? No.

1762. You do not know what the crops have been like this season? No; I hear that the crops are looking very nice since the rain. In the interests of the country, I think it is better that the line should start from Dubbo. I do not see what advantage the country could gain by taking the extra few miles from Narramine, and then branching off. There has never been a track direct to Narramine. In the other case, we have the route which has been followed by the traffic. We have a splendid water supply in Dubbo. I think it is a very important point for the Railway Department to make the junction of any important line at a place which will carry a large population. Nevertire is out on a dry, wind-swept plain; in summer time there is no permanent supply of water, and it would be a very undesirable place at which to establish a town. At Dubbo we have a splendid location and climate, and suitable water supply. Another advantage which Dubbo offers is that sidings could be made, and the industries which will grow up with the place, in course of time, could have their sidings, with a good water supply. The line runs parallel with a never-failing river. It would tend to the starting of works which will employ people in time to come, such as wool-scouring and boiling-down, frozen-meat works, flour and saw mills, butter factories, &c.

1763. *Mr. Watson.*] Will you be allowed by the Health Board to use the water from the Macquarie for this purpose? It would be pumped from the river.

1764. But you would not be allowed to let the water go back to the river? Certainly not.

1765. *Chairman.*] What terms do you make with your tenants? They pay me so much per acre for the land.

1766. You do not lease your land on the halves system? No; the tenants pay an annual rental.

1767. Your land is, I think, within a short distance of Dubbo? Yes; so that the building of the line would have no influence. So far as I am concerned, as a landowner, I have no interest beyond being the owner of that land. I may tell you that I am an advocate for the State taxing the value of the land; I am a single-taxer.

1768. You think that if this line were constructed there would be no difficulty in finding other Crown tenants all along the line, and that it would be the means of breaking up large estates? I am certain that the land would be taken up and cultivated. Mr. Barnett, who has a station 30 miles from Dubbo, is turning his land from grazing to agriculture. He reckons that agriculture will pay him even at that distance from Dubbo.

1769. Agriculture would support a much larger population? Yes; the holdings will be devoted to combined grazing and farming. We shall never get away for many years from stock raising.

1770. *Mr. Watson.*] Even with a railway? They will have to depend largely on stock. They will grow stuff to feed their stock on. The land will eventually go into larger holdings again, I think. The small holders will sell out to the larger ones as time goes on.

1771. *Chairman.*] The construction of a line from Dubbo to Coonamble is, in your opinion, warranted? It is, inasmuch as there is a lot of good country to develop; and I think it is the most suitable point at which to bring that country into union with the Great Western trunk-line.

Thomas Henry Purvis, hotelkeeper, Dubbo, sworn, and examined:—

1772. *Chairman.*] Have you a knowledge of the country to be served by the proposed railway? Yes; I have been over a great deal of the country between Dubbo and Coonamble.

T. H. Purvis.

1773. Have you been over the country between Narramine and Coonamble? I have.

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1774. Have you also been over the country from Mudgee to Coonamble? I have not been out along the Mudgee line.

1775. Comparing the Dubbo-Coonamble line with the Narramine-Coonamble line, which country would you say is more worthy of development by railway? I think the land is very much alike; after you get out a bit there is not much difference in the land.

1776. Then the advantage would lie with the line from Coonamble to Dubbo inasmuch as there would be shorter haulage? Yes; and I think there would not be so much bridging to be done as there would be on the other line. There are a good many creeks and swamps to cross on that line which you would not have to cross on this line.

1777. A line from Narramine would be much more expensive to construct than a line from Dubbo, although it would be shorter? Yes; because there are more creeks and swamps to cross which you would not get on this line at all.

1778. Do you know the country for 20 miles on each side of that line? Yes.

1779. Would you describe that country as being good agricultural country? Yes, if it were cleared; it is good red soil. From Dubbo, the land on the left hand side going down is the best.

1780. If a statement has been made to the Committee that the land from Dubbo to Gilgandra is very poor agricultural country, you would say that it is not correct? It is not correct. The Coonamble road runs along the edge of the ironbark; but off the road for a considerable distance it is all good agricultural land all the way along.

1781. Is the land taken up? No, not much of it; there is a great lot of it open there for settlement.

1782. Say, for 20 miles from Dubbo, is the land taken up? There is some, a little over 20 miles, taken up; but all between Dubbo and Coolbaggie is not taken up.

1783. Why? It belongs to Terramungamine run.

1784. The leases in this division will all fall in within three years;—has anybody expressed a desire to take up that land? The land will be taken up very quickly when it is opened. People have taken up a lot worse places than that round here.

1785. So the reason that it is not being cultivated is that it is part of a leasehold area? Yes, it belongs to the station.



- T. H. Purvis. 1786. Have you seen similar land cultivated? Yes.
- 26 June, 1899. 1787. And successfully cultivated? Yes; there is some being cultivated out opposite Mr. Barnett's. On the north side of the Coolbaggie it has been cultivated, and looks beautiful. It is very grassy country, too.
1788. Your remarks apply to the country as far as Gilgandra? Yes.
1789. Beyond Gilgandra again what is the country like? It is all open plain from there down.
1790. It is more pastoral country? Yes; but on the banks of the Castlereagh it is all good land for cultivation.
1791. But as you get back from the river, say 20 miles back, what is it like? It is plains, pine scrubs, and Budda scrubs. Part of it is good agricultural land, but not all of it.
1792. Is there much traffic coming down that line? A good deal from Coonamble, but it mostly comes on the eastern side of the river.
1793. Is there any traffic from Walgett now? A good bit; I am agent for the coaches; a great many persons come in by coach and go out by coach.
1794. If a line were constructed to Coonamble that town would form a depôt for a large scope of country to the north? It would.
1795. Would you take Dubbo to be its natural outlet on the Western line? I should think so.
1796. Have you been out lately on this line? I was at Coonamble four months ago.
1797. Have you been out on the other lines lately? I went down one way and came back by the Merri Merri close to Warren.
1798. Have you been along the Marthaguy Creek lately? I came up the Marthaguy.
1799. Which country stands the drought best—the country along the Castlereagh or the country along the Macquarie? Lower down it is much the same country, but up higher it is better. Down about the Marthaguy—down about Wonbobbie, it is much the same sort of country.
1800. Does the pasture look much about the same just now? It was very bad when I was down there. It was very good all round about Dubbo and all out in the scrub country when it was bad down there.
1801. That means that the further east you get the better the rain and the better the grass? Yes; up this way.
1802. So that you would not advocate going west of Dubbo? Not to cultivate—not very far.
1803. *Mr. Levien.*] You are not a landholder? No.
1804. If you had land between Dubbo and Coonamble, would you be inclined, as a citizen, to let it go on the betterment principle? I would.
1805. And you think it is a fair thing, in the interests of the people, to let the line go in that direction, and to allow the Railway Department to have this land? Yes.
1806. *Chairman.*] Did you ever run coaches? Never.
1807. You do not know anything about the coach traffic? No; but I have been down along the line in the coach.
1808. You know nothing about the land between Werris Creek and Dubbo? No.
1809. *Mr. Watson.*] Do you know the land round about Dubbo pretty well? Yes.
1810. How long have you been here? Forty-two years.
1811. You have a fair idea of the capacity of the land for pastoral pursuits? Yes.
1812. You have been looking at the land mainly from the pastoral aspect? Yes; and the land I have seen cultivated—land which in the olden days we used to think was not the best.
1813. From a pastoral standpoint, you think that the northern and western country is good? Yes.
1814. Do you reckon that the country between Dubbo and Gilgandra is good pastoral country? Parts of it are.
1815. Do you think that any of the country is fit for cultivation? Yes; there is plenty of cultivation along the line.
1816. *Chairman.*] Have you any statement which you would like to make with reference to your knowledge of the country? No.

Alderman Richard James Joseph Ryan, solicitor, Dubbo, sworn, and examined:—

- Alderman R. J. J. Ryan. 1817. *Mr. Dick.*] You are a resident of Dubbo? Yes, for twenty years.
- 26 June, 1899. 1818. You have a good local knowledge of the districts to be served by these rival routes? I have a very good knowledge of the country between Dubbo and Coonamble.
1819. Is there a conflict of opinion concerning the first section of the Dubbo-Coonamble route, that is, practically, as far as Gilgandra;—do you agree with the last witness that a great deal of that land is fit for agriculture? Yes, but that matter is open to contention, I admit. That country is not as good as it is about Narramine. There are parts of the country along there which, perhaps, may not produce a good crop; but taking it on the whole, if that land were opened up and cleared, I have no doubt that it would be highly productive. Following the road itself, you have the worst part of the country in view. You have to keep off the road a bit to find the good land. As you get towards Gilgandra, you will find the land all being cultivated; land which at one time was thought not worth being cultivated is now being cultivated. From Bobarah, 30 miles from Dubbo, the land has been taken up and very extensively cultivated; from there to Gilgandra it is all being cultivated fairly well, except land which is held under lease. Several farmers from South Australia have bought land between Dubbo and Gilgandra. I wish to emphasize this fact, that if this line between Dubbo and Coonamble is ignored, the vast tract of country you see on that wall map must be served by some means. If the line goes from Dubbo to Coonamble, the intervening country between the line and Narramine will be served. But if the railway goes from Narramine to Gilgandra, what is to serve the eastern portion of that area on that map. It will be left absolutely unserved. If you look at that red line on the map, you will see that it will fully and amply serve the Narramine people; but if the line goes from Narramine, there is all that vast extent of country over to Cobborah, Munderoran, and Gilgandra, and Terrabile, which will be left unprovided for.
1820. What is the character of the country round those points which you have just mentioned? It has been used for pastoral purposes more than anything else; but pastoral pursuits are giving way rapidly to agriculture by reason of the falling in of the leases and the introduction of the halves system.
1821. You see that the dotted route from Dubbo would run to Munderoran and thence go on to Coonamble;—have you considered the effect of such a route as that upon that area of country which you desire to be served by a railway? I have only considered it as part of a national line to Werris Creek. There is no provision

provision made for the intervening country. That has been for years the recognised route between Dubbo and Coonamble, and all the traffic will be diverted and upset if you do not have the railway taken along that route. The red line touches all the places of importance. The line to Narramine would paralyse all the trade and commerce of the places between Dubbo and Coonamble on the east.

Alderman  
R. J. J. Ryan.  
26 June, 1899.

1822. Have you considered the possible extension of a line from Mudgee to Coonamble? No; I have always considered that as one of the things which would be in the air.

1823. You practically agree with a number of the witnesses we have had this afternoon that from Dubbo to Coonamble, practically the whole way, there is a large area of good land fit for agriculture? There is no doubt whatever about it.

1824. And the requirements of that district of which the route is practically the dividing line will be best served by going from Dubbo rather than from Narramine? Yes; it is apparent on the face of it that it must be served by some means. I have not the slightest doubt that if the line went from Narramine to Gulargambone you would have opposition traffic, in the shape of teams, between that point and Dubbo.

1825. What would enable them to successfully oppose the railway? The traffic they would get, the business they would have. I am sure the wool would come this road.

1826. *Mr. Watson.*] If there were through-rates from Gulargambone to Sydney *via* Narramine would teams be able to take the wool to Dubbo? I am quite positive about it. A considerable amount of wool goes along that intervening part which the Narramine line would never get. All the wool from Terrabile would never touch the Narramine train.

1827. Where does the Cobborah and Mudooran traffic go to now? A good deal of it goes down to Gilgandra, and a good deal of it goes to Mudgee. We hardly regard Cobborah as part and parcel of Dubbo, because virtually it belongs to the Mudgee district. There is some vehicular traffic between Gilgandra and Mudgee, *via* Mudooran, but I fail to see that there is heavy traffic.

1828. Is it a fact that the first section of the proposed line goes along a high ridge? It is undulating country. I should not call it a ridge; it is good high country.

1829. The Narramine-Coonamble line would necessarily have to cross a number of small creeks and water-courses? Yes.

1830. Whereas the Dubbo-Coonamble line, at any rate for the last two-thirds of the distance, avoids them wholly? I cannot speak personally as to the latter part of the distance.

1831. Between the Talbragar and Gilgandra, and over towards Mudooran, the country is mainly a railway reserve? I think there is a big forest reserve for railway purposes. That is where they have been cutting most of their timber.

1832. Do you know the character of the land in that reserve? No; not more than from what I have heard Mr. Thomas say.

1833. It is under pastoral lease? I understand that it is.

1834. The presumption is that it is of some value for grazing? Yes. The reason why a good deal of it has not been cultivated is because it has been under lease. There is a rush every Thursday when there is land thrown open; 200 or 300 applicants for a lease.

1835. A good number of the pastoral leases in the Central Division will be thrown open for settlement during 1901, so that if a railway were constructed it would be in time for the development of that land, and the State would get whatever benefit accrued from increased values? Yes; there is no doubt that the land would be increased in value.

1836. You know the land between Narramine and Coonamble? Only by hearsay.

1837. *Mr. Levien.*] I suppose you are not a single-taxer? No; I would rather tax those who are.

Augustine Heard Fearon, manager, Bank of New South Wales, Dubbo, sworn, and examined:—

1838. *Chairman.*] How long have you been in this district? Twelve and a half years.

1839. Do you know anything about the country between Dubbo and Coonamble? I have travelled all over it.

A. H. Fearon.  
26 June, 1899.

1840. How would you describe that country? Between Dubbo and Gilgandra it is all forest country, timbered with box, ironbark, budda, and pine. The bulk of it is from fair to very good agricultural land between Dubbo and Gilgandra.

1841. How do you value it? I completed the purchase of a selection here the day before yesterday at 25s. an acre, conditional purchase and conditional lease. There is £1 an acre to pay to the Government, and I suppose about 14s. on the conditional purchase, which consists of 640 acres. That would be about £2 an acre for improved freehold.

1842. Is there a great anxiety to get land here? There is a great demand for country.

1843. For agricultural purposes? Yes, and grazing as well.

1844. Do you call the land between Dubbo and Gilgandra fair agricultural and grazing land? From fair to very good.

1845. Then, from Gilgandra on, what is it like? On the banks of the Castlereagh—I suppose up to 20 miles on each side of the river—it can all be considered agricultural land.

1846. That is, east and west of the Castlereagh it is all very good country? It is very good grazing land. I think a great deal of this country would be agricultural land in time if they had facilities for getting produce away.

1847. Capable of supporting a large population? Yes, a very large population. The land between here and Coolbaggie for 20 odd miles, which I believe the proposed line goes through, all belongs to Mr. F. E. Body. He has just made a proposal to the Government to exchange all the land which the railway goes through—that is, about 25,000 acres—for land further down and nearer his present homestead.

1848. Where is the land for which he proposes to exchange these 25,000 acres? He has a place called Terramungamine, and a place called Bandemar. The land he would take in exchange is more on the Narramine route.

1849. I suppose it is better than the land he is giving up? No; he is a grazier, and does not go in for farming. He says the railway will interfere with him rather than benefit him. He thinks he will have a better chance of consolidating where the Government is getting the big end of the stick. He is giving up all the fences and water, and ringbarking, for country which is practically unimproved beyond the ringbarking.

- A. H. Fearon. 1850. Have you any idea of the traffic along that line from Coonamble to Dubbo? I have a very fair idea of the traffic. There is an immense wool traffic in the season, and there is a large amount of produce which comes down there. Nearly all the produce between Dubbo and Coonamble comes by this line. At the present time there is an immense number of teams carrying forage. I live a few miles down the line, and I see the traffic daily. I travel the line a good deal between Dubbo and Coonamble.
- 26 June, 1899.
1851. Do you think the present traffic is sufficient to justify the construction of a railway to Coonamble? My own impression is that the line would pay working expenses straight away. There is sufficient population on the line to do it.
1852. Have you any knowledge of a line which has been constructed, say, from Dubbo to Nyngan—that is, before the line went further on than Nyngan? I was not in the district before it went further on.
1853. You could not say whether you could anticipate as much traffic along this line as was anticipated from other lines when they were constructed? I should think there would be more traffic. There is a very large population settled in Coonamble and immediately around Coonamble, and a good deal would come in from Walgett.
1854. So that if the construction of a line to Bourke were justifiable, the construction of a line to Coonamble would be more justifiable? Yes; there is a great deal better country round Coonamble than there is round Nyngan or Bourke, and it has a better rainfall. I think Coonamble is certain to be a big centre some day. There is some very fine country round that place.
1855. Do you know whether much of the Walgett traffic comes in this way? A good deal of the Walgett passenger traffic comes this way; I do not think a great deal of the wool comes this way. There is wool which comes from several stations 40 or 50 miles north from Wingadee and Bullarora belonging to Tobin & Sons and other stations. The country to the west of the proposed line from, I suppose, 20 or 30 miles west, is good agricultural land all the way. As regards the country east of the line, there is a good deal of ironbark, but I think it is held that it will turn out to be land capable of producing wheat. A large number of farmers tell me that they are growing wheat there. A man named Hall told me that he got 40 bushels to the acre off ironbark country.
1856. That is in country which was considered no good at one time? Yes.
1857. Do you know whether any of that ironbark country has been under tillage long? This man told me that he had been tilling it for the last three or four years, and that last year it produced 40 bushels to the acre.
1858. He has an idea that the land will last? He says so. The land we used to think so utterly worthless has turned out to be the best country. We have had thousands of sheep and cattle from Bourke and all parts of the Colony grazing this year within a radius of 50 miles of Dubbo.
1859. You describe that land from Dubbo out as being from fair to very good land? Yes.
1860. So that if the Committee has been informed that it is next to useless, the opinion of the informants must have been formed from the box seat of a coach? I think so.
1861. In travelling the line between Dubbo and Gilgandra, you go along the worst portion of the country;—the best land for a race is not the best land for agriculture? It is generally the worst. The road was formed in the old days by the coach, which kept to the ridges.
1862. Any investigator of the country if he sticks to the road cannot form a good opinion as to the capabilities of the land? No.
1863. If anyone gives an adverse opinion as to the character of the country, it must have been formed by observation from the road? I think so.
1864. Is there a tendency to cut up land into smaller areas? Yes; people are beginning to sublet on the halves system; they are making a very good arrangement.
1865. Do farmers who are farming on the halves system appear to be satisfied? They are making a very good living.
1866. You think they will be permanently settled on the land? I think so. I know several who have made enough in three years to buy farms for themselves, and that off land which is no better than the land to be served by this railway.
1867. There is no doubt in your mind that this line if constructed will open up a large quantity of land to the smaller settler? I am quite satisfied that it will, more especially if this proposal of Mr. Body is sanctioned by the Crown. 25,000 acres of land will then be thrown open for settlement. That land commences 6 or 7 miles out of town and goes out for 24 or 25 miles till it crosses the Coolbaggie Creek.
1868. Do you know the country between Narramine and Coonamble? Yes.
1869. Would you describe that country as better or worse than the other? It is very similar land, probably a little better than the other.
1870. Do you know the land on the east side of the Castlereagh? I have travelled two or three times on the east side of the Castlereagh past Tooraweena. I have been in the mountainous country there.
1871. Is it similar land? There is very fine country between the mountains and the Castlereagh.
1872. Would a line from Dubbo to Coonamble better supply that good country than a line from Narramine to Coonamble? The Dubbo line will go right through the centre of that country. A line going on the east side of the Castlereagh would serve a good deal of land on the west, but it would be blocked by the mountains on the east.
1873. Would the broad red line on the wall map serve a greater quantity of good country, on both sides of the railway, than a line from Narramine? Certainly it would.
1874. As a bank manager you have good opportunities to know the state of the district? I travel about the district two or three times a year.
1875. There has been to your knowledge a fair increase in population? Since I came to Dubbo our business has increased three times.
1876. And you think this railway would develop a large amount of good country? I am quite sure of it.
1877. You have stated that a number of people are prepared to go on land directly they get facilities to carry products to market;—in your position as bank manager you have inquiries made continuously with reference to this matter? Yes; I think that if 25,000 acres were thrown open to-morrow every acre of the land would be taken up in small areas—in blocks of 500 or 600 or 1,000 acres. It would settle a large number of people.
1878. So that of these three lines to Coonamble you think that the country at large would be better served by a line from Dubbo than by either of the other two routes? I think it would serve more country.

1879. I suppose you have no land on the line which would lead you to be biased? No.

1880. *Mr. Shepherd.*] We have had a statement made to the Committee that ironbark country is absolutely impossible for agriculture;—do you concur in that opinion? We were under that impression until late years, but they have found from practical experience that it will grow wheat.

1881. Ironbark country varies just as much as other country does? No doubt it does.

1882. I think the ironbark country is found chiefly on the line from Dubbo to Coonamble? It is more to the east.

1883. There is little or none between Narramine and Coonamble? There are belts of ironbark which you pass through in going along the Narramine route.

A. H. Fearon.

26 June, 1899.

TUESDAY, 27 JUNE, 1899.

[The Committee met at the Court-house, Dubbo, at 10 a.m.]

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Edwin Henry Utley, Mayor of Dubbo, sworn, and examined:—

1884. *Chairman.*] Do you know the country to be served by the proposed line from Dubbo to Coonamble? Yes. E. H. Utley.

1885. Starting from Dubbo, will you describe the country within a radius of 20 miles on each side? Starting from a point at Caledonia, the proposed line would serve the country on the north-east side out to the Warrumbungle Mountains. 27 June, 1899.

1886. How far are these mountains from that line? They lie due south of Coonabarabran. On the main road from Dubbo to Balladoran the mountains are seen in the distance, about 25 miles to the east. When you are standing on the hills of Balladoran you can see the mountains. All that country going away from the Warrumbungle Mountains—that is, the Tundaburine country—will be served by the railway. Until very recently all the wool from Tundaburine station came to Dubbo. Unfortunately there was a strike a few years ago, and the wool went to Mudgee, but occasionally it comes this way now.

1887. That station lies about half way between Coonabarabran and the Castlereagh? It lies more to the west—towards Coonamble. All that country out to Coonabarabran, and portion of the Coonabarabran country, will be served by the railway. We have had wheat occasionally coming from Coonabarabran to Dubbo.

1888. Do you know the road from Mundooran to Coonamble? No; I have not been over the road, but I know where Mundooran lies.

1889. Have you been along that country? I have been through the same country.

1890. How would you describe it—as good agricultural land? Portions of it. It is very heavily timbered country, and the low flat ground is good land; but there are stony ridges here and there which would be no good for agriculture at all.

1891. What is the proportion which is good for agriculture? The larger proportion would be good land. All the flat land is good, especially good for wheat-growing, when it is cleared; but it is heavily-timbered. It is a sandy soil.

1892. The heavily-timbered country about here has been proved to be good agricultural land? Yes, beyond a doubt. Victorian people were the first to open it up and clear land here. Until recent years the people in the district did not care about the timbered country; but when some Victorians came over here they went straight for the timbered country.

1893. And now they take heavily-timbered country in preference to open plain country? Yes, for wheat-growing.

1894. And the greater portion of this country you describe as being heavily-timbered, and, therefore, fit for agriculture? Yes. It is expensive to improve this country, but when it is done it will be splendid wheat-growing land.

1895. Now, on the western side of the proposed line, how would you describe the country for a distance of 20 miles to the west? A great deal of this country is very thickly-timbered, but it is very rich land. That which is thickly-timbered is loamy, sandy soil, intervening with black soil and volcanic clay. It is very rich land when it is cleared.

1896. Some of that country has been cultivated? Yes.

1897. With what result? Last year was rather a dry season; but in the previous year as much as 40 bushels to the acre were taken off the land.

1898. Was the year before last year also a dry season? It was rather dry. Our rainfall was not up to the general average.

1899. *Mr. Shepherd.*] Do you know what yield they got in the last crop? Those that cut for wheat got about 30 bushels to the acre—most of them; but a lot of wheat was cut for hay.

1900. *Chairman.*] Do the farmers seem satisfied that it is good wheat-growing country? Yes, very much so.

1901. Where is the market for their wheat? Dubbo is their market.

1902. If they took this country, and put the greater portion of it under wheat, you would have to seek some other outlet;—would it pay you out there to grow wheat to send, say, to Sydney? Yes; that is our natural market. We have no other market outside our local market.

1903. Do they send to Sydney now? Yes; all our surplus goes to Sydney.

1904. You think that there will be an unlimited market for wheat? Yes.

1905. That is, if there were a large surplus of wheat they could still go on growing wheat out in this district if they had to find a market in Mark Lane? Yes; they have to depend upon an export market.

1906.

- E. H. Utley. 1906. A good deal of wheat and forage is sent to other parts of the colony? Yes; this last year I know that very nearly 1,500 tons of chaff went from here right round to Narrabri.
- 27 June, 1899. 1907. Feed-stuff? Yes.
1908. *Mr. Watson.*] Would it pay them to take chaff from Dubbo to Narrabri in preference to getting it from the Hunter valley? It was first quality stuff, and it was put on the trucks here at a price which would compete against any other district.
1909. It would be an enormous railway freight from here to Narrabri? It was heavy; but the stuff had to go to Sydney to be sold, and it was just as well to send it to Narrabri.
1910. *Chairman.*] A man could produce here on account of the price of land being very much lower than the price of land on the Hunter? Yes; the cheapness of the land and the large areas they can get under crops will enable them to compete at a lower price.
1911. Now, taking the broad red line on the map, from Dubbo to Coonamble, should you describe that line as fairly splitting up the best agricultural land in the district? I should; I should say that it would serve the most people and open up the best land. It really goes right along the western slope for 50 miles.
1912. You were in the room yesterday when Mr. O'Neill gave some evidence in favour of a line from Narramine to Coonamble? Yes.
1913. Mr. O'Neill stated that the land along that route was much better, from an agricultural standpoint, than the land on the line from Dubbo to Coonamble;—is that so? I do not think it is so. I think the land is equally as good. It runs so parallel that practically there is no difference, in my opinion.
1914. The land is equally as good on the line from Dubbo as it is on the line from Narramine? It is all the same land. There is only a difference of a few miles between the lines. The Narramine line runs almost into that land. At the most it would not be more than 20 miles away from it.
1915. Do you know the land on the western side of the Narramine-Coonamble line—that is, the land between that route and Warren? Yes; it is intersected by good agricultural land and first-class grazing-land. You get further on to the Myall Plains, black level country, and there is more of it fit for pastoral pursuits than for agricultural pursuits, but it is intersected by land fit for agriculture. All the timbered land, in my experience, between Narramine and Warren, is fit for agriculture.
1916. Taking the three routes to Coonamble, viz., from Narramine, Dubbo, and Mudgee, do you think the country to be served would be much the same by either of these lines, or which line do you think would serve the larger proportion of good agricultural land? I would certainly say that a line from Mudgee to Coonamble would open up a large area of agricultural land, and also a line from Dubbo would. Of course, a line from Mudgee would be longer, and go through more country, but it would cross more mountains. In the case of the line from Dubbo to Coonamble, practically the whole of the country is fit for agriculture unless it is odd, stony ridges here and there. I consider that a line from Dubbo to Coonamble would serve more population and bring about more settlement.
1917. *Mr. Watson.*] More than a line from Mudgee to Coonamble would do? Yes.
1918. In what way do you account for that? It has always been a natural outlet from the Western line to Coonamble, and the people have gradually settled on that road. The road runs almost paralld with the Castlereagh River.
1919. The other line would go near these places too, would it not? Yes.
1920. Do you count your population at the terminus—at Dubbo and Mudgee—or are you counting the people along the respective routes? I would say that a line from Mudgee to Coonamble would eventually probably carry more population; but at the present time a line from Dubbo to Coonamble will serve most people and be the greatest convenience to settlers.
1921. *Chairman.*] We have to look to the requirements of the future, and we want to know which line in your opinion would develop most country? Looking at the matter in a broad way, I should say that a line from Dubbo to Coonamble and from Coonamble on to Walgett would open up more country than a line from Mudgee would.
1922. Once you get to Coonamble by one route or the other, the question of going to Walgett will be common to each line? If the line were taken from Mudgee to Coonamble, and this country between Dubbo and Coonamble were left out, there would be a very considerable amount of very rich, agricultural land left out, which would have to have a railway sooner or later.
1923. If you made a line from Warren to Coonamble you would serve a lot of good country and leave out the country which is along the line from Dubbo to Coonamble; and if you constructed a railway from Dubbo to Coonamble, there would be a good deal of country unserved which lies away to the east; so that that objection would apply to each proposal? Yes. My opinion is that it will open up a very extensive portion of the country, and very good country. It has been the opinion in the past that the country between Dubbo and Gilgandra was worthless, or no good. At every opportunity the settlers had to take up that country it was snapped up immediately. Every inch of this land between Terramungamine, which is 8 or 10 miles out, and Gilgandra, if it were thrown open to-morrow, would be taken up immediately.
1924. That is from Dubbo to Gilgandra? Yes. There are buyers here from South Australia and other colonies looking for land in that direction now.
1925. It has been stated in evidence that the country between the Talbragar Creek and the Coolbaggie Creek is unfit for agriculture; you would say that that was a mistake? Certainly. There are hundreds of acres under cultivation, some of the prettiest cultivation paddocks you would see in a day's walk in the colony.
1926. Is there much land under wheat in that particular locality? Those I know have cropped in this year. They are clearing a lot of land, and they would have a good deal more only for the dry seasons. The seasons have been so dry, and they had such difficulties in hauling down the timber and clearing the land that it has stopped a good deal of cultivation; but, speaking roughly, I should say that between Dubbo and Gilgandra there are 8,000 or 10,000 acres under cultivation which would be served by a railway from Dubbo to Coonamble. In fact the Berida country lies away to the south-west of the line. It is, I suppose, the finest land in the whole of the country; experts say it is the pride of the north-west. That country would be served by the Dubbo line. It is 50 miles from Dubbo.
1927. *Mr. Shepherd.*] You state that there are from 8,000 to 10,000 acres under cultivation between Dubbo and Gilgandra. What is the average size of the holdings? 640 acres and 2,000 acres in one or two blocks; they are rather large. At the far end towards Gilgandra the holdings are larger than they are close to Dubbo.

1928. They average from 640 acres upwards? I do not think there are any holdings less than 640 acres. It is mostly held in full blocks. E. H. Utley.  
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1929. The distance from Dubbo to Gilgandra is 40 miles; at what distance from a railway-station do you consider it will pay to farm? I think within a radius of 15 or 20 miles a man could manage all right.
1930. And yet they are cultivating land 40 miles from a railway-station? Yes; they are cultivating land on the Castlereagh, which is lower down the river. At Curban, which is below Gilgandra, they are growing wheat.
1931. Is there any cultivation between Gilgandra and Coonamble? Yes; all the way along the river more or less.
1932. Does the produce generally go to Dubbo? A lot of it goes to the west. What is not required for local requirements or for western markets—that is, for Walgett and out that way—goes on to Dubbo.
- 1932½. That would be considerably further then? Yes.
1933. Are you acquainted with the country round Walgett? I have been over the country.
1934. What kind of country is it? When you leave Coonamble you still keep along the bank of the Castlereagh; it is very rich grass country all the way. It is all open plains and little sandhills, and budda country. It was always considered first-class pastoral country.
1935. Not so good for agriculture? Not so good between Walgett and Coonamble; it is very rich pastoral country. In going from Coonamble to Walgett you pass through Wingadee and Bullarora holdings, which are considered the best pastoral properties in the Colony.
1936. What is the distance from Dubbo to Narramine? About 25 miles would be the distance for some considerable way from Narramine towards Coonamble.
1937. These two lines run very nearly parallel up to 25 or 30 miles, I should think? Yes.
1938. You say the country is pretty well of a similar character? Yes, practically the two lines are so close to one another that there is no difference in the rainfall, and no difference in the soil; it is practically the same country.
1939. What description of timber is growing there chiefly? There is not much timber. It is not of any value for public works or buildings; it is only pine in the country between the two lines or on either side of the Narramine line.
1940. Will it not be suitable for railway sleepers, or anything of that kind? There is a little to be got, but not much.
1941. So that in the event of a railway being constructed the timber would have to be brought from some other place? Yes, the timber would have to come in from the north.
1942. Are you acquainted with the country from Warren to Coonamble? Yes.
1943. What kind of country is that? That is similar country to the lower Castlereagh. It is considered rich pastoral land.
1944. Is there any cultivation going on there? I think there is a little.
1945. Have you any idea whether it compares with the cultivation on the Dubbo line and the Narramine line? I am sure that the cultivation on either the Narramine line or the Dubbo line is much more extensive than it is on the Warren line.
1946. And it is yielding a better return? Yes; it has a better rainfall.
1947. I think you said that the timber is about the same between Warren and Coonamble as it is on the other routes? The country is less timbered from Warren to Coonamble than it is from Narramine or Dubbo to Coonamble. You are in the more open, plain country.
1948. What is the best timbered country within easy reach of Dubbo? The forest lies due north of here. The sleepers come now 35 or 40 miles to the Railway station at Dubbo. You are in the middle of the forest at Mundooran. Between Murrumbidgee and Mundooran the best timber has been cut away.
1949. How wide would that belt of timber be? Practically, 20 miles wide. In some places it is less than 20 miles, and in others it is wider. If the railway was taken anywhere from near here to Coonamble, it would put the sleepers very close to a lot of it. We should get sleepers and timber in also for probably 25 per cent. less than we do. I am sure of that, because I deal extensively in timber. I supply most of the hardwood which is required for roads and bridges in the west. I know we could supply it much more cheaply, if we had not so far to cart it by team. It would be a very great consideration to us if we could get nearer the timber.
1950. You have to cart the timber all the way from the forest; you are not able to use the railway? We should if we had a railway from Dubbo to Coonamble. We have to cart our timber 40 miles, and special timber 45 miles in some cases.
1951. What is the description of the timber? All ironbark.
1952. You find the ironbark country good for cultivation? Yes; it is heavy country to clear, but it is first-class country for wheat-growing, bar the stony ridges. There are odd ridges which are no good.
1953. What kind of country is it here where ironbark is growing? It is all undulating country; with little bits of ridges, perhaps, stony on top, and you go, perhaps, a mile and a half through alluvial flats. When that is cleared it is rich, black, loamy sand.
1954. Are you acquainted at all with the country on the Mudgee line? I know a good portion of the country.
1955. Have you been along the route of the proposed line? No; I have been out to it. I have seen the survey marks in going through the country.
1956. The country between Mudgee and Gulgong is, I believe, first-rate agricultural country? I have been from Gulgong to Mudgee, and I think it is very good land.
1957. Have you been much beyond Gulgong, towards Coonamble? Yes, I have been out in what they call the Tallewang country and the head of the Talbragar, where the road crosses the Talbragar River.
1958. Is it fairly good agricultural country all the way? Yes, we get into the mountains up there. There are ranges of mountains which intervene; but the land outside the mountains is rich land.
1959. Between Coonamble and Walgett are you acquainted with the country? Yes.
1960. Is that country good for agriculture? Portion of it would be.
1961. Is it pretty well timbered? No; there is no timber for any commercial purpose there, only the ordinary stunted timber. It is open pastoral country, not thick scrub.
1962. Suppose you were not interested in any portion of the district, which line do you consider it would be to the advantage of the country, generally, to construct? I would say a line from Dubbo to Coonamble, and from Coonamble on to Walgett at once.

- E. H. Utley. 1963. You really think that a line by that route would serve the country best? I think a railway pushed right to the Queensland border would serve the country, and pay a handsome profit right from the start. I consider the country is kept back from the want of a railway.
- 27 June, 1899. 1964. *Mr. Watson.*] You would not get much traffic while the export duty on wool continues to be levied in Queensland? No; I think Mr. Eddy's idea was to push the railway on to the border.
1965. *Mr. Shepherd.*] Do you think that opening that line from Mudgee to Coonamble in a few years' time may, possibly, be of greater advantage to the country than opening a line from Dubbo to Coonamble? I think the greatest advantage to the country would be to construct this line at once, and also the Mudgee line, because both lines will open up great tracts of valuable country. It would allow settlers to get their stuff to market.
1966. It is your opinion that the Dubbo-Coonamble line would be the best line to open at once? I do; I think it is the most urgent line at the present moment.
1967. You think it would bring in the largest return, and open up the largest area of country? Yes. It is evident that the Government has foreseen that a line would be constructed some day from Dubbo to Coonamble, because you may notice a tremendous area of railway reserve along the route.
1968. *Mr. Watson.*] Have you been between Dubbo and Mungahraabie? Yes.
1969. And you know the country from Mungahraabie on to Coonamble? Yes.
1970. A suggestion has been made to the Committee that instead of going direct from Dubbo to Coonamble, the line might go from Dubbo *via* Mungahraabie to Coonamble, with a view of subsequently making the Dubbo-Mungahraabie section a portion of a more extensive line towards Werris Creek. Do you think that is a practicable proposal? I do not; I think that taking the railway round by Mungahraabie is getting away from the settlement and the people who would be served most by the railway from Dubbo to Coonamble; it is practically going from Dubbo in a direct line to Mungahraabie. After you leave the Talbragar Creek, about 12 miles hence, you are practically in the thick forest where there is no settlement at all.
1971. You say that from the Talbragar to Mungahraabie there is no settlement? Very little.
1972. Any good land? It is not bad land; it is fair land, but it is very thickly timbered. I know it is the opinion of a certain citizen in Dubbo—of course his ideas are very peculiar in railway matters—that a line should be constructed from Werris Creek to Dubbo, and that we should construct the first section of that line to Mungahraabie, in making the Dubbo-Coonamble line. I think that is in the clouds. If the matter is gone into very carefully, I question whether a line from Werris Creek to Gilgandra would not be the most productive. I am certain that it would go through the richest country.
1973. A suggestion has also been made to the Committee that, instead of going to Dubbo with the Werris Creek line direct, they should junction with the Dubbo-Coonamble line at Gilgandra? Yes.
1974. You have an idea that it would go through better country, by the route, than it would if brought further south? Yes, you get out into very good country there.
1975. You think the Werris Creek-Dubbo section, if made at all, should be made more to the north-west? Yes.
1976. You stated that in the present season some produce had gone from Dubbo *via* Sydney to Narrabri? Yes; I think pretty well 1,500 tons had gone round to Narrabri.
1977. If it would pay to send produce from Dubbo to Narrabri *via* Sydney, you think there ought to be a fair opening for produce from Dubbo to the same place by a direct line between Dubbo and Werris Creek? Yes, at times there would be. They were suffering a drought up at Narrabri, and we had stuff here to send there. At times they would be supplying us.
1978. Have you been across any of the country between Gilgandra and Gunnedah? No; I have not been out that far. I know that on the western slopes of the Warrumbungle Mountains it is all rich land, because the Calga and Tundaburine runs go out that way.
1979. But in any case you think that if a line from Coonamble to Dubbo were constructed it would not be out of harmony with a general scheme to connect the Western and Northern railway systems? No; I think the most direct and cheap way is to go from Dubbo to Coonamble.
1980. *Chairman.*] Is there any other information which you would like to give the Committee? No.

William England Morgan, editor, *Dubbo Dispatch*, Dubbo, sworn, and examined:—

- W. E. Morgan. 1981. What are you? I am editor of the *Dubbo Dispatch*. I have been in this district for thirty-three years.
- 27 June, 1899. 1982. You made a statement to a former Committee on the question of railway extension to Coonamble? Yes.
1983. Will you be good enough to make a statement in reference to the present proposal? I do not know whether it is any good dealing with the matter from the ancient history standpoint, but I think for the purposes of this inquiry it would be just as well to understand the history of the agitation for this railway. In 1879 or 1880, when Mr. Watson was Treasurer, and Mr. Lackey was Minister for Works, a proposal was made by Mr. Lackey to build a railway from Dubbo to Coonamble. Mr. Watson introduced a Loan Bill providing for the construction of the line, but there was some little political rumpus which caused the Parkes Government to retire, and the matter rested in that way until 1884. In that year Mr. Wright, Minister for Works, in the Stuart Government, brought forward a very extensive railway policy in which he included a line from Mudgee to Coonamble, and the Legislative Assembly defeated that proposal by fifty-seven votes to thirteen. Then Mr. Lyne became Minister for Works. In 1886 there was a great deal of agitation in both the northern districts and the western districts as to railway communication. The northern districts required railway communication with Walgett. Mr. Wright, I may mention, proposed a line, not to Coonamble, but to Walgett, Coonamble being a touching point on the way to Walgett, and it was defeated. There was a great deal of agitation in the northern and western districts at the time, and Mr. Lyne, in response to that agitation, and in carrying out the policy of his predecessor, Mr. Lackey, made a proposal which, I think, was announced in the Governor's Speech previous to that little squabble between Dibbs and Jennings which caused the scattering of the host. Mr. Lyne proposed a line from Dubbo to Coonamble, and a line from Narrabri to Walgett. That was considered a very fair settlement of the difficulty on both sides, and I have no doubt that if Mr. Lyne had remained in office, and this political disturbance had not occurred, the scheme would have been accepted.

accepted by the people and adopted by the Assembly. The matter then remained in *statu quo* until 1890 when Mr. Bruce Smith was Minister for Works. A gentleman named Jones, connected with the Roads Department, was sent by Mr. Bruce Smith on a roving commission, and he prepared a report which I suppose the Committee have had before them. It is unnecessary for me to say anything further than that he proposed to get rid of the difficulty as to rival routes—by first building a line from Dubbo to Werris Creek, and at a particular junction near Cobbora, or its neighbourhood, a line would branch to Coonamble. He then proposed a line from Mudgee to this junction, and then there would be a common line from Mudgee and Dubbo to Walgett, *via* Coonamble. But the Bank failures, and other things occurred. The next thing we heard of the matter was a proposal to run a railway from Warren to Coonamble, and the Committee know how that proposal has been dealt with; and now we have reached, I suppose, the final stage. That is the history of the agitation. In 1879 or 1878 Mr. Lackey was asked by the Coonamble residents and the Dubbo residents to build a road. The traffic was increasing largely, and the roads were perfectly untravellable, and he was asked to spend some money on the road between Dubbo and Coonamble. He said, "Gentlemen, I think it would be a very great waste of money if I did so. To make a road of any value would require an expenditure of over £1,000, or £1,500 a mile, because for a considerable portion of the distance you have to take the metal to the road. I think the cheapest plan would be to build a railway." The argument which held good then I think holds good to-day. Only a portion of this road, as you will see in your travels, has been formed; a large portion of the road remains to be formed. With our more economical mode of building railways, it would be far better to put down a railway than to make a road. A railway will eventually return something, even if at first it is on the wrong side of the ledger; but a road is a continuous source of expenditure, and returns nothing to the revenue.

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1984. Having related the history of the agitation for railway communication, will you now say all you can say in favour of the route which the projected line will take? Although certain officers of the Department, who evidently do not know their own minds, or if they know, manage to conceal the knowledge with remarkable facility; although they have reported favourably on every line put before them, yet, at the same time, one or two of them seem to think that this Dubbo line has a double-dose of original sin, and should be cast out altogether. Their objection is that the stretch of country between Dubbo and Gilgandra is unfertile and unproductive; that it will not maintain any population, and that in order to reach the plains you will have to go through what they call 40 miles of bad country. When you make an examination of the route, as I suppose you will do, you will find that a good deal of what is said by them is not at all reliable; that they are simply going on the old traditions of thirty or forty years ago, when a road with the hardest and the best bottom was picked out by the old carriers to carry their waggons, and the good country was left on either side. In going between Dubbo and Gilgandra to-morrow, you will find that, although where the mail track runs, things do not look at all very pleasing, yet at the same time, on either side of the road, there is a magnificent lot of good country; in fact, what we used to call bad country thirty or forty years ago is now rushed at Mr. Carruthers' consultations, with the chance of 100 to 1 that the man who does want a bit of land does not get it, and that the man who does not want it gets it. The whole of the country between Dubbo and Gilgandra is gradually becoming settled. Out about the Coolbaggie district, which is about 16 or 17 miles from Dubbo, there is a very large settlement; a number of men from South Australia, Victoria, and other places have gone there. From Coolbaggie a road runs from the Marthaguy Creek straight towards Collie. By that road comes in the greater part of the traffic along the Marthaguy Creek; it comes in to Dubbo in preference to going to Warren. From Dubbo to Coolbaggie with the exception of one little plot of ground the land is very rich on either side of the road. At Balladoran, further on from Coolbaggie, there is a good deal of settlement, and a number of large "boss cockies" are gathered about there. As you go from there north-west towards Gilgandra and Coonamble the holdings become larger, for the very simple reason that where grazing has to be followed it requires a much larger acreage than where farming simply has to be depended upon.

1985. *Mr. Watson.*] At Coolbaggie and Balladoran do they go in for agriculture? They are going in for agriculture. Mr. Brown, of Branston, and several other settlers have cleared a lot of ground, and a gentleman from South Australia, named Wheaton, has cleared a lot of ground. All these gentlemen who come here and purchase land along that country intend to go in for mixed farming, that is for sheep and grain growing. From there to Gilgandra there is not much agriculture, but that simply arises from the fact that the opportunities have not been afforded in the shape of improved means of transit. If improved means of transit were provided there is no doubt that the ground would be cultivated; they depend more on wool-growing than wheat-growing.

1986. It is too far from the railway to grow wheat for export? I should say so. I do not think a farmer can grow wheat 50 miles from a railway and cart it to the station, especially as prices are.

1987. If they get famine prices for their wheat they may be able to do it? They may do it with the aid of bonuses or bounties, otherwise I do not think they will. I will not use the word "protection." As correcting what seems to be either a wilful error or a sort of crassness which cannot certainly be accounted for in reading some of the evidence given before the Committee a few weeks since by officials, I may point out that a great deal that has been said with regard to a line from Mudgee to Coonamble, run along from Gulgong to Mudooran and thence to Coonamble as a drag-net for traffic, would apply with equal force to a line from Dubbo to Coonamble, as you will see. They speak of the traffic to be got from Mudooran, Coonabarabran, and the Warrumbungle Mountains. First and foremost with regard to Coonabarabran. It is admitted that Coonabarabran has no sympathy at all with the Western line: its sympathy runs with the Northern line, and its people have done their business with the Northern line for years—with Gunnedah or Quirindi, and the Mudgee railway will not take the traffic from Coonabarabran. Notwithstanding that there may be a slight difference in distance to Mudgee, the Coonabarabran people will not go to the Mudgee line while they have Gunnedah so close to them. They are not going to disrupt all their commercial relations for the sake of saving a few miles haulage.

1988. *Mr. Watson.*] *Via* Quirindi they would be much closer to a port? Yes, and they would have less railway mileage to travel, and cheaper freight *via* Morpeth and the Northern line.

1989. You do not anticipate that any traffic would be dragged from about Coonabarabran by the construction of a line from Mudgee to Coonamble? No. At the present time all this Warrumbungle country sends in its stuff to Gilgandra, and it goes up to Dubbo—I mean the country which lies to the south-west of the Warrumbungle Mountains.

1990. Is there a bridge across the Castlereagh at Gilgandra? Yes. All that traffic would be quite as close



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to the Dubbo railway line at Gilgandra as it would be to a railway line from Mudgee, and that railway line would do quite as much to bring that particular traffic as would any line from Mudgee to Coonamble.

1991. The first proposal, as you may see from a glance at the county map, was to keep more westerly, with the line following the old railway reserve; but the present proposal is to go much nearer to the western bank of the Castlereagh—first with the view of avoiding the low-lying country and the necessity of crossing creeks as far as possible; and, secondly, with the view of getting so close to the Castlereagh that it would be possible for the people on the eastern side of that river to take advantage of the railway;—do you think that deviation is justified from those standpoints? That is a matter of perfect indifference, because a few miles one way or the other makes no difference to people who have a railway.

1992. It involves going into private lands as against Crown lands; and if it makes no difference, it may be preferable to follow the Crown lands? None of these lands are worth much more than £1 5s. an acre. There would not be much difference in the cost of resumptions. There is really no appreciable difference. Whatever local difference may exist among the residents, for the general purposes of a railway, there is no difference whatever route it goes.

1993. Do you think it is preferable to get as near the Castlereagh as possible? I think it is always wise to keep near the rivers, because in this country for many years the course of settlement has followed the rivers. If you want your railway to pay, if you can make your railway convenient to the public without at all increasing the cost of it, I think the convenience to the public should be considered.

1994. You know that it has been in the minds of the officials for a good while that Walgett should be reached by railway; supposing the line to Coonamble to be constructed from Dubbo, what way would you suggest to reach Walgett? I think the natural course to reach Walgett will be from Narrabri. I do not say that, just for the purpose of policy, the railways of the country should be built to drag traffic to any particular city. The natural port should get its chances as well as the large city.

1995. You think that Newcastle is the natural port for that country? You have only to look at the map to see that it is the natural port for that country. The whole of this Walgett country has been settled by Maitland people. The original settlers at Wee Waa, Pilliga, and the Barwon, as far as Brewarrina, Bree, Narran, and Culgoa, came from the valley of the Hunter River. When I first came to Dubbo, David Cohen and Co. were doing business down as far as the Marshes on the Macquarie. Newcastle, when I came here, was almost the port of Dubbo. They simply went from Dubbo to Cobborah, from Cobborah to Cassilis, and thence on to Muswellbrook. Dubbo should never have been on the Western line.

1996. From your evidence, I gather that you think there is plenty of room, from the point of view of gathering traffic, for a railway to Coonamble and a railway from Narrabri to Walgett? I do.

1997. The intervening country is sufficiently productive to make Coonamble a depôt even if the Walgett traffic does not go that way? Yes. There is some talk of a coal-mine between Dubbo and the Talbragar, and a sort of mineral water. Suppose you build that railway from Dubbo to Mundooran—granting that it is the most favourable railway in the country to build—see the large tract of country it would leave unprovided for.

1998. Do you think that with a line from Dubbo to Coonamble, and a line from Narrabri to Walgett, there will be sufficient production on the land round Coonamble to make that place a depôt independent of the Walgett traffic? Certainly. You have no idea of the fertility for grazing purposes of the country to the west of the Castlereagh; and to the east of the Castlereagh it would bring a lot of traffic within the sphere of its influence.

1999. Do you think there is a probability of a line from Dubbo to Coonamble becoming payable shortly after its construction? Taking for the basis of my opinion the figures of the Railway Department, in which it is stated that the line from Warren to Coonamble will pay from the commencement, I am positive that the line from Dubbo will also pay from the commencement; because if 63 miles along a sparsely populated country will pay—and no matter how cheaply you build the railway, I do not think it will be built a bit more cheaply per mile than the Dubbo line—if a line of that character will pay, where there is little or no farming and very little population, however good the country may be, certainly the line from Dubbo to Coonamble will pay from its inception.

2000. The Railway Commissioners anticipate a loss of about £1,500 per annum to begin with? I have nothing to do with their anticipations. I do not think they will be found to be realised.

2001. You think the line will pay better than that? I do. I simply use the common-sense argument. Take their own figures and their own opinions: if 63½ miles of railway construction along what may be called, as far as population is concerned, a barren country, will pay from the inception, 93 miles of railway construction along a country fairly well populated, and in an old-settled district, will also pay in the same way; because, as I understand it, this line is to be built on the pioneer principle of £2,300 per mile. Of course, if the line remains at Coonamble, it will be for the future to say what feeders, or anything else, may go out. I think it will be very many years before it will be required—that is, supposing the Committee or the Government do not go on with the line to Walgett, which I think will be very inadvisable. I think Walgett should be connected with Narrabri. It will be for the future to see that.

2002. *Chairman.*] Where does the produce from Cobborah go now? It goes principally to Gulgong. That is a matter entirely regulated by the price. Mr. Young, a storekeeper at Gulgong, generally gives 2d. a bushel more than is given in Dubbo. There is no sentiment in farming.

2003. Where does the produce from Mundooran go? I think there is very little produce to go anywhere. I do not think farming has reached any point there.

2004. Where does the produce from Gilgandra go? It all comes to Dubbo. With regard to Mundooran, I think it is as well the Committee should be told that the desire of the Mundooran people for years has been to open up communication with Dubbo. There is a shorter road from Mundooran to Dubbo, they point out, which could be opened if the Works Department would do so. For years they have been endeavouring to get this road opened; they have sent various petitions to the Government, and written to the Municipal Council to assist them in the matter. Most of the people on the western slopes of the Warrumbungles—that is, east of the Castlereagh, such as about Calga, Goorianawa, and the various stations—have for years changed their postal routes. They get all their letters and mail parcels by Gilgandra.

William Ernest Binning, Road Superintendent, Dubbo, sworn, and examined:—

W. E.  
Binning.  
27 June, 1899.

2005. *Chairman.*] You are Road Superintendent, stationed at Dubbo? Yes. I have been in charge of the roads of this district for two years and eight months.

2006. I suppose you have travelled all the roads in your district a few times? All the classified roads, but not the short tracks across country. 2007.

W. E.  
Binning.

27 June, 1899.

2007. You have had good opportunities to observe the character of the land through the whole of this district? A fair opportunity.
2008. Is it fair country for road-making in that part of the district which will be served by the line from Dubbo to Coonamble, taking in the country from Dubbo to Gilgandra? It is not.
2009. That road is not good road-making country? It is expensive road-making country. About half of it is very heavy, black-soil country.
2010. Land that is fit for cultivation is not very good for road-making? No; it is so heavy that it would require, say, from 2 yards to a yard of metal where an ironbark ridge or sandy country would only take a yard.
2011. Have you seen any of this country ploughed up? Yes.
2012. Does it grow good crops? Yes. The agricultural land is of splendid quality.
2013. Would you describe the country generally between Dubbo and Gilgandra as being good agricultural country—that is, from fair to good? No; not right through—about half of it is. On the line of road it is not. For the first 10 miles on the road it is very good, but for the next 20 miles it is not very good.
2014. East and west of the road, what is the country like? West of the road it is very good, but east of the road you get into the ironbark country.
2015. Has any cultivation been attempted in the ironbark country to your knowledge? Very little. The only agriculture worth talking about between Dubbo and Gilgandra is on the Talbragar.
2016. For 30 miles along the road you have described the country;—from that point, how would you describe that country? You come into good land again; from Balladoran you come into good land all round there.
2017. And that carries you right on to Gilgandra? Yes, for another 12 miles.
2018. You have a classified road from Gilgandra going west, between the Marthaguy and the Boothaguy or Calf-pen Creek? There is a classified road, but it is in the Coonamble road district.
2019. Have you been along that road? I have been as far as Berida, 18 miles along that road.
2020. How would you describe the country along the road to that point? It is splendid country. Berida is one of the best stations; it is the biggest place on the road.
2021. Going east from Gilgandra, you have a road to Mundooran and on to Cobborah? Yes.
2022. How would you describe the country about that district for, say, 20 miles out from Gilgandra? That is all good country; you are on the Castlereagh all the way. It is all splendid country.
2023. Until you approach Mundooran? Right into Mundooran it is all good country, but from there into Cobborah it is not such good country.
2024. Do you know anything of the road from Mundooran to Coonamble on the east side of the Castlereagh? I have not been to Mundooran; I have been to Gilgandra. There is some high land between Cobborah and Mundooran.
2025. After we get past Gilgandra we are out of your district? Yes.
2026. Have you been along the road from Gilgandra to Coonamble? Yes.
2027. It follows the river bank? Yes, practically.
2028. You have a road on both sides? Yes.
2029. Have you noticed any difference in the land on the other side of the Castlereagh? I have only travelled on one side of the river, and mostly at night-time.
2030. Would it be a difficult river to bridge? No; it is a very big river, and it would take a very big bridge.
2031. What would it cost to cross the river? The road bridge at Gilgandra must have cost over £10,000, and a railway bridge would cost about £20,000, I should think. The Gilgandra bridge is the largest timber bridge in the district.
2032. I am speaking of a bridge to bring the produce across the river? A wooden traffic bridge with approaches would cost about £10,000.
2033. Do you know of any other bridge across the Castlereagh? Yes, at Mundooran, and at Coonamble.
2034. Are there any good crossings on the Castlereagh? Very good.
2035. So that produce grown on the east side of the Castlereagh could be brought over to the railway without erecting expensive bridges? Yes, excepting, of course, at flood-time.
2036. It would not necessitate the construction of expensive bridges to enable the farmers to get their produce on to a railway line from Dubbo to Coonamble? No; it is a sandy bed, but still they can get across. There are a lot of good crossings on the Castlereagh, and the banks are not high.
2037. No matter on which side of the Castlereagh the line is constructed the farmers can get reasonably good crossings? Yes.
2038. How far is Dubbo from Cobborah? Forty-seven miles.
2039. And how far is Mundooran? It is 22 miles from Cobborah.
2040. How far would they be from the Narramine route? They would be altogether outside the sphere of its influence; they would go to Mudgee; they would never think of going to Narramine.
2041. So that a line from Narramine to Coonamble would not help those people at all? Not in the slightest way.
2042. *Mr. Shepherd.*] What are the chief products reaching Dubbo from the line from Dubbo to Coonamble? Wool and ironbark timber.
2043. Have you any idea what quantity of wool comes in? No; I am quite certain that that road brings more traffic into Dubbo than all the other roads put together.
2044. Is there no grain? Not a great deal.
2045. How much land do you suppose is under cultivation for, say, 15 miles on each side of the line from Dubbo to Coonamble? I could not attempt to answer the question.
2046. You have been over the line? I have been along the road and in and out here and there, but I could not tell you the acreage.
2047. Have you been along that marked line from Narramine? No; I have not been along any of the railway routes. I have only been along the roads as travelled.
2048. Are you aware whether the area under cultivation has increased to any extent? It is increasing very rapidly, year by year.
2049. Is any crop, beyond wheat, cultivated to any extent? Nothing beyond wheat.
2050. And the product per acre, I suppose, is pretty satisfactory? It is.
2051. Do you know the average yield? No; it is 15 bushels, I think.
2052. *Chairman.*] You are able to judge whether the district is advancing, by reason of the increased demands

- W. E. Binning.  
27 June, 1899.
- demands for money for road-making? Yes. Cultivation is increasing very rapidly, not only in this district, but all round, everywhere. There has been a wonderful increase during the last few years.
2053. That would be your justification for increasing the road votes? Yes.
2054. And the increase in cultivation has necessitated the Department making special grants? Yes; it is pretty well all necessitated through the increased cultivation, as so much land has been thrown open lately.
2055. The Works Department have had to make special grants in order to provide for the traffic of the settlement which has lately taken place? Yes.

George Henry Taylor, Returning Officer, Dubbo, sworn, and examined:—

- G. H. Taylor.  
27 June, 1899.
2056. *Chairman.*] You are Returning Officer for the Electoral District of Dubbo? Yes; and for many years I was returning officer for the Bogan electorate.
2057. How long have you been in the district? I have been in Dubbo thirty-six years, and I have been in the district for considerably over forty years.
2058. Will you state the number of electors on the roll? There are 2,454 electors on the roll. There is a revision to take place shortly, and there are nearly 300 names waiting to be enrolled.
2059. Does that show an increase of a settled character? Yes; considerably so. At the referendum on the 3rd June, 1898, 1,062 votes were recorded, and at the last referendum 1,519 votes were recorded, making an increase of 457 votes.
2060. That would show an increased interest in the Federation question rather than an increased population? An increased population as well. There was great interest taken in the previous referendum.
2061. Have you any idea of the increase during the last five years? It has been considerable. Five years ago it was part of the Bogan electorate.
2062. What has been the increase? The increase has been something considerable, especially in this district. There is a very large population getting round this district, and you can tell that by the attendance at each meeting.
2063. *Mr. Watson.*] There is not a great deal of country along the route of the proposed line which is within the borders of the Dubbo electorate; the electorate only goes 8 or 9 miles along the route of the proposed railway? Yes.
2064. So that the greater portion of the population it would serve would be included in the Coonamble electorate? In the Coonamble and Wellington electorates, I think.
2065. *Chairman.*] Is Gilgandra in the Dubbo electorate? No.
2066. How far north of Dubbo does the electorate extend? The last polling-booths are 25 miles north. Coolbaggie is the last polling-place in that direction.
2067. In that portion of the district which is in the Dubbo electorate, has the increase been in any way marked? Yes; there is a larger population all round Dubbo.
2068. And an increase in the cultivation? Yes.
2069. I suppose your knowledge of the country is not limited by the boundaries of the electorate? No; I have been a resident of Dubbo for thirty-six years, and, previously, I was on the Merri Merri for six years. It was my duty, as manager of a station, to know the country between from Merri Merri to Coonamble, and across to Warren, and also to Mudgee. I know the Mudgee line. Quambone, the station I was on, was the largest cattle-station in the district, and the owner was a very large cattle-buyer. He bought all the cattle which came into the yards from different owners. He used to send 1,000 head to market, and I used to take them principally to Mudgee.
2070. From an agricultural standpoint, how would you describe the country on the line from Mudgee to Coonamble? From Mudgee to Gulgong it is fairly good country; from Gulgong to Mundooran it is very bad; and from Mundooran on it is pretty good, but not close to Mundooran. After you get down towards Gilgandra it is pretty good country.
2071. Will you now describe the country on the Dubbo-Coonamble line in sections;—from Dubbo, 20 miles out, what is it like? For 9 or 10 miles it is very good agricultural land—all farms. For the next 20 miles it is principally ironbark country along the road; but off the road it is very good land. It has been taken up and opened up considerably.
2072. That would be west of the proposed line? On the west we get into ironbark country along the road, but some distance off there is some very good box country which would make very good agricultural country.
2073. Have you seen any of that ironbark country cultivated? Yes.
2074. From a point at 30 miles from Dubbo to Gilgandra, what is the character of the country? I have not been that road lately. Mr. Brown, of Branston, and others, have very large farms.
2075. How would that country compare, generally, with the country from Mudgee? I think it is far better country, because the country on the other route is mountainous and not fit for a bandicoot.
2076. From Gilgandra on to Coonamble, is the country much the same on both lines? Exactly the same.
2077. From Narramine to Coonamble, how would you describe the country? It is good land, but very swampy.
2078. Is there much cultivation on that line? I believe there is. I have not been down there lately. I know there is a great deal of cultivation about Narramine. I have been to Narramine, but not out further.
2079. You think that the settlement has been increasing, and is of a permanent character? I have no doubt of it.
2080. In your position, you are able to give a decided opinion on that point? There is no doubt about that.
2081. Before a former Committee you said, with reference to the Mudgee-Coonamble line, that you did not think the Government would go to the expense of building 50 miles of railway over mountainous country at a cost of £500,000;—is it very mountainous country from Mudgee? All along the Goodiman Ranges. The Cudgegong River would have to be crossed; it is not so large a river as the Macquarie, but it is very rapid in flood time.
2082. Of the three routes to Coonamble, you decidedly favour the route from Dubbo? I do not think there is any comparison between the two in the interests of the public at large.
2083. You say that from a thorough knowledge of the three routes? Yes, from a forty years' knowledge.
2084. Does the principal portion of the traffic find its way to Mudgee now; I think a little disturbance diverted traffic from Dubbo? I believe it did; I believe wool was taken.
2085. Do you know whether that traffic has found its way back to Dubbo? Mr. Tobin told me that he sent all his wool to Dubbo, and Mr. Jones is strongly in favour of the Dubbo route.
2086. Does the traffic from the Marthaguy find its way to Dubbo? Yes.
- 2087.

2087. In preference to Narramine? Yes.
2088. They strike a better road, I suppose? Yes.
2089. *Mr. Shepherd.*] You say that on the line from Narramine to Coonamble, a good deal of the country is swampy? Yes, in wet weather.
2090. What extent of that country is swampy? A good deal of it; I cannot say exactly what extent. It is very low, flat country.
2091. For the whole distance? No.
2092. Does that extend on either side of the line to any great extent? In the low, flat country.
2093. A portion of it is good agricultural land? Yes.
2094. In the evidence which you gave in 1898 you stated that some of the country was regarded as quite unfit for agriculture at one time, and that ultimately it turned out to be excellent agricultural country? Yes; forty years ago they told me it was impossible to grow wheat or garden stuff on the Merri Merri, but now you will see the finest gardens there.
2095. You also stated that the country between Warren and Coonamble could not be beaten for pastoral purposes, but that it was unfit for agriculture? Yes.
2096. Has any change taken place in your opinion since that time? No; there is no agricultural land except patches here and there. For pastoral country it cannot be beaten.
2097. What is the character of the country? Salt-bush, open myall country, and monkey sand ridges.
2098. As a rule most good pastoral country is good for agriculture also? I do not think myall country is.
2099. I suppose the chief traffic on the Dubbo line, which you seem to prefer, is in wool, timber, and grain? Yes.
2100. Have you any idea what quantity of wool is produced there? No.
2101. Is the timber exhausted, or is there still a large quantity of it? There is still a large quantity, only they have to go out further for it; it will last for years. Some years ago there was some talk of laying down a tramway at a cost of £20,000 into the forest.
2102. It would be all fit for railway purposes? Yes.
2103. Is the country pretty well watered? Yes.
2104. It has not been found necessary to remove stock from this district? Not for water.
2105. The district has almost grown up under your observation? Yes, for fifty years.
2106. And there has been a general advance all along the line? Yes. When I came to Dubbo first there were only one public-house and one store.

G. H. Taylor.

27 June, 1899.

Charles Cadell, stock and station agent, Dubbo, sworn, and examined:—

2107. *Chairman.*] What are you? I am a stock and station agent, carrying on business in Dubbo. I have been here nine years.
2108. Have you a thorough knowledge of the district? I have.
2109. Have you any knowledge of what traffic comes into Dubbo? Yes, of the stock and produce traffic.
2110. Is there much passenger traffic finding its way to Dubbo from districts north or north-west? Yes; a great deal of passenger traffic.
2111. Where does it come from principally? All along the Castlereagh, Gilgandra, and in to the right of the road to Coolbaggie country.
2112. Does the Coonamble traffic come here now? Yes.
2113. It still comes here, notwithstanding the shorter distance to Warren? Three coaches a week in and out come here.
2114. Are they fairly well patronised? Always loaded.
2115. So that there is a considerable passenger traffic? A considerable traffic, I should say. Lots of people come in their own conveyances. I am only speaking of public conveyances.
2116. I suppose they would use a railway if constructed? I have no doubt about it.
2117. Where does the stock traffic find its way? To Dubbo. I think Dubbo is one of the biggest centres of stock loading both for Flemington and to Victorian markets. A lot come in from the Coonamble district to Dubbo.
2118. Now, taking the country west of Coonamble, where does the traffic find its way? To Dubbo principally.
2119. Not to Nevertire or Nyngan? No; it comes this way.
2120. Between Coonamble and Walgett, north and west of Coonamble, the trend of the traffic is to Dubbo? Some goes Mudgee way, but that is more when the water is scarce. They follow the Castlereagh up towards Cobborah.
2121. Has the feed been better for a year or two on the eastern side of the Castlereagh than on the western side? We have had pretty severe seasons. I should think it has been pretty well the same. It may have been a little better under the mountains, which seem to attract the rain.
2122. Supposing there were more traffic this last year from Coonamble to Mudgee, the slightly better rainfall to the east of the Castlereagh, and consequently the better feed, would account for it? Yes.
2123. Do you think the pastoralists would use the railway from Coonamble to Dubbo, rather than the road, for stores as well as fats? I am speaking more of fats. As to stores, it would be too much expense to rail them.
2124. They have been railing starving stock at starving stock rates? A terrible lot from Wingadee, which is 25 miles north of Coonamble. I think Tobin & Sons have had about 70,000 sheep for agistment in this district and the Cobborah district.
2125. All the traffic, at any rate from as far north as that, would find its way to Dubbo? It would, to Walgett; it is so far to come in here. A lot of Queensland cattle are railed here, which come in across the Border. It is a good open road where they go, they having the watercourse to Gilgandra—the stock generally hug a watercourse; but for 40 miles from Gilgandra in, there is no big watercourse.
2126. If a railway is constructed, the fats would be shipped on the train? There is no doubt about that.
2127. You have found that that is the practice? Yes.
2128. As far as stores are concerned, they would rather travel them? Yes, the way prices have been till lately. I think after this dry weather there will be better prices; but as prices have been so low, and the railway rates so high, they could travel the stores much more cheaply.
2129. Is there any other information which you would like to give? No, except with reference to the produce. A lot of chaff grown in this district has been sent right round to Narrabri, and up to Moree. Chaff has also been sent from here to Jerilderie and Deniliquin, and down that way.

C. Cadell.

27 June, 1899.

- C. Cadell.  
27 June, 1899.
2130. We have had a statement made to the Committee that the country to be served by the proposed line is fairly good agricultural land? I can endorse that statement. There is a little bit of forest just out of Dubbo, but it is good for timber.
2131. That occurs on the route of every railway line? Yes; it is all good pastoral and agricultural land.
2132. Comparing this line with other railway lines you have been on, how does it stand? It is just as good, as far as I can see. It is all good country from Gilgandra to Coonamble; it is first-class pastoral country.
2133. *Mr. Watson.*] Do you think, if a line is constructed, there will be a market for fodder and other produce from here out north and west of Coonamble? Certainly. There is more traffic on this road to Coonamble than there is on all the other roads put together, as you will see if you go along the road. You can go along the road and see four or five teams with chaff alone going out to Coonamble. They are having a very severe season in that district just now. It has been very heavy for produce, and they wanted a lot out there.
2134. I suppose there is always a demand for some produce? Always; in fact, Mr. Tobin, of Wingadee (one of the largest landholders out there), wants 50 tons of lucerne hay, and we cannot procure it at present, because there is not much lucerne grown in this district. I had a wire from him yesterday to send 50 tons of lucerne hay.
2135. *Chairman.*] These have been exceptionally dry seasons;—they do not buy feed in decent seasons? No. They have had two bad years in the Coonamble district.
2136. Knowing what has been done on other railways, are you of opinion that if this railway is constructed there will be sufficient traffic to pay expenses? I think it will be a good paying line.
2137. If other lines pay, you think this line will pay? Certainly.
2138. *Mr. Shepherd.*] Do you say that there is a great deal of lucerne grown here? No; I say that there is a big demand for lucerne. The river flats are not under lucerne yet, except in very small areas.
2139. Is any lucerne grown here at all? Yes.
2140. In which direction? It is generally grown on the flats. They have never got off the flats yet. It is grown in small patches by farmers.
2141. Is the chaff which is produced here chiefly wheaten chaff—not oaten chaff? Wheaten chaff.
2142. I think wheat is almost exclusively grown here? Yes; I think the land, so far, is rather too strong for oats.
2143. At what season of the year do you generally have the rain here? Generally between January and May.
2144. Is it generally dry after that? No; I have been here for the last ten years.
2145. Is the rain sufficient to keep the crops growing? I think we have had fair average crops in the district.
2146. Do you consider saltbush a valuable fodder-plant? Yes; it has got such a gruelling that it is nearly all eaten out.
2147. Is there any attempt at conserving it—at paddocking and spelling it? I think not. It is only in odd places you can see myall conserved.
2148. We had some evidence a short time ago to the effect that 1 acre of trefoil is worth 3 acres of saltbush;—do you endorse that opinion? I do not think so. Saltbush only grows in patches here. The country has been so heavily stocked that it is nearly all eaten out.
2149. Is it a dwarf saltbush? It is. There is only an odd old-man saltbush. The saltbush is eaten out completely, for the cattle follow the roots down.

Craven Hyde Fitzhardinge, solicitor, Dubbo, sworn, and examined:—

- C. H. Fitzhardinge.  
27 June, 1899.
2150. *Chairman.*] You are a solicitor, practising in Dubbo? Yes; for the last twenty-seven years.
2151. You have a good knowledge of the district, then? Yes; I have travelled all over the district.
2152. Have you travelled through the district to be served by the Dubbo-Coonamble railway? Yes.
2153. From how many points? From Dubbo to Coonamble, from Warren to Coonamble, from Dubbo down the river to Burroway station, and then to Wonbobbie, and then across to Coonamble.
2154. Have you been on the route of the proposed line from Mudgee to Coonamble? Only as far as Gulgong. Mudgee used to be our circuit town. We used to have our Supreme Court cases tried there, and we went *via* Gulgong twice a year in the early days.
2155. The proposal before the Committee is to start the railway from Dubbo, and to hug the Castlereagh on its west bank;—how do you view the proposal? I think it is an excellent route, and it is a route which should be followed.
2156. Are you decidedly of opinion that that should be the route adopted? From my observations of the district, I have no doubt about it.
2157. Will you give the Committee your reasons for preferring that route to the other routes? It is the most direct route to, I may say now, the federal markets of the Colony. It heads the waters from the engineering standpoint. It runs along a high bank of the Castlereagh, the left bank, which is high, with a good sound bottom. There are no engineering difficulties whatever. The span over the Talbragar will be very easy, and of no account, because the banks are so very high and hard. As to the Narramine route, you would have a very expensive bridge to cross the Macquarie, equal to, I am sure, if not greater than, the Dubbo bridge, which I think cost from £80,000 to £100,000. You then strike rotten country for 10 or 15 miles out, and then you go through similar country to that on the Coonamble route. On the Narramine route there is more grazing country than on the Dubbo route—that is, near Dubbo. On the Dubbo route there is more agricultural country and fruit-growing country. It would be excellent fruit-growing country on the Dubbo route as well as agricultural, for it is higher and sandier, with a clay bottom. Going up the Talbragar—I have not been to Munderooran—I went from Dubbo to Cobborah, and from Cobborah to Merrygoen, and from Merrygoen to Coonabarabran twice. That is good country, but it is very hilly, and I think greater engineering difficulties would be met with than on the other routes. It is good agricultural country and good fruit-growing country.
2158. Have you had any opportunities of knowing whether there is much demand for land about the district to be served by the Dubbo line? There is a great demand. At the recent ballots there have been as many as 240 applicants for one piece of land; in fact, it is a regular consultation. Some men have been waiting two years for land. On the Dubbo route there is a proposal to exchange 22,000 acres of land. I think the Committee ought to direct that land to be cut up in smaller areas than the areas into which they are now cutting up the land. I think the present areas are too large.
2159. About how many acres would maintain a family? I think at the most 640 acres. They are giving them 2,560 acres—immense areas. 2160.

C. H.  
Fitzhardinge.  
27 June, 1899.

2160. Do you know of any small farms which are supporting a family along the Coonamble route? Mr. Bonafurs has 400 acres out near Gilgandra, and he is piling up the dollars by growing and selling chaff. He has been able to buy out two selections with the money he has made out of the chaff he has taken to Coonamble.
2161. Do you know any tenant farmer in the district who has made money by working land on the halves system? That custom is only coming in here. Mr. Mack, of Narramine, has started the system; others are following.
2162. Have the tenant farmers been able to improve their position by agriculture in the district? Decidedly; but directly they improved their position they get land of their own, because land has been so cheap. I refer to these homestead selectors and settlement lessees.
2163. That may be considered as evidence that the population is permanent, and that agriculture is a success in the district? It is a success in the district.
2164. *Mr. Shepherd.*] For about what rent do they generally get decent land? They get 2,560 acres from the Government for about £37.
2165. I mean, what rent do private people get? They get about 5s. an acre.
2166. *Mr. Watson.*] For better land, I suppose? It is improved land, and is fenced in.
2167. Is the Crown land you speak of ringbarked? No; it is in its virgin state. If it is rung they have to pay for it. If there is a tank on it, they have to pay for that.
2168. If it is rung, it is worth more than the actual price of ringing? Yes, if it has been rung for any time.
2169. *Chairman.*] The route of the proposed railway is the main overland route? Yes.
2170. Has the traffic been diverging much of late years? I do not think so; it still comes here.
2171. Some of it used to go down Narramine way? It used to do.
2172. *Mr. Shepherd.*] About how much per acre does it cost to ringbark country? From 9d. to 1s. 6d.; it will cost more for pine scrubs. All the overland stock passes my house, and therefore I have good opportunity for judging the state of the traffic. Immense numbers of Queensland cattle pass my house for Wodonga and Albury.
2173. Is it generally found that a pine dies when it is cut down? Yes; as a rule, it will not shoot again.
2174. *Chairman.*] Have you any other information to give? I would like to say a word about the Mudgee route. From Mudgee to Gulgong it is very rough country that I have been over. I was passing over that country when that unfortunate barrister, Mr. Bellefante, was drowned in one of the creeks. It has been bridged since then.

William England Morgan, editor, *Dubbo Dispatch*, Dubbo, sworn, and further examined:—

2175. *Chairman.*] I understand that you wish to supplement your evidence? This morning when I was giving evidence I forgot to make a request respecting the evidence which Mr. Dayrell, who is absent, gave before the Sectional Committee on the Warren-Coonamble proposal. Mr. Dayrell is the manager of the Co-operative Milling Company at Dubbo, and the whole of his evidence at the previous inquiry is so very good as regards the wheat production of the district to be served by the proposed railway, that I think it would be well if it could be reprinted. I should be pleased if the Committee will allow his evidence to appear as an Appendix to the evidence which they take. [*Vide Appendix.*]
2176. Is there any other evidence which you wish to give? You asked an important question of a previous witness; Mr. Utley, and I, expecting a question to be asked, did not volunteer a statement with regard to a railway from Mudgee and a railway from Dubbo. Apart from the actual local surroundings of the case, a railway from Mudgee to Coonamble would for all purposes be a local railway, because it would leave the Coonamble people, and the people on the route, only one market. There, very frequently, the seasons are so bad that it is absolutely necessary to remove stock to districts where they can get pasture. If the railway only ran from Mudgee to Coonamble, they would be forced to take the Mudgee line; they would have nowhere else to go but Mudgee, which has but a limited portion of country. A line from Dubbo to Coonamble suits not only the Dubbo district, but also the Wellington district, the Orange district, and the Carcoar district. The same thing in regard to their markets. If a farmer in the Coonamble district had produce to sell, or fat stock to send away, he would perforce be confined to either Mudgee or Sydney with the Mudgee line; whereas, if the Dubbo-Coonamble line were constructed, he would have a choice of markets. A farmer, if he could not sell his stuff in Dubbo, would have the southern markets and the western markets from Dubbo towards Bourke at his command. He would have a market at Dubbo, Wellington, Bathurst, Carcoar, Blayney, and Cowra; and if he wanted to send cattle to Melbourne he could send them by the Blayney-Harden line. And as a succouring stock line, it is certainly a national line as compared with the other,—which, if it is examined more closely, apart altogether from the cost of it, will be seen to be only a local line; it will simply serve Sydney and Mudgee.
2177. So that the connection with Mudgee would only be a line to suit a man when he wanted to send his stuff to Sydney or to Mudgee? In a season like the present, when men like Tobin and others have been losing thousands of sheep, and taking hundreds of tons of hay and tons of treacle to keep alive their stock, they would only have a limited market to choose from, whereas here they would have a wide market. I suppose it is hardly worth while for me to touch on the question of the difference in the cost of the two lines.
2178. A line *via* Mudgee will save for all time 37 miles of carriage if they want Sydney for a market? Granted.
2179. Your contention is that Sydney is not their natural market, and that the difference in distance is more than compensated for by the fact that by going to Dubbo he gets an extended market? Yes.
2180. He still has the Sydney market, with the 37 miles extra carriage added, but in addition he has a choice of markets? Yes.
2181. So that that would fully balance whatever little loss there may be for extra haulage? I grant that *via* Mudgee it is nearer to Sydney, if Sydney is to be the alpha and omega of all railway policies. I think something else is to be considered. I think, after all, if the matter is dealt with from the purely commercial standpoint, the carriage on the extra mileage should not be more than the carriage from Mudgee, that is if the Commissioners were to take it in that way, and the increased cost of the line from Mudgee to Coonamble would more than counterbalance any increased freightage between Coonamble, *via* Dubbo, to Sydney.
2182. The railway rates, you contend, from Coonamble to Dubbo, on account of the lesser cost of construction, should be certainly not more than the rates from Coonamble *via* Mudgee and Wallerawang?  
Yes.

W.E. Morgan.  
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W.E. Morgan. Yes. The Commissioners, or Parliament, I think, have already approved of what they call local rates. If people want a railway, and it will not pay at the ordinary rates, they should pay a local rate, to minimise the loss, considering the railway carriage will be considerably less than road carriage.

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Alderman Daniel Soane, Member of the Land Board, Dubbo, sworn, and examined:—

- Alderman D. Soane. 2183. *Chairman.*] What occupation do you follow? I am not doing anything now, but I am a Member of the Dubbo Land Board.
2184. Are you a landowner? I am a landowner and an Alderman of Dubbo. I have been in this district for about forty-seven years.
2185. You have a thorough knowledge of Dubbo and the surrounding district? Of the whole of the district. In the early days I was a great deal with my uncle, a commissioner of Crown lands, and I have been an appraiser of runs also, and have settled disputed boundaries all over this country.
2186. You consider yourself quite competent to give an opinion as to the value of lands? Yes.
2187. And an opinion as to what they are best suited for? For fourteen years on the Land Board I have had to deal with the rental of land, and everything in connection with Crown lands—leases and otherwise.
2188. There is a considerable amount of Crown land about Gilgandra? Yes.
2189. The country on the other side of Gilgandra is in the Coonamble district? I do not deal with that, but I know the country well.
2190. What rentals do the Crown lands bring? About 3d. an acre, according to the capacity of the land. We have to take into consideration the land between Dubbo and Gilgandra, not for grazing purposes altogether but for agriculture.
2191. Most of the witnesses are agreed that the country north of Gilgandra is good pastoral country? Yes, it is.
2192. But most of the country between Gilgandra and Dubbo is fairly good agricultural country, although some witnesses have said it is not;—will you be good enough to describe the country between Gilgandra and Dubbo? I have a thorough knowledge of that country. There is a deal of scrub on the land.
2193. Taking the country within the sphere of influence of the present line, say, 20 miles on each side what is it like? First of all you go through the Terramungamine holding. It is not always the same kind of land on that holding, but it is fairly free from what you would call barren or rocky country.
2194. Is it good for mixed farming? Yes, it is agricultural country; but a great deal of it is covered with scrub. Where the land has been scrubbed and ringbarked by the lessee, it is greatly improved and is fit for agriculture and also for grazing a great deal. I do not think you can find land more suitable for mixed farming—that is, for agriculture.
2195. If brought within 25 miles of a railway you think it will be improved and put under crop? I have no hesitation in saying that the whole of that country will be taken up. Nearly the whole of the available lands, since I have been a Member of the Land Board, have been taken up between Dubbo and Gilgandra, except odd pieces. As I said before, some of the lands are not quite so good. There are only one or two annual leases between those two points.
2196. It has been stated here that for any land that has been thrown open there has been a considerable rush, and that ballots have taken place for almost every piece;—do you endorse that statement? I do; but I would say more: A great deal more would have been taken up under the third section of the Act, but that no land has been withdrawn from the holdings between Dubbo and Gilgandra. If one-half of the runs had been withdrawn from lease, as has been done in the case of many runs, the whole of the land would have been taken up now.
2197. You anticipate a rush for the land when the leases fall in next year? As soon as it is available every acre of the land will go. It is a kind of land which, strange to say, Victorians seem to like to settle upon. From their experience on the other side—about Mirrool Creek, Narrandera, and about there—they seem to like this country for mixed farming. The scrubs are not bad.
2198. About how much do you think would be a fair area to enable a man to get a living for himself and family? About 1,000 acres, to combine agriculture with grazing. I take it that most of that country would be farmed; that is provided that a railway runs there.
2199. Now, with regard to the country further on, is that all good, sound, agricultural country? There are patches of black soil; but I saw wheat grown on black soil forty years ago in that country.
2200. Is it heavy black soil? It is small plains. That country is patchy, red soil—sandy, red, loamy soil, and little patches of black soil in between, which makes it very suitable for mixed farming. Out below Gilgandra, and round about the Castlereagh, that is the kind of country you see. When you get down about Gulargambone you get into salt-bush country, the hard red plains. You get out of this sandy, loamy country, but it is all good land for agriculture; it simply requires rainfall.
2201. The farmers are doing well on similar country? Very well indeed, even on the other side of the river. At Bungey, on the Marthaguy, 12 miles below Gilgandra, Cheetham grew wheat forty years ago; and on the other side of the river, at Armitree, Jude, who sold out to Richardson, had wheat growing.
2202. Judging from your experience of other railways, you think that if this railway is constructed a big local traffic will be built up? I am positive of it. Speaking of the available country, and the country that will be available by surrender and exchange, I have knowledge that on Terramungamine certain proposals had been made to the Government to surrender a great portion of the best land adjacent to the proposed line. Some 40,000 acres will be available.
2203. That is a matter which will come before the Land Board? The Minister has the power to act, and I believe he will have no objection to this suggested exchange, which will give a frontage to the proposed line for about 30 miles.
2204. Do you think that exchange would be beneficial to the prospects of the railway and to the public interest? Certainly; and I think it would be readily accepted by the Minister. I think, if it were accepted, there would be sufficient land to locate forty or fifty families of farmers between Dubbo and Gilgandra on each side of the railway.
2205. But it is proposed to exchange only 25,000 acres? I should think there would be 40,000 acres on each side of the line in addition to the area proposed to be exchanged. There are about 70,000 acres altogether

altogether on that run. About that particular part there is sufficient land to support fifty families. Following on, at Balladoran the lands are pine scrub, but good soil for agriculture. On each side you would get land the same way. There is a large portion of the leasehold area of Balladoran which has never been interfered with.

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2206. Your experience on the Land Board has led you to this conclusion: that there will be, if the land is thrown open, probably more applicants for land than there is land to go round between here and Gilgandra? Yes; from my knowledge of the present occupants of the land, who took up inferior land. A great deal of inferior land has been taken up there, and it is greatly improved. Land which we would not look at is now called magnificent country.

2207. Do you know anything of the land on the line from Narramine to Coonamble? Yes.

2208. Is the land there much about the same? From Narramine to Coonamble you get more into the black-soil country. If you cross at Narramine you keep the lower road altogether.

2209. Do you know anything of the people on both lines? Yes.

2210. Are they a better class of farmers on the Narramine line than on the other? There is scarcely any farming on the Narramine line; it is only grazing.

2211. If it has been stated in evidence that these men are better farmers, more intelligent farmers, than the others, what do you say? At Narramine itself they are a grand class of farmers.

2212. You think that if the country is thrown open, the right class will take up the land and make the best use of it, and that that will be a sufficient reason for constructing the railway? I do, indeed.

2213. You think the country is there to be developed, and that it would be developed? Certainly it would. As to the Narramine line, on the Burraway and Bundemar, two squattages on the route towards the Castlereagh, there are only one or two selectors farming; nearly the whole of the land is held by the lessees.

2214. These leases will be falling in next year, and if the land is good enough, I suppose it will be taken up? But it is nearly all black soil, which is difficult to cultivate.

2215. The country lying between the Dubbo-Coonamble line and the Narramine-Coonamble line is good agricultural country? It is.

2216. And that country to the west of the Narramine line, by reason of its being heavy black soil, is not so good? Yes.

2217. It is good fattening country, but not good agricultural country? Yes. I managed a station for many years, and I may say that the Bundemar country is some of the very best country in the Central Division for grazing. All red country is the very best and richest for cultivation.

2218. Now, taking the country to the east again of the proposed line from Dubbo to Coonamble, is that similar? It is. It may not be quite so good further out. For 15 miles it is about equal, and then you get into this ironbark forest.

2219. Which extends up to Pilliga? It extends to Mundooran.

2220. We have been told that that belt of ironbark country runs right away north for many miles? A line from Coonamble to Pilliga would go through that magnificent forest.

John Murray, farmer and produce merchant, Dubbo, sworn, and examined:—

2221. *Chairman.*] What are you? I am a farmer and produce merchant, living in Dubbo. My farm is on the Wellington Road, about 3 miles from Dubbo. I have been in the district for twenty years.

2222. Have you been much through the district? Not so very much. I have been from Dubbo to Coonamble only once along the line, but I bought produce from several farmers between Dubbo and Gilgandra, and even at Gilgandra I have bought wheat and chaff from Mr. Peter O'Neill and several other farmers between here and there.

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2223. Are they farming much land out in that direction? I could not say exactly.

2224. Is there an increase in agriculture in that direction? Very much indeed.

2225. Are the farmers doing pretty well? They seem to be doing very well.

2226. Is there likely to be a settled population? I am sure there will be; they only require a few good seasons. All the available land between Dubbo and Gilgandra, even the worst of it, can be taken up; it is only a matter of a little time.

2227. Do they grow pretty good milling wheat? First-class. Our local millers have purchased this wheat on several occasions. The quality of the wheat is good. It is as good as we can grow on the Talbragar or here.

2228. What is the size of the holdings? I dare say some of them run from 320 acres up to 640 acres. Most of them got their preleases.

2229. Have you any knowledge of a farmer who is doing well on 320 acres? He cannot do very well on 320 acres. If it were first-class land he would want about 640 acres.

2230. You think it is the minimum amount a man could do with? He could do very well then. He could raise some stock and have a fair sized farm at the same time.

2231. One thousand acres would be ample for a man to do fairly well on? I should think so. I know I could do a large business with Coonamble if it were not for the roads. It is almost impossible to get carriers to take loading after rain.

2232. Are you sending stuff from Dubbo to Coonamble by road? Yes; I have got contracts for the last five or six years. I supply the police there.

2233. Is there much traffic from Dubbo to Coonamble? There is a lot, I think. I do not know any road in the Colony on which there is more traffic at the present time.

2234. Does not the Warren railway supply Coonamble? Yes; no doubt a portion of the wool goes into Warren, but the greater portion of the produce would come through Dubbo—in fact, the whole of it, pretty well, if we had a railway. As it is, we send the chaff away every time we get an opportunity.

2235. Does the bulk of the wool traffic still come to Dubbo? It has this season.

2236. It was temporarily diverted? A couple of years ago it was diverted; but it is coming back.

2237. If a railway is constructed, do you think that traffic will be borne on the railway? I am sure it would.

2238. In some places they tell me that the teams can compete with the railway? It would not be the case here—not with our land.



- J. Murray. 2239. So that the traffic between Dubbo and Coonamble would be carried by the railway, if constructed? I am sure it would.
- 27 June, 1899. 2240. And Coonamble would be a depôt for a considerable area of country to the north? It would.
2241. Have you ever thought out whether it would pay the country to construct this line, or whether there would be a loss on its construction? I should much rather say it would be a benefit to the country.
2242. Do you think it would be a benefit, not only to the locality but to the country generally? Yes; it is the cheapest and most direct line.
2243. *Mr. Watson.*] Do you think there ought to be enough traffic to make it pay? I am sure of it. I think it would pay from the start, to judge from all the traffic I see coming in. Coonamble was my best market this year, if I could only supply it with forage. Chaff is now £8 a ton.
2244. If you had enough to supply it with? We have plenty to supply it with, but we cannot get carriers to take it away; the carriers are almost impossible.
2245. *Chairman.*] This is an exceptional season; now, in fair seasons, would there be sufficient traffic, in your opinion, to justify the construction of the railway? There would.
2246. From travelling stock and from wheat-growers along the line? I have forwarded forage, chaff in particular, from here to Walgett. I have sent chaff from here to Narrabri—not only I, but Mr. Samuels and Mr. White.
2247. They only do that in very dry seasons? We did it this year, and I did it two years ago.
2248. We want to construct our lines, not to assist drought-stricken districts alone, but to settle a population who can get a living in ordinary seasons;—do you think that this would be a line which would do that? I think it would pay from the start; there is nothing to prevent it.
2249. Any 1,000 acres within a 20-mile radius of the line would support a family? It would. Land which we would not look at ten or fifteen years ago people are taking up. It is turning out to be the best wheat land we have.
2250. Was it on account of the land or the trouble in clearing land? The expense of clearing; it was scrub country, principally pine.
2251. The enterprising man has proved that by spending a little more on the scrub land he can more than recoup himself by getting a better crop? Yes; they pass over the plain country, where there is no timber, and get on to the timbered country, which they clear. They will tell you that land which will not grow timber will not grow wheat. Victorians are all going for the heavily-timbered country.

Francis Cridland, hotelkeeper, Dubbo, sworn, and examined:—

- F. Cridland. 2252. *Mr. Watson.*] What is your occupation? I am an hotelkeeper in Dubbo. Previously I was a carrier and a selector. I was also an hotelkeeper between here and Coonamble.
- 27 June, 1899. 2253. You have a pretty good knowledge of the country round about? Yes.
2254. Have you been over the roads between Dubbo and Coonamble, and between Mudgee and Coonamble? Yes; I have been from Mudgee to Coonamble by road several times, and from Dubbo to Coonamble scores of times.
2255. Which do you think is the better route for a railway to take—that is, in view of the possible good to be done to the community generally? I should certainly think from Dubbo to Coonamble.
2256. Is that because of the greater number of people to be served by that line? I think so. I think it would open up a lot of country towards the Warrumbungles and across the Castlereagh.
2257. You think the influence of this line from Dubbo would reach as far as the Warrumbungles? I am very well acquainted with a man who has a big holding, and he tells me that if the line went down there he would have 800 acres or 1,000 acres under cultivation. His place is about 35 miles from the proposed line.
2258. He thinks it would pay him to send wheat in that distance? That is what he tells me.
2259. Are the roads about there good, or can they be made good? He said the roads, except in coming across the Castlereagh, would be good roads—that is, between Gilgandra and Gulargambone.
2260. Do you know what is paid for the carriage of goods between Dubbo and Coonamble? I have heard of different prices; I have not done any carrying lately. A man told me in a letter yesterday that they were carting it down, before this rain came, for half-a-crown a hundredweight from Dubbo to Coonamble.
2261. That seems pretty cheap? It is cheap. I have been carrying down there when I got £1 a cwt.
2262. There has not been sufficient rain lately to give grass for big stock? No; they were only doing it to keep their horses alive. They could not turn their horses out.
2263. Why was it necessary for them to take the stuff at so low a price,—could they not get a fair price? No.
2264. Would that be a fair criterion of what the rate of carriage would usually be by team? No.
2265. What would it usually be? From 5s. 6d. to 6s. per cwt.
2266. Have you been through the country between Dubbo and Gilgandra otherwise than by the main road? Yes.
2267. We have been informed that the character of the country just off the road is a good deal better than that of the country which the road follows;—do you think that is right? Yes, particularly to the west.
2268. As you go westerly the land is much better than it is on the road? Yes.
2269. And east of the main road is it any better or is it the same? It is all ironbark forest.
2270. Is the class of country which carries ironbark fit for agriculture when it is cleared? Parts of this forest are of that quality.
2271. On the map you will observe a large railway reserve, tinted green, which follows the line up for 20 miles towards Gilgandra; it was reserved for timber purposes, was it not? There is a great deal of land reserved out that way.
2272. Will that country contain any decent land? No doubt parts of it could be made fair land, but other parts I think could not be improved, as it is gravelly, stony country.
2273. It would not be much good for settlement? Only some of it.
2274. On the route from Mudgee to Cobborah the country is credited with being fairly good? It is good from Cobborah on towards Mundooran.
2275. It is very rough country? It is all broken, hilly country.

2276. Do you think this line, if constructed, would be taken advantage of by people at Mundooran to any extent, or would they prefer to go to Mudgee? They would come here.
2277. Have you been over the country between Narramine and Coonamble? Yes.
2278. What do you think of that country? It is mostly a black-soil swamp.
2279. Generally speaking it is open plain? Yes.
2280. It is not usually held to be suitable for agriculture? No; it is first-class grazing land.
2281. If it is grazing land, I presume it would be served by the construction of this line? No doubt.
2282. You may be much farther than 20 or 30 miles away, and still benefit by the construction of the line if you are grazing? Yes.
2283. Probably the northerly portion of the district between Narramine and Coonamble, if it consists almost entirely of grazing country, would be benefited by the construction of a line from Dubbo to Coonamble? Yes. Three miles out of Narramine you get on to the black-soil plains.

F. Cridland.  
27 June, 1899.

Henry Beecroft Copeland, Crown Lands Agent, Dubbo, sworn, and examined:—

2284. *Chairman.*] What are you? I am Crown Land Agent stationed at Dubbo. I have been here a little over two years.
2285. You have been here sufficiently long to give you some idea as to the country about—you do not stop at home I suppose? I have to stop in the office a good deal. I do not get about much.
2286. Is there much inquiry for land in this district? Yes.
2287. And when the leases fall in next year do you anticipate any great rush for land? I do.
2288. There is a continual rush, I suppose, if there is any land available? Very big rushes.
2289. You have had to ballot several times? Yes.
2290. About how many applicants turned up? If the land is any way good at all, you may reckon upon 200.
2291. Have you any idea as to the quality of the land along the proposed route? No.
2292. Have you heard whether it will be in demand? I have not got any information about the quality of the land along the proposed route.
2293. Has there been any land thrown open along there since you have been here? I do not think there has been.
2294. It has been the policy of the Government to keep back the land along there pending the settlement of the railway question? I believe so.
2295. And from information you have gained in your office, you have no doubt that when it is thrown open it will be eagerly sought for? Yes.
2296. How far does the Land District extend? It is a fair size. Gilgandra is on the edge of the district. Mundooran is just on the edge of the district, and Cobborah is just inside the boundary.
2297. All these places will be served by the construction of this railway? Yes. The Land District goes up past Trangie but not as far as Nevertire, and it goes out to Peak Hill on the south side.
2298. Is the settlement of a permanent character? Yes.
2299. Do you register many transfers of holdings? A great number of transfers.
2300. How do you account for that if it is settled? They are mostly transfers by way of mortgage.
2301. Not sales? There are a fair number of sales; but the majority are mortgages.
2302. What class of men are the newcomers? All agriculturists.
2303. So that the lands are being transferred from large holders to smaller holders? I could hardly say that. It is done in the ordinary way of business.
2304. The men have made money? Yes; and some of them are prepared to take up settlement leases under the new Act.
2305. There is no difficulty in finding purchasers? No.
2306. Has there been land taken up between Cobborah and Mundooran? No. There has been some land thrown open down Cobborah way under the settlement lease and homestead selection provisions; but there is little or no land available for conditional purchase.
2307. Has any land been taken up for homestead selections? What has been available, with the exception of one or two blocks.
2308. *Mr. Watson.*] Some of them are still remaining open? One or two blocks only. I think there are only half a dozen blocks in the whole of the Land District available.
2309. *Chairman.*] Have you any idea of the reason why they were not taken up? Because they happen to be particularly bad.
2310. There was some land about there which was fetching a rental of about 1d. an acre? I should think it would fetch about that.
2311. But that is the worst of the country? Yes.
2312. *Mr. Watson.*] Have you not got some land now near Mundooran which is absolutely unoccupied? There is a little of it. A lot of it has been taken up lately as annual leases.
2313. *Chairman.*] Are they improving this land? For a little rough grass.
2314. You think there is a sufficient area of country in there to be developed to warrant the construction of this line? I have very little knowledge of the amount of country; but I am quite certain that if there is any country there it will be taken up immediately it is thrown open. I am safe in saying that any land which is made available will be taken up—that is, judging by the number of applicants that have always been here for land.
2315. You have no doubt whatever in your mind that if the land is made available, the right class of people will get hold of it, and make the best use of it? No.
2316. That has been your experience? Yes.
2317. You think that they will find traffic sufficient to justify the construction of the railway? Judging by the class of people who have already taken up land, I am quite certain that they will make the traffic.
2318. If any line of railway can be made to pay, you think that this line can be made to pay? From what has been done in the past, I should think so.

H. B. Copeland.  
27 June, 1899.

Alderman Daniel Soane, Member of the Land Board, Dubbo, sworn, and further examined :—

- Alderman D. Soane. 2319. *Mr. Watson.*] Are you aware whether some land was thrown open recently for settlement between Munderoran and Cobborah? There are two or three settlement leases open now, but no offer has been made for them.
- 27 June, 1899. 2320. At what rental? At a rental based on a capital value of 6s. to 6s. 8d. an acre, showing that they are very poor lands. There is a great deal of rock in that country. It is not country similar to the country between Dubbo and Gilgandra.
2321. That country would be right on the route of the Mudgee-Coonamble line? A great deal. I may state that at the last sitting of the Land Board there were several annual leases applied for which had been thrown open on the road from Cobborah to Merrygoen and Munderoran. In the first instance, they were thrown open at a rental of 1d. per acre, and after taking the evidence of the conditional purchase inspector and others the Board reduced the rental to  $\frac{1}{2}$ d. an acre.
2322. Immediately west of Munderoran there is some bad country? From Munderoran to Gilgandra it is all bad; on each side of the river it is thick pine scrub and barren country. On the north side a great deal of the country is rocky, extending back for 8 or 10 miles in places. It is a different country altogether from the country between Dubbo and Gilgandra.
2323. On the whole, you think it is not nearly so good as the country between Dubbo and Gilgandra? It is much inferior, because it has so many rocks. It is country which could not be improved. It is similar country to a place called Goodiman Range, on the Mudgee route. The land improves as you work east towards Coolah; you get into better country then. Further up the Talbragar you have a better country. From the Goodiman Range to the Castlereagh at Munderoran and from there to Gilgandra it is all a bad class of country.
2324. *Chairman.*] Would the Goodiman Range involve engineering difficulties? They would be much more difficult there than they would be down below.
2325. More expensive? A great deal more expensive, but the country is very poor, so much so that the land has not been alienated. It is under a very small rental; it is under annual lease.
2326. You have no hesitation in saying that, as a rule, the class of country between Dubbo and Coonamble is superior to that between Mudgee and Coonamble? In every way it is.
2327. That is, looking at the matter from both the pastoral and the agricultural standpoint? Quite so. The country between Dubbo and Gilgandra can be improved and made good land, but the other cannot. It is impossible to improve rocky country.

WEDNESDAY, 28 JUNE, 1899.

[The Committee met at the "Munderoran Hotel," Munderoran, at 7:45 p.m.]

Present:—

JOHN PERRY, ESQ. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Richard Shannon, grazier, sworn, and examined :—

- R. Shannon. 2328. *Chairman.*] What are you? I am a grazier, residing at Biambil, 8 miles from Munderoran. I have been in this district for thirteen years.
- 28 June, 1899. 2329. You desire to make a statement to the Committee? Yes; I am of opinion that the extension of the railway from Mudgee to Coonamble would be in the interests of the country much more than a line from Dubbo to Coonamble. It would be a better paying line. As this is a purely agricultural district, with a good rainfall, we can grow any kind of crop—wheat, maize, potatoes, onions. It is good to fair pastoral country. If the line were constructed from Dubbo to Coonamble the traffic from Tooraweena or thereabouts would still go to Mudgee, for the reason that the route would be 35 miles shorter. The teams could easily compete with the railway.
2330. How far is Tooraweena from Mudgee? From Tooraweena it is 105 miles to Mudgee.
2331. How far is it to Coonamble from Tooraweena? I have never been from Tooraweena to Coonamble, but I should say it is about 51 miles.
2332. You are of opinion that if the line is constructed from Dubbo to Coonamble the agriculturists would rather convey their produce 100 odd miles to Mudgee than go 50 miles to the railway at Dubbo? I do believe that; they can compete with the line.
2333. Do you know where it is proposed to construct the railway from Dubbo to Coonamble? The line will pass about 10 to 12 miles west of Gilgandra.
2334. *Mr. Watson.*] How far is Tooraweena from Gilgandra? Thirty miles.
2335. Although they would be about 42 miles from the railway when it is opposite Gilgandra, you think they would still go on to Mudgee rather than go to that nearest point on the line? I am quite sure about that.
2336. Are you aware that the Mudgee line would only satisfy them if they wanted a market to Sydney, whereas the line to Dubbo would open up other markets—the western market for instance in Bourke? That is quite right.
2337. Do you know anything of the country to the north, getting on towards Coonamble? I do not, but I have heard that it is first-class country, that there is nothing to beat it in New South Wales.
2338. As pastoral country? Both pastoral and agricultural. The country from Tooraweena to Coonamble cannot be beaten in New South Wales either for pastoral purposes or agricultural purposes.
2339. Your opinion is, that there is a large quantity of land there which is awaiting development, and which can only be developed by the construction of a railway from Mudgee to Coonamble? Quite so.
2340. You do not think that they would go across to the line if it could be reached in 30 miles? I do not think so.

2341.

2341. Speaking for yourself, you would rather go to Mudgee at any time, although Mudgee is so many miles further from you, than go across to a line from Dubbo to Coonamble? Yes, and if I were a resident of Tooraweena I would, for the route must be 40 miles shorter than the Dubbo route. R. Shannon.  
28 June, 1899.
2342. How would you view a proposal to construct a line starting from Dubbo and going round towards Cobborah, in order to tap that country along the Talbragar and then up towards Mundooran, as part of a Werris Creek line;—would that suit this district? It would not suit this district at all, because we trade entirely with Mudgee here. It is only in time of drought that it would suit us to send our stuff out to Bourke and all those places.
2343. Your market just now is only a local market, and that is in Mudgee? Mudgee and Sydney.
2344. If you develop the whole of this country, Mudgee could not consume what you would produce, and therefore you would have to find a market in Sydney? Sydney is our market, and all our stuff goes by way of Mudgee. We do not get anything from Dubbo; there is no trade at all with Dubbo.
2345. Do you know anything of the country on the west side of the Castlereagh? Yes.
2346. Will you describe that country? There is some first-class agricultural country through it, and some very inferior country; it is patchy country.
2347. How does the country which lies generally west of the Castlereagh River compare with that which lies east of the river? All the country on the right bank of the Castlereagh, for a distance of 20 miles, is better than the country on the left bank of that river. The right bank, I presume, is the bank when looking down stream.
2348. How is the land held about this district? Conditional purchases, freeholds, and conditional leases.
2349. In what sized holdings? Some of the holdings are up to 7,000 and 8,000 acres, and some of the stations are 30,000 acres.
2350. What is about the minimum-sized holding which will enable a man to get a living for himself and family, provided that he has a railway? He will get a good living on 1,000 acres here, I reckon.
2351. You think that 1,000 acres would be sufficient? Yes; if we had a railway.
2352. Have you had an opportunity of speaking to the residents about here with reference to the construction of a railway? No.
2353. Suppose a line were run through your property, would you be inclined to demand a large amount of compensation for the land taken? No; I am quite willing to give the land free.
2354. Do you know if other people are of the same opinion as yourself? I have not spoken to any of them on the subject; but I think a good many of them would. I suppose the Government would not take more than 3 chains wide.
2355. No. You, at any rate, would give the land necessary for a railway without charge? Yes.
2356. If a railway is constructed, do you think there will be sufficient produce grown within a reasonable radius to provide a revenue that will go somewhat near to covering the working expenses? Yes, I am quite sure of that. There is a good deal of land that would be cultivated if the line were constructed between Mudgee and, say, Tooraweena. I cannot speak for the other side of Tooraweena. After you pass 20 or 30 miles of Tooraweena, I think it is purely pastoral country to Walgett. I understand that it is proposed to send this line on to Walgett.
2357. Coonamble at present is to be the terminus? If so, it is suitable for agriculture all the way, and it would pay.
2358. You think it would raise sufficient produce to enable the railway to pay? I am certain it would.
2359. The intermediate traffic would help up the Coonamble traffic? Yes.
2360. What is about the average crop per acre here? Twenty bushels, taking an average for a number of seasons. We have had 30 and 35 bushels to the acre in this district; but taking one season with another the average is 20 bushels.
2361. Has the price up to the present been sufficient to encourage the farmers to go on with the cultivation of wheat? No.
2362. When you say no, I suppose you are counting the present cost of getting to market? Yes.
2363. If the railway is constructed the cost of marketing would be less? Yes.
2364. Do you think then, it would pay you to go on cultivating at present rates? It would. By cultivating the land in this neighbourhood it improves the grazing capacity of the country after it is let out; it will carry double the stock.
2365. How far from the right bank of the Castlereagh does the good land extend eastward? It is patchy country; there are large stretches of good country.
2366. When we are here at Mundooran the river is generally running towards the west, and when it gets to Breelong it begins to run in a northerly direction, so that there is a strip of country in there and running north from that. I want to know how wide is the agricultural land running north towards Coonamble? I could not tell you.
2367. Is it 20 miles wide? It is fully that.
2368. Is it 40 miles? I daresay it would be 40 miles.
2369. What area of land have you got? I have 12,000 acres, but it is not all secured land.
2370. What portion of that area do you think is fit for agriculture if you had a railway? I should say from 5,000 to 6,000 acres.
2371. Have you been cultivating in addition to grazing? Yes, for hay entirely.
2372. So that you cannot speak of any experience in cultivating wheat and sending it to market? No; but I can speak as to the experience of my neighbours.
2373. So far you have only cultivated for hay;—was it grown for consumption or for sale? For consumption by my stock.
2374. Do you think there would be a fair proportion of your land put under wheat if a railway were brought along? Yes.
2375. And so with regard to surrounding lands? Yes.
2376. Do you know anything of the land between Mundooran and Mudgee? I do.
2377. Will you describe the land between Mundooran and Cooborah? It is from fair to good pastoral land, and a large area of it is good agricultural land. There are patches of inferior country through it.
2378. Rough? The small patches are.
2379. Do you think the land from Mundooran to Cobborah is as good as the land from Cobborah to Gulgong? It is about the same, but there is better land to the left where the line goes. Out towards Tallewang

- R. Shannon. Tallewang and Tuckland there is first-class agricultural country. These places are between Cobborah and Gulgong.
- 28 June, 1899. 2380. I wanted more particularly to get your opinion of the general character of the country between Munderoran and Cobborah? It is fair to good country; I cannot call it all good country.
2381. Is it good grazing country? It is fair grazing country. There are patches of from fair to first-class agricultural land through it.
2382. Would the agricultural land predominate, or would it form only a comparatively small portion of the whole? A small portion. I know that the greater portion of it is more fit for grazing than for agriculture.
2383. *Chairman.*] Have you any other statement to make? There is splendid timber all along this line for sleepers and that sort of thing. There are first-class forests. Between Munderoran and Dubbo there is a 30-mile ironbark forest.
2384. Has any of that country ever been cultivated? No, not in that forest. Between Munderoran and Coonabarabran I know that patches of ironbark have been cultivated, and that it grows splendid crops of wheat.
2385. Is the soil generally the same as that you spoke of? No; it is red soil.
2386. You say that some of this ironbark country has been cultivated towards Coonabarabran, and has given splendid crops;—is the soil on which that ironbark is growing similar right through the whole of the country? No.
2387. How would you describe the ironbark country you spoke of between Munderoran and up towards Coonamble? There is a lot of that ironbark country very good for agriculture.
2388. You think the ironbark country between Munderoran and Coonamble could be cultivated? Some of it.
2389. Generally speaking, do you think it could be cultivated? Yes.
2390. I suppose the ironbark country you speak of consists of ridges, and opens out in places? Yes.
2391. The ridges, I suppose, would not be good for cultivation? No.
2392. But the flats would be? Yes.
2393. Would a fair proportion of the ironbark country be fit for cultivation where the railway would be likely to serve it? It is not good pastoral country, but there is some of it which is very good agricultural country.
2394. Is there much of it which you would consider to be good agricultural country? There is not much of it.
2395. *Mr. Dick.*] At what was the unimproved value of your freehold land assessed under the Land and Income Tax Act? I am not quite sure, but I think it was put at £2 an acre by the Commissioners at the first going off, and I got it reduced to about 35s.
2396. Do you know, as a matter of fact, whether much of the land in the district round about is assessed as high as that? Some of it is assessed at from 5s. to 10s. higher, I think, but it is better country. It is first-class country; there is no better country in New South Wales than that.
2397. Is there a considerable area of land which was assessed at 35s. and upwards in the district? No. I should say there would be from about 30,000 acres to 40,000 acres between Munderoran and Coonabarabran.
2398. You feel quite sure that if this railway were constructed from Dubbo to Coonamble, although you would be 55 miles from the line, you would still prefer to incur the extra expense of hauling to Mudgee rather than take the shorter route of 55 miles? Yes. I am only 260 miles from Sydney, where I live; and Dubbo is 278 miles from Sydney.
2399. You think the increased cost of carting would be more than counterbalanced by the decreased cost of railway freight? Yes.

Patrick Brennan, grazier, sworn, and examined:—

- P. Brennan. 2400. *Mr. Watson.*] What is your occupation? I am a grazier, living at Silentdale, about 20 miles north towards Coonamble.
- 28 June, 1899. 2401. The proposal referred to the Committee is to construct a railway from Dubbo to Coonamble, and as an alternative scheme it has been proposed that the line should be taken from Mudgee towards Coonamble; looking at these two projects from the point of view of opening up country and the possibility of paying working expenses, which of them do you think should be constructed first? I consider the Mudgee line should be.
2402. What are your reasons for holding that opinion? There is a very large area of country about here which is very good. From Munderoran to Coonamble I do not suppose there is better country in the Colony. It would make the road so much shorter. Sydney is our market.
2403. I suppose you do not anticipate that a connection with the Western line would be of any great advantage to you? No benefit at all.
2404. It has been put forward, as a thing to be aimed at, that the connection with the Western line would give the possibility of reaching a variety of markets which would not be the case if you were connected only with Sydney;—do you think there is anything in that view? No; I think Sydney is the main market.
2405. You probably think that in the future we shall have to look abroad for our returns from wheat? Yes.
2406. Therefore, the nearest way to Sydney is the best way from your point of view? Yes.
2407. Do you know the character of the land between Mudgee and Munderoran? I do.
2408. Taking that route in sections, how would you describe the land between Gulgong and Cobborah? It is good, because it hugs the Talbragar pretty well all the way from Gulgong. Then it comes into Tuckland.
2409. On the whole, you say the land between Gulgong and Cobborah is good? It is good on the whole.
2410. And between Cobborah and Munderoran is it as good as the land between Gulgong and Cobborah? No; I do not think it is as good.
2411. You think you would have comparatively poor land to pass through till you get to Munderoran? Poorer land.
2412. Now, out to your own district—that is, 20 miles further north from Munderoran—how is the land from an agricultural standpoint? It is good agricultural land. 2413.

2413. In the event of a railway being constructed from Dubbo to Coonamble, how far would you be from the Castlereagh at the nearest point which it would strike? It would be a long way. I am about 55 miles due east from Gilgandra. P. Brennan.  
28 June, 1899.
2414. So that it would be of no value to you? No; I would never trouble it.
2415. How far would you be from the line if it were constructed from Mudgee to Coonamble? About 8 miles.
2416. In the case of the line being constructed from Mudgee, you would have a chance to cultivate, which otherwise you would not have? I should.
2417. Do you go in for cultivation now? No; except for a little fodder.
2418. Do any of the people near you go in for cultivation? No.
2419. What would be the furthest distance from a railway it would pay a man to grow wheat and cart it to a railway station (say) with the present price? Twenty-five miles, I suppose.
2420. Would the proposed line go through any part of your property? I do not think so.
2421. A proposition has been put before the Committee to the effect that a portion of the survey from Dubbo to Werris Creek might be followed, as far as Mundooran, from which point the railway would go to Coonamble;—do you think that that would be of any value to the people of this district? No.
2422. Why? Because of the long trainage and long drawing.
2423. As your object is to reach Sydney, it means going so much further round? Yes.
2424. Do you think there is any possibility of your district being developed if you do not get a railway in the direction you have just spoken of? I do not believe there is.
2425. And you think it will continue as a pastoral district only in the absence of railway communication? Yes.
2426. Are there any other reasons which you can urge for the consideration of the Committee? Yes. When I send stock to Mudgee they are fat when they leave, but when they get in they are what I call good stores. It is pretty well a lane now all the way to Mudgee. If I rear a lot of lambs I would not send them at all—they could not get in; but with a railway I could get a wire on Tuesday and have them in Sydney on Thursday morning.
2427. How long does it take you to get your fat stock from here to Mudgee? You cannot get them in in less than eleven or twelve days. When I get in with them the market is glutted.
2428. I do not suppose feed is too plentiful on the stock route? The road is pretty well a lane all the way. It is fenced in between here and Mudgee.
2429. You think there would be a fair traffic in fat stock if the line were constructed? There would.
2430. This is supposed to be a pretty fair fattening district? Not two months ago I sold my fat stock at home sooner than take them in. I know I sold them at a loss.
2431. Where were they intended for by the purchaser? He sold them amongst the farmers, and some of them he sold to the meat preservers. He had another place on the road where he could spell them and keep them.
2432. With the possibility of reaching Sydney in a short time, do you think you could fatten stock and get a lot more to market? Yes; and I could make a lot more money too.
2433. *Chairman.*] You have had two or three very bad seasons in this district? Yes.
2434. When you do not have bad seasons there is plenty of grass along the road;—should you still use the railway if you had a choice, or should you use the road? By all means we should use the railway. People eat down the grass on the road.
2435. *Mr. Levien.*] Do they take the fat stock from Coonamble to Mudgee by this road? They take a great many.
2436. They would not use the railway for stores? Not if they were able to travel.

Thomas Luckie, grazier, sworn, and examined:—

2437. *Mr. Dick.*] What is your occupation? I am a grazier, residing at Hazelmere, which is about 13 miles north-east from Mundooran. T. Luckie.  
28 June, 1899.
2438. Would your place be near to the alternative route from Dubbo *via* Mundooran to Coonamble? Yes.
2439. Do you think a line in that direction would be likely to develop a large area of agricultural country? I consider it would.
2440. Would it develop more or less country than a line from Mudgee to Coonamble? Less.
2441. Could you say whether it would be less per mile of railway construction? I think it would be less per mile.
2442. Of the original proposal marked in broad red on the map and this alternative proposal, which do you think would serve the larger area of country? I consider that the line *via* Mundooran would serve a greater agricultural area and would cause considerably more agriculture.
2443. Do you know anything of the character of the country from Dubbo as far as Gilgandra in a direct line? No; not a great deal. I have been through it once or twice, but I would not like to venture an opinion about it.
2444. Do you know the country from Mudgee up towards Coonamble? Yes; I know it fairly well.
2445. Do you think a railway from Mudgee to Coonamble would prove more profitable and a better agent for developing country than either of these alternative routes? Considerably so.
2446. Practically, along the whole of the Mudgee route, would there be land capable of agricultural development? Not the whole of the land, but the greater proportion is agricultural land.
2447. Would you care to state what the unimproved value of your land was assessed at by the Taxation Commissioners? I could not say for a certainty, but I believe it was 30s.
2448. In the event of that alternative route going through your property, would you be prepared to hand over what was required for railway purposes to the Government? If the bit of the land that was cut off were completely useless to me—that is, if they took a few acres off—I should want a slight compensation. I should only ask for the actual cost of the land and the fencing along on either side. If it came through so that it would not interfere with either side of it, cutting it into medium-sized paddocks, I would willingly give the land free of cost.
2449. Would you offer the Committee any further reasons why you think, in the interests of the country, the Mudgee-Coonamble is better than either of the other two routes? I think it would open up a greater

- T. Luckie. greater area of country—more suitable country for agriculture. It is a shorter route to the leading market—Sydney—and it offers people that grow produce here a fair market out towards Coonamble for fodder in bad seasons.
- 28 June, 1899.
2450. Would the direct line from Dubbo to Coonamble be of any value to you in your present position? Not the slightest value.
2451. Would you still continue to trade with Mudgee? Yes.
2452. It would pay you better to do that although you would be so much closer to a railway line? Yes; I would be going the wrong way to get to a market. I think it would be cheaper, or equally as cheap, to send it to Mudgee.
2453. From every point of view, both as a matter of personal interest and as a matter of public policy, you think it would be better to construct the Mudgee line? For the welfare of the country at large, I think the Mudgee line should be constructed.
2454. It would not suit you to go to Gilgandra? I would be going away from a market.
2455. *Chairman.*] It is not proposed to fence this railway;—how do you view that idea? I suppose the people who have stock adjoining the line would not be responsible for any damage.
2456. No; but would they not look to the Railway Commissioners for damage to their stock? I do not doubt but what they would.
2457. Have you had any experience of unfenced lines? Practically none.
2458. Is it not a fact that cattle or sheep will camp on an embankment if it is there to camp on? In some instances; but where the country is hilly I do not think they will make a great practice of it.
2459. Have you any knowledge of the country still east of you? A very fair knowledge.
2460. Would you describe the country about Dunadoo—the local name is Redbank—as being good agricultural country? There is some first-class agricultural country, and some very fair pastoral country. Along the Talbragar it is first-class agricultural country.
2461. How would you describe the whole of that country to the east of a railway line from Mudgee to Coonamble—that is, between Dunadoo and Coonamble? From Dunadoo, or Redbank, to Merrygoen, some of the country is fair and some of it is very inferior; but from Merrygoen up to Tannabar, the greater part is very good agricultural land. There are patches that are hilly and not suitable for agriculture. Then on to the heads of the creeks, towards Tenandra, there is first-class agricultural country and pastoral country also. From here to round Tundaburine I think there is not much better land anywhere.
2462. If a line is constructed from Mudgee to Coonamble, do you think that land would be put under the plough? The greater portion of it.
2463. Instead of being not much used, and being used for pastoral purposes, you think it will be cut up and will carry more men to the acre than it does just now? Considerably.
2464. At the present time, I suppose, it is used principally for sheep? Solely.
2465. Because you could not get away to market at anything like a reasonable cost? Very true.
2466. You think that if a line is constructed that land will be cut up and put under cultivation? That is my firm impression.
2467. And that it will pay to cultivate? Yes.
2468. Are there any tenant farmers out in this direction? Farming is only carried on on a small scale. There are tenant farmers, but only on a small scale.
2469. Do you know of any tenant farmers within 20 miles of an existing line? I cannot say that I do.
2470. Within 20 miles of Mudgee or Dubbo? I do know of tenants at Burrandulla Flats, within 20 miles of the Mudgee line, and they cultivate.
2471. Do you think they are doing well? The greater number of them are doing well.
2472. Is cultivation increasing or decreasing about there? I could hardly say whether it is increasing much.
2473. You think that generally the tenant farmer is fairly prosperous? I consider so.
2474. Are any of them making sufficient money as tenants to purchase land and better their position later on? Yes; and I have known some do it.
2475. You think they can do it here? I am sure of it.
2476. *Mr. Levien.*] Do you know anything about the country between Werris Creek and Dubbo? I have a slight knowledge of it, but I do not think I have sufficient knowledge to give a very reliable opinion about its character.
2477. *Mr. Watson.*] How is the land held about here principally—conditional purchases, conditional leases, or pastoral lessees? There is a fair amount of freehold land, conditional purchase and conditional lease land, and leasehold land.
2478. A number of Crown reserves? There is a fair number of Crown reserves.
2479. Is there much leasehold land falling in next year? Considerable.
2480. Is that good land for the most part? Yes; I think some of the holdings are getting land exchanged; and from what I can understand, they are giving up the pastoral land and taking agricultural land. While it is fit for both purposes, I think that would be injurious to settlement, because they are getting it closer to the line.
2481. Is the leased land which is to be given up in 1900 fairly fit for settlement, if the railway were to be brought along? The greater part of it is first-class land for settlement, both large and small holdings.
2482. Are there any Government reserves near here which are at present unoccupied? Not that I am aware of. All the land is taken up under either annual lease or occupation license. There may be some between here and Dubbo, but that is the only direction in which I think you can find unoccupied Crown lands.
2483. There is none in a north-western direction from here that you know of? No. There may be some areas, but I do not think they are very large.
2484. They are not important enough to be looked upon as a feature? No.
2485. They are merely outcrops of rock or sand ridges? Generally speaking, it is scrub country; but that country which is unoccupied is first-class timber country. It is worth a good deal in itself for timber.
2486. Is timber beginning to get cut out about here, or is there still a fair quantity of ironbark? There is a fair quantity still; in fact, the reserves between Gilgandra and Tooraweena are hardly touched. That country is in a virgin state.

John Buckley, farmer and grazier, sworn, and examined:—

2487. *Chairman.*] What are you? I am a farmer and grazier, residing at Bone Bone, 23 miles from J. Buckley. <sup>23 June, 1899.</sup>  
Mundooran.
2488. *Mr. Watson.*] In what direction is your place from here? North, perhaps a little to the north-east.
2489. Are you engaged principally in grazing or agriculture? Principally in grazing.
2490. Have you done any farming with a view to trying outside markets, or have you cultivated simply for fodder purposes? I tried, but I found that it would not pay me; it was too far to cart the stuff.
2491. What is the cost of carriage by team from your place to Mudgee? £2 to £3 a ton for any produce.
2492. Does that apply to wool as well as wheat? Yes.
2493. Where do you send your wool? To Mudgee.
2494. Would it cost more or less than that to send it to Dubbo by team? I could not say. It would be going away from the market for a certain distance to go from our place to Gilgandra.
2495. You have not attempted to send any carts *via* Gilgandra to Dubbo? No. If we sent it this way to Cobborah and thence to Dubbo, it would be just the same distance as it would be to Mudgee, and there is much less trainage from Mudgee.
2496. You think that the cost of road carriage prohibits the growing of produce for outside markets? Yes.
2497. I suppose you confine yourself now to growing fodder for yourself, and for the local market? Yes.
2498. What yield of hay do you get in an ordinary season? About a ton and a quarter to the acre, as a general thing.
2499. Have you tried lucerne? Yes.
2500. How does it thrive? I never had it fenced in from the marsupials; it would have cropped very well if I had. I had been feeding them all my time, so that I had not done any good with it. I have done very well with wheat, maize, and oats.
2501. You are not able to offer an opinion as to how lucerne would do if it were properly protected? I could not. I have tried lucerne and done no good with it because it was not netted or paled.
2502. Do you know the country generally between Dubbo and Coonamble;—have you ever been on that route at all? No.
2503. Do you know the country between Mudgee and your own place, and thence on to Coonamble? Yes.
2504. We have been informed here to-night that, taken all through, the land between Mudgee and Mundooran is fairly good country? The land from Mudgee to Redbank, to the Talbragar, is very good grazing country, and first-class agricultural country all the way, as far as I know, or ever could see, and then there is a small patch of poorer country from there down to the Merrygoen. There are patches of very good country, and patches of very inferior country, of course, and some hilly country, and ironbark country. The ironbark hills are almost useless for anything except timber. There are small patches of ironbark hills, and small patches of flats, which are very good for agriculture, but not much good for grazing.
2505. Do you agree with the opinion that some of the ironbark country, more towards the flats or slopes, is fit for cultivation? The ironbark valleys are the best lands you can get for wheat growing.
2506. You mean the open ironbark forests? Yes; it is the best wheat country you can possibly get, I believe.
2507. From Mundooran on towards Coonamble, there is a big extent of agricultural country? Yes.
2508. How wide is the belt of country which would be served by a line from Mudgee to Coonamble, or to your own place—20 or 40 miles? Forty miles.
2509. How far would the Warrumbungle Mountains be from a line which would run from Mudgee to here? I suppose they would not be 8 or 10 miles at one point.
2510. What would be the average distance of the Warrumbungle Mountains from the line? About 15 or 16 miles, I suppose.
2511. What would be the average width of good country along the mountains? I should say from 20 to 25 miles.
2512. You would have from 15 or 16 miles of country between the projected line and the ranges? Quite that.
2513. So that there is a fair scope of land for a railway to serve, in your opinion? Yes; a real good scope of land on the eastern side.
2514. Do you think there would be much agricultural development with the construction of a railway right out as far as your place? I think there would be a considerable lot. I go in for a lot of agriculture, and I have a big family who are all inclined to go in for agriculture. I have a son on a settlement lease, closer to Tooraweena. He has a good area of cultivation land, and he is inclined to go in for cultivation if he had any market.
2515. I suppose your experience is the same as that of others who have been grazing after cultivation—that the cultivation land carries more sheep after being cropped than it did previously? I am quite sure of that.
2516. Consequently, it is possible to work to much better advantage if you combine agriculture with pastoral pursuits? Yes; you can use land for agricultural purposes for three, five or seven years, and then use it for grazing for five or seven years, and turn it into agriculture again, when it is as good as it was at first. In the meantime, you have carried twice as much stock as you could before it was cultivated.
2517. You think from both points of view there will be large development from the construction of a railway? I am quite sure of it.
2518. In several recent Acts authorising the construction of railway lines, Parliament has inserted a provision that the line shall not be constructed unless the people are willing first to give the land necessary for its construction, and secondly to submit to a tax to make good any deficiency in its earnings. How do you view that proposal? The first condition I could understand right enough, and I would be quite willing to give the land; but the other condition I can hardly understand. I would not know how much it would come to. It might be possibly more than I could afford to give.
2519. In the case of the railways I referred to, the maximum was put at 1d. per acre for land within 5 miles,  $\frac{1}{2}$ d. per acre for land within 10 miles, and  $\frac{1}{4}$ d. per acre for land within 15 miles? I would be quite satisfied to do that.
2520. That would be the maximum charge in case the railway did not meet the running expenses. You think



- J. Buckley. think the railway would be worth that much to you? I think it would be worth a good deal more than that to me.
- 28 June, 1899. 2521. Do you think there would be much probability of that tax being levied here? I do not think we should ever have to pay the tax if we got the line.
2522. You think that with Coonamble as a terminus, and with the traffic you would get from the intervening land, the line would be likely to pay? I think it would be almost certain to pay well.
2523. And in case there were a deficiency? I would be quite satisfied to pay what you have mentioned.
2524. *Chairman.*] Do you know anything of the country about Coonabarabran? I saw a good deal of that country. I have been living within 20 miles of it for the last fourteen years.
2525. Is there a good stretch of country from Coonabarabran down this way? Yes.
2526. Would you be as well served by a line running from Coonabarabran down to Mudgee as you would by a line from Coonamble to Mudgee? I think so. The line I want is a line from Mundooran to Mudgee. That line would serve me.
2527. But from your knowledge of the country, would a line from Coonabarabran serve you? I think a line from Mundooran to Coonamble would be far better than a line from Coonabarabran; it would open up a lot of better country.
2528. Have you been to Coonabarabran? Yes.
2529. I suppose you could not say how they would view a proposal of that sort, or whether they look to the Great Northern line as their market? They look to the Northern line. I went down the other day, and they wanted me to sign a petition for a line from Muswellbrook *via* Cassilis and Coolah to Coonabarabran.
2530. Have you been along the Castlereagh to Coonamble? Yes.
2531. Close to the bank of the river? Yes.
2532. How far back from the bank of the river, going eastward, does the good land extend? Once you get the other side of Tooraweena it is almost all good land out for, I should say, 30 miles; and on this side of the mountains, of course, it is all the same.
2533. Have you ever been on the left bank of the Castlereagh? No; I have not been through that country much. I have been down to Gilgandra and Gulargambone. I have not traversed the river down. I have never been westerly at all. I could not speak of that country. I have just travelled through parts of it.
2534. Is any of your holding in the ironbark country? No.
2535. Have you ever seen any of the ironbark country cultivated? Yes.
2536. With what result? The open ironbark forest, with red soil, generally speaking, will give about 35 bushels of wheat to the acre and about 50 bushels of maize to the acre.
2537. Then the theory that ironbark country is no good for agriculture has been exploded? Yes. The ironbark country, where there is stone and undergrowth, is no good for anything, but the open ironbark and red-soil country is splendid agricultural country anywhere it is found.
2538. Have you had anything to do with sleeper-cutting? No.

FRIDAY, 30 JUNE, 1899.

[*The Committee met at the "Telegraph Hotel," Gilgandra, at 7:30 p.m.*]

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD. |  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.

ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Ernest Joseph Wheble, grazier, sworn, and examined:—

- E. J. Wheble. 2539. *Chairman.*] What are you? I am a grazier, residing at Everton. I have been in the district about eighteen years.
- 30 June, 1899. 2540. You have a thorough knowledge of the district, I presume? Of the country between Gilgandra and Dubbo.
2541. Starting from Dubbo, for the first 10 miles, what is the character of the country on the western side of the line? Nearly all that is good farming country. Part of it is very stony—I think bluestone. That portion would not be any good for agriculture, I think, as it is too stony.
2542. What is the character of the land for 20 miles back? I have never been down very much along the Macquarie, but I have driven through there. It is box country. Nearly all of it is good farming country.
2543. You have seen it cultivated I suppose? I have seen little bits off the road.
2544. Do you know any of the farmers there? I do not know their names.
2545. Do you know whether they are satisfied with their prospects as farmers? I do not know the men at all except right on the Macquarie. I know a few of the names there. That, of course, would be further back than what you say.
2546. You do not know much about that country then? No.
2547. Coming further this way, towards Gilgandra, what is it like? After the first 10 miles the next 3 miles, I should think, is about the worst portion, if any, for farming on the road. I do not think this strip of inferior country extends more than a couple of miles off the road.
2548. Then coming further north again what is it like? After the 13 miles from Dubbo it becomes fairly good for 3 miles. There is a good deal of ironbark through that country, but it is mostly fairly good.
2549. That which you describe as ironbark country is fairly good for agriculture? Yes.
2550. Have you seen any of it cultivated? Not there.

2551.

2551. Have you seen any similar country cultivated? I had a small bit I used to cultivate which is very similar. It used to grow fairly good crops. It is in the middle of the ironbark country. There is only just a small bit I had for hay for my own use. E. J. Wheble.  
30 June, 1889.
2552. You are satisfied that it is good country for growing wheat? I have at times grown splendid wheat on it. I had only one failure as far as I can remember, but it was put in very late that year. Every other season I used to get a bit of hay. I had more hay than I wanted then; in fact that is what made me stop cultivating it. I found I was feeding the mice.
2553. You think that this country which you describe as ironbark country would be fit for wheat growing? The greater part of it. I do not say it would last as long as the other country.
2554. Then coming still further north, what is the country like? After 16 miles from Dubbo the country nearer the road is better country, you get away from most of the ironbark then. For 4 miles the country is better; there is more box country. It is not so heavily timbered either. I think most of that country is very well suited for farming.
2555. How far north would the country you are now describing extend? It is rather hard to say, because there is a good deal of very inferior country in that. The good country is narrow there, it is not 20 miles wide.
2556. What is the proportion of bad country within that 20 miles? There must be 10,000 acres or 12,000 acres in one patch which is of very little use for agriculture. That would bring us about 30 miles from Dubbo.
2557. Coming further north, what is it like? As far as Gilgandra it is nearly all good agricultural ground.
2558. Do you know anything of the country north of Gilgandra, that is towards Coonamble? I cannot say that I do. I have been down near the river a certain distance.
2559. Do you know anything of the country on the eastern side of the broad red line? I could not speak as to 20 miles wide. I have never been up the Talbragar at all.
2560. Comparing the land you do know with the land you have described on the western side, is it as good, or is it much about the same? No; there is a bit of a difference, though, of course, there are patches in it equally as good.
2561. Do you know the country on the right-hand side of the Talbragar? No.
2562. Speaking of the country you have just described, how many acres do you think would reasonably support a man and his family—would give him not merely a bare living, but something to put away besides—that is, with a railway? I see a great many men with 2,500 acres doing apparently very well about here; they are mostly new settlers.
2563. That is for sheep, and a little bit of cultivation for themselves? Yes; but there is no cultivation worth speaking of.
2564. Do you know any one with less land than that who is making a living off it? Yes, a few. There are not very many.
2565. At any rate you think, to average the country right through, we can regard 2,500 acres as sufficient to maintain a family on, assuming that a railway is built? Yes. I never did any farming myself. I do not think less than 2,500 acres would do. I think a combination of the two is wanted.
2566. And you think that they could do very well? Yes.
2567. Do you think, if the land now held under lease were thrown open, there would be any demand for it? Yes.
2568. Do you think it would be rushed? It would be all taken up except perhaps a few very inferior portions.
2569. It would take longer, I suppose, if there were no railway, or if the whole of the lands in this division were thrown open? Yes, the lands would be taken up, because it is all taken up now which can be taken up.
2570. You think that if a railway were constructed a much larger population would be settled here? No doubt.
2571. And that there would be a considerable local traffic which would make the line pay? Yes.
2572. *Mr. Levien.*] At a similar inquiry you said that you had 32,000 acres of leasehold land, and that it will carry about 16,000 sheep? With the other it will.
2573. In reply to Mr. Hassall's question, "What proportion of your land is suitable for agriculture?" you said, "Most of it," do you say so still? I do.
2574. If most of your land is suitable for agriculture, and you could get a railway here, it would be of some benefit to you, and make your land more valuable, would it not? Yes.
2575. I suppose you would go in for more agriculture than you do now? I would. I have not gone in for any, you may say.
2576. How many bushels of wheat to the acre do you think it would give? I have never done any farming; but so far as I can hear from others about here I reckon it would average about 15 bushels to the acre, taking one season with another.
2577. If the railway passes through your holding, will you be prepared to give the necessary land to the Government? Yes; and if I did not give it I suppose you would take it.
2578. *Mr. Watson.*] Would it go through a portion of your land? Yes; the survey goes through a portion of my property.
2579. The land then would be a bit more valuable than it is now? Yes.
2580. Do you think the traffic on the line would be sufficient to make it pay, if it were taken right through to Coonamble? I think it would.
2581. Would you be prepared to back your opinion in that respect by expressing a willingness to pay a betterment tax in the event of there being a deficiency in the earnings of the railway? I should.
2582. The betterment tax which has been imposed in respect of several recent railways is 1d. per acre for land within 5 miles,  $\frac{1}{2}$ d. per acre for land within 10 miles, and  $\frac{1}{4}$ d. per acre for land within 15 miles? I should be willing to pay that tax as to the freehold and conditional purchase land.
2583. Do you entertain any doubt of the railway paying, allowing for the collection of traffic from the Coonamble side? I think it ought to pay well.
2584. Judging from what lines you know of elsewhere, you think this line ought to pay from the jump—that is to say, that the country here would be as well developed as elsewhere? I think it would pay well.
2585. *Mr. Trickett.*] When Mr. Harper was examined on this proposal, he was asked this question:  
"What

E. J. Wheble. "What are your views as to the character of the country to be served by the proposed railway?" and his answer was, "A good deal of it is very rough and bad—that is, between Dubbo and Gilgandra";—do you think that is a fair description of the country? No. There is a certain amount of country that is bad along there, and I pointed out to you as well as I could where it was; but beyond that, the other I consider is good.

30 June, 1899.

2585. It is not fair, you think, to say, as a general description of the land, "a good deal of it is very rough and bad"? No; I think by going along the road you see the very worst.

2587. But with regard to the badness of the land, where agriculture has been attempted between Dubbo and Gilgandra, has it been successful, as far as your observation goes? Yes.

2588. Have very many tracts of country been taken for agricultural purposes along the road? After you get a little bit away from Dubbo, there are six or seven portions of land I know which have been cultivated successfully. Some of them started years ago, and cultivated, and kept on. I have seen really good crops grown on them, and on the country which is not supposed to be good for agriculture.

2589. Mr. Harper also stated that by reason of the country being poor between Dubbo and Gilgandra, the Government could not expect much local settlement, and could not get much local trade;—do you think that would be the case? All the land which has been available for settlement has been taken—every acre of it, I think.

2590. The character of the country as one goes along may not look particularly inviting; but when it is cleared and treated for agriculture, has it been a success in every instance you know of? Yes.

2591. Does that apply to land in the part which would come within the influence of the railway? I do not exactly understand the question.

2592. Mr. Harper says it is poor land all the way between Dubbo and Gilgandra;—do you think that that is not a fair statement, and that the land between Dubbo and Gilgandra, coming within the influence of the railway—say for 20 miles on each side—is fairly good, or good agricultural land? I do not think he was correct in what he said; I do not think he ever saw it.

2593. You do not think he went away from the line? No; he never went on the line at all, I expect.

2594. *Mr. Watson.*] Would it not be probable, if a man followed the road, he would be influenced by the fact that on the stock route there is no ringing at all done? Most decidedly.

2595. And consequently the land is absolutely unimproved? Exactly; he sees it unimproved as he goes along the road.

2596. *Mr. Trickett.*] You have been here for seventeen years;—can you give us one instance where a man has gone in for agriculture, and it has proved a failure by reason of the bad character of the soil? No; I do not know of one case.

2597. You, not being a farmer, would only use the railway for sending wool? At present; but if the railway passed through my place, there is no doubt that I would go in for farming. At the present moment I would not go in for farming unless there were a railway.

2598. The reason being that you are too far away from the railway? I am too far away, I consider.

2599. Do you still send your sheep into Dubbo to be boiled down, as you did when you gave evidence before? No; I have sent several lots down to Sydney since. I sent down 4,000 fats during the last year.

2600. Even during this prolonged drought the Dubbo district has got on very well as regards sheep? I think so. There has not been much loss about here that I know of. In answer to that question about boiling down, I may say that I never tried to fatten any wethers before. I would rather sell them as stores at that time. Even then, for the sheep I did send, I got a very good price—perhaps more than I would get in Sydney, or as much anyhow—at the commencement of the boiling down, when the fat was high.

2601. If you got a railway passing through or near your estate, you would be more inclined, I suppose, to send your stock to the Sydney market? Yes; it would be a great advantage. You could often send away a few at a time, and in the end send away a good many; but now a man has to hold until he has a certain number. It is not worth his while to send a few when he has to drive them.

2602. In your evidence at the previous inquiry you said, "Any fat stock I have sent to the boiling-down establishment at Dubbo"? That is the only lot I ever sent away.

2603. In seventeen years? Yes; I always sold them as stores rather than fatten them.

2604. Suppose a man were 15 miles on this side of Dubbo, do you think he would be likely to use the railway, or would he drive the stuff into Dubbo if it was going to Sydney? Most decidedly, I should think he would use the railway if it were alongside him.

2605. It would pay him better to do that than to lose his time? Yes.

2606. We are told that the road between Dubbo and Gilgandra is an excellent road in all weathers;—is that so? I never heard that before. I should think it is nearly always bad; whether it is wet or dry it is all the same.

2607. The Warren-Coonamble line, I suppose, would be really of no use to the people about Gilgandra? It would be of no use at all.

2608. Would the Mudgee-Coonamble line be of use? I suppose it would be of use to them.

2609. That is, to the north it would be of use; but between Gilgandra and Dubbo it would be of no use to them? No.

2610. Do you think if a railway were made between Dubbo and Coonamble the team competition would still beat the railway? No; I believe it would if the line were made from Warren to Coonamble.

2611. *Chairman.*] Have you paid any attention to the trend of the traffic since the Warren railway has been constructed;—does the traffic from Coonamble go down to Warren, or does it go to Dubbo? I do not think it has made any difference; I do not think the branch from Nevertire to Warren has diverted any traffic.

2612. As regards the traffic north of Coonamble, is Dubbo its natural depôt? Yes; it always has been.

2613. Did the construction of the line to Warren, which would bring Coonamble somewhat nearer to the railway system, divert the traffic at all? I do not think it did.

2614. And the traffic still goes to Dubbo? Of course a great deal of the traffic was diverted before that branch was made.

2615. By what? By some disagreement which they had there between the Carriers Union and the wool-growers.

2616. Is it finding its way back again to Dubbo? Yes; it has been during the last year or so.

2617.

2617. *Mr. Shepherd.*] How much freehold have you? About 6,500 acres; also some conditional purchase and conditional lease. E. J. Wheble.
2618. What is its carrying capacity? When it is fully improved it would take about an acre and a quarter—something over an acre—to carry a sheep in a fair season. 30 June, 1899.
2619. Have you any of that land thoroughly cleared? None.
2620. What does it cost you to clear the timber off the land? I never did any.
2621. Have you cultivated any at all? Ten or 12 acres.
2622. Have you grown any fruit at all? Very little. The orange-trees seem to do well, but the peaches do not.
2623. How long is it since you first planted fruit-trees there? Ten years, I should think.
2624. You cannot give an idea I suppose of the return from your fruit-trees per acre, or anything of that kind? No; I have only a few trees round the house.
2625. What wool did you produce last year off the whole of your holding? I had 100 odd bales last year.
2626. Do you keep any cattle? Only a few; only a milking herd.

John Wheaton, farmer and grazier, sworn, and examined:—

2627. *Chairman.*] What are you? I am a farmer and grazier, residing at Drillwarren, which is 14 miles south of Gilgandra, and 26 miles north of Dubbo. J. Wheaton.
2628. *Mr. Trickett.*] What is the extent of your holding? Two thousand five hundred and sixty acres, conditional purchase and conditional lease. 30 June, 1899.
2629. How long have you held the selection? About two years. In that time we have cleared 200 acres. It was all fenced when I took it up.
2630. What have you done with the land? We have put 150 acres under wheat. We had 8 bushels to the acre last year. I did not have 150 acres under wheat last year.
2631. Will you describe your experience on the selection? My boys and I cleared 80 acres. I have not paid for any clearing. I sowed the land. I cannot say I cultivated the land, because some of it was not put in until the middle of July. We thought it was an excellent crop, considering the way it was put in and the season we had. We have been clearing and scrubbing ever since then, and we have about 200 acres cleared now. The season has been bad, and we have only been able to put in 150 acres this year. It is not sown as they cultivate in South Australia. In that colony successful growers only cultivate once in three years. They fallow up at this time of the year; they scarify and work it again. Several South Australians said I would not get my seed off the ground. I brought my stock and implements from South Australia. I have only had one crop.
2632. How is that getting on? It is only just up, and some of it has been put in nearly as badly as it was last year.
2633. This season has been a very disadvantageous one for you? Yes.
2634. How does the land here compare with the land in South Australia for wheat-growing? There is really no comparison. It is before the general run of the best land in South Australia for farming—that is, the whole of the land from Yellow Creek to Gilgandra. The quality of the land is better, and the rainfall is better.
2635. You were a farmer in South Australia, and having come here and inspected this part of New South Wales you were satisfied to take up 2,560 acres? Yes. I sacrificed 2,000 acres in South Australia to take up this land. I sold out for £1 an acre less than I gave for the land seven years before.
2636. Had you seen other farms here? No; only round Dubbo and going through in the railway. I went out to Berida and travelled 30 or 40 miles round Dubbo. I did not go to Narramine.
2637. Were you so satisfied with what you saw as to the wheat-producing capacity of this country as to come over here and take up this land? Yes.
2638. What is the general character of the country about here for wheat-growing? My opinion is that it is all first-class land for wheat-growing. There may be a few ridges in some of the places, but it will be, practically, all taken for cultivation. In all cultivation districts there are always a few ridges which are almost useless except for a little grazing or anything of that kind.
2639. Do you know the proposed line between here and Dubbo? Yes.
2640. How far are you from that line? It runs across the corner of my paddock.
2641. If you were asked to give a general description of the country for growing cereals for a distance of 15 miles on either side of the railway from Dubbo to Gilgandra, how would you describe that country? I would describe it as all first-class agricultural land—that is, with a few exceptions. You might get some small blocks in an area of 2,000 acres, which would not be much good.
2642. How long were you farming in South Australia? I was farming on my own land for twenty-six years.
2643. After twenty-six years' experience of farming in South Australia, would you consider it a fair description of the land between here and Dubbo to say that, on the whole, it is poor, ridgy country and not likely to develop settlement? No; and anybody who said so has never had any experience in farming, taking the land with the rainfall on it.
2644. You know Mr. Brown's property at Branston, which is within 6 miles of the proposed railway? Yes.
2645. What is your opinion of that as a wheat-growing area? I consider it is first-class land. There is a lot more of it further to the west than that. I was looking at the land, and it appeared to be all first-class agricultural land. Two of the South Australian wheat farmers were looking at the ground at the same time.
2646. Could you say how far west? I think it is 6 or 7 miles.
2647. In your search for land, what area of country did you go over between Dubbo and Gilgandra;—did you have a good look all round the country? I was looking round for three weeks, but I could not tell what land I saw.
2648. I wish to ascertain whether the area you traversed will come within the influence of this railway;—did you go beyond Gilgandra when looking for the land? No; I went to Berida, which is 15 miles west of Gilgandra towards Warren.
2649. If you had not secured your present holding, did you see numbers of other places between Gilgandra and Dubbo which would have been suitable for your purpose? I did not inspect any with a view to purchase. If I had not secured that holding I was going to take up a small area close to Dubbo and my sons were going to come over, and we were going to ballot for land. 2650.

- J. Wheaton. 2650. But did you see lots of good agricultural land? Yes. I saw lots of places which were really good, but not to inspect them with a view to purchase.
- 30 June, 1899. 2651. As a practical farmer, do you think this district is likely to be a progressive one as regards wheat-growing? I am sure of it. The same districts in South Australia which have gone ahead have not half the show which this district has had. As soon as a railway is built you have double the produce grown, and you can send stuff to market. The wheat-farmer can send in poultry and pigs, and he can have small gardens and send in everything which is likely to be wanted. I lived where there was a railway close to me, and it seemed to double the produce which was grown in the district, although it was an old settled district. When the railway was extended everyone was growing a little and sending away stuff.
2652. For farming operations, has your experience been that a railway is necessary for getting the produce to market? Yes; my experience is that if you want to get produce to market you must have a railway within 15 miles—that is, to grow other things besides wheat. You can take wheat further than that distance. The secret of success in farming is to make little things help to pay, and in a bad season if you have other things coming in you can keep things going.
2653. Is it not an advantage for wheat not to be carted too far? Most decidedly. The less distance you have to take it to a railway the better. Wheat does not get injured in transit. What causes all the success in farming is rather the poultry, and pigs, and butter, and cream. We can take wheat further than we can take those things; you cannot send those things far, as they would be injured in transit.
2654. Is it such a district that a man with a small beginning may expect to go on improving his prospects? Yes. There is a man adjoining my holding who started on 1,000 acres. He had just about enough to start. He is in a very fair position to-day on 1,000 acres, and he has had only sheep. He is going in for cultivation now in the prospect of a railway coming, but he is getting rather slack, as he is afraid that there is not going to be a railway.
2655. What was the average yield of the wheat crop in South Australia where you were? In the district I lived in the average was about 8 bushels. I lived in a favoured part of South Australia.
2656. What was a payable crop? That was only grown once in three years. Sometimes there would be more and sometimes a bushel or two less, but the district would average about 8 bushels.
2657. From inquiries in this district, what do you find has been the average crop here when the land is kept in a fair condition—is not just scratched over, as you appear to have done with yours? Last year some land which was put in fairly well went 15 bushels, and the year before several places went 20 bushels, and some places 30 bushels, but my belief is that if it is worked properly one year with another they can average from 15 to 20 bushels. That is a good payable yield if you can get 2s. 6d. a bushel.
2658. You would look upon 15 bushels as a good payable yield for an average? Yes.
2659. Is this a kind of soil which you think will last for cropping? I feel sure that it will last for cropping—that is, with fair treatment.
2660. Would you consider last year a fair season? No; because it is the driest on record for the time of year when we wanted rain.
2661. So that if the crops gave even a small yield during such very bad droughts as we have had, it is an indication that the district generally is one in which crops will thrive in ordinary circumstances? Yes.
2662. Is there anything else you wish to mention? I wish to mention that east of me there is a bit of country—what they call the Old Arbor country—which has a terribly bad name. My father has had some experience in farming, and when he was over here last year I told him I would show him what was called the worst land in New South Wales, and he said if I live another ten or fifteen years, and the people have a chance, the whole of that land will be occupied and made payable. It is not first-class land; a lot of it is box land, and there are some ironbark ridges, but not stony; they are sandy. On the eastern side of this Old Arbor country there are farms all round. Two men who came from South Australia twelve months ago took up some of the ground which is thought worthless; but it has a bad name, because there are so many dogs there. That is on the east side of the line. There are four or five farms round there. I have inspected several of them. I was speaking with a man who wanted to look at them. I believe it is first-class country there.
2663. Even although the country is pointed out now as a very bad bit of country, you think that in time it will be utilised? I am sure it will. A lot of it is box flats, which will be first-class land.
2664. As showing the suitability of the land for growing cereals, is it not a fact that many farmers have come here from South Australia and Victoria, and settled in the district, and are doing well? Yes. I have known six round Dubbo within the last two years who have come from South Australia, and they are all thoroughly satisfied.

Walter Gentle Brown, grazier and farmer, sworn, and examined:—

- W. G. Brown. 2665. *Chairman.*] What are you? I am a grazier and farmer, residing at Branston, near Coolbaggie. I have been residing there a little over nine years.
- 30 June, 1899. 2666. *Mr. Shepherd.*] What is the extent of your holding? 10,240 acres of conditional purchase and conditional lease between my father and myself. We have no freehold.
2667. How much land have you cleared for cultivation? 150 acres.
2668. What has that cost to clear? What has been done by contract cost 14s. an acre.
2669. Have you had the land cropped for any length of time? We have had a small portion of it cropped for about nine years.
2670. What has been your average yield? It has been all cut for hay up to last year. I suppose the average yield is close on to 30 cwt.
2671. What was the yield of wheat for last year? Last year it ran from 2 bushels up to 10 bushels.
2672. Do you consider that satisfactory? We do not consider 2 bushels satisfactory.
2673. Did it pay you for cultivating the land? It did not pay all the expense. We just cleared that area; it was new ground ploughed up and put in.
2674. Did you attribute the small yield to the bad season? Yes.
2675. Have you had a succession of bad seasons here, similar to what we have had all over the Colony? We have had them for five years now.
2676. How many sheep have you? 6,400 is the number returned for the year. We had eighty-four bales of wool last year.
2677. What do you estimate that to be worth? About £800, at the price ruling last year. Now it would be worth a good deal more. 2678.

2678. Do you find any difficulty in conveying your produce to Dubbo? We have no difficulty, as there are always plenty of teams to Dubbo. W. G. Brown.
2679. Would you be induced to cultivate a larger area if you had a railway? Yes; in fact, we would go in for more cultivation whether there were a railway or not. 30 June, 1899.
2680. I suppose the distance is almost too far to pay you to grow wheat? It is rather far, but it could be done right enough. Where we are is 22 miles from Dubbo. We pay £1 a ton for carriage.
2681. Have you grown anything but wheat there? We have grown maize and sorghum.
2682. How has your maize crop turned out? Generally speaking, it has not turned out very well. It has not been properly cultivated, and that is principally the reason why it has not turned out well. The sorghum has done very well.
2683. Have you averaged the produce of the maize? No; we have only just grown a little of that. We never kept any record.
2684. How much sorghum have you had under cultivation? In some years we put in 3 or 4 acres, and cut it for greenstuff.
2685. I suppose you did not estimate the yield of the young sorghum? No; we never kept any record.
2686. Do you find the sorghum answer well? It does very well.
2687. I noticed that you have a small fruit garden;—do you find the soil answers well for fruit-growing? For most trees it suits very well.
2688. What kind of fruit do you consider you can grow there successfully? Peaches, apples, apricots, oranges, and mandarins.
2689. Do you think it would pay you to grow these fruits if you had a railway? Yes; especially apples and oranges.
2690. You think it will induce you to grow more largely for market? It might be an inducement, but we are not likely to do it.
2691. I understand that you have come from South Australia? No; I am a Victorian.
2692. You know the country generally between Gilgandra and Dubbo? Yes; on the western side I know it very well.
2693. Taking the country in sections from Dubbo, how would you describe the land for 15 miles on either side of the proposed line? On the western side, between Gilgandra and Dubbo, it is all fairly good country, some of it being very good; but, as regards the eastern side, I cannot say much about the country. I have not been far across the road—only in places. The country on the western side, with few exceptions, is good pastoral land, and very good agricultural land.
2694. Some of it, I suppose, you do not consider fit for agriculture? On the western side I consider 90 per cent. of it is fit for agriculture.
2695. There is a large trade in sawn timber and sleepers between Gilgandra and Dubbo? There are a good many sleepers cut.
2696. Do you think the supply is nearly exhausted, or is it likely to last for many years? I think on the eastern side, upon the Castlereagh, there are a good many sleepers left there yet.
2697. Are you acquainted with the country between Gilgandra and Coonamble? I have never been north of Gilgandra.
2698. You are of opinion that a railway will pay if it is constructed from Dubbo to Coonamble? Within two or three years after it is constructed it would almost be certain to pay.
2699. You do not think it would pay from the start? It might; but I would not like to say it would pay for the first couple of years.
2700. Do you think it would induce a larger population to settle? Decidedly, if the land were made available.
2701. Are you acquainted with many of those who have taken up land, and are cultivating it, between Gilgandra and Dubbo? I know a good many of them.
2702. Do they generally seem satisfied? They are all well satisfied.
2703. Are they inclined to extend their cultivation areas? They are all extending their cultivation every year.
2704. Would you be induced to extend your cultivation area largely in the event of a railway being made? Yes; we intend to go on extending it.
2705. Do you not think your yield is likely to increase beyond 10 bushels an acre? I hope so.
2706. We have had evidence to the effect that as much as 40 bushels an acre have been produced between Gilgandra and Dubbo;—have you any hope of producing anything like that yield per acre? It would be an exceptionally good season if it produced 40 bushels. In 1894 we used most of the wheat crop for hay; but a small portion which we converted into wheat yielded 25 bushels to the acre. Last year our hay crop gave 2½ tons to the acre.
2707. Have you ever attempted to improve your land by manuring with green crops or anything of that kind? No; we never use any manure.
2708. Have you cropped every year? For nine years one paddock has been cultivated.
2709. Without giving it any spell? No spell whatever.
2710. *Chairman.*] Do you wish to make any other statement? No.

James Bell, selector and grazier, Balladoran, sworn, and examined:—

2711. *Chairman.*] What are you? I am a selector and grazier, residing about 2 miles from Balladoran, which is 30 miles from Dubbo. My selection consists of 2,560 acres. J. Bell.
2712. *Mr. Watson.*] So far, have you been using your land only for grazing purposes? Yes; I have not tried any cultivation yet. 30 June, 1899.
2713. How many sheep can you run on that area usually? I have not got it all improved yet; but according to the last return I made I had within a few sheep of 2,000.
2714. It is not stocked to its full carrying capacity yet? Nothing like it.
2715. You have not got it all rung yet? I have; but there is a lot of scrub up again.
2716. When it is scrubbed you think it will carry more sheep? I think so.
2717. Did you hear the evidence which was given in respect of the character of the land generally between Dubbo and Gilgandra? Yes; I have heard a good bit of the evidence given here to-night.

2718.

- J. Bell.  
30 June, 1899.
2718. Do you endorse the statements which have been made in respect to the general suitability of the land for agricultural development? I do. I do not think any of the witnesses have spoken too much in favour of the country between Dubbo and Gilgandra.
2719. Summed up, the evidence so far has been to the effect that while there are bad patches, or poor patches, here and there, the greater part of the land improved is fairly fit for agricultural development? I think it is, as far as my experience goes.
2720. Do you know whether there is any large area of Crown lands still to be thrown open between those points? I believe there is a very large area.
2721. Do you think if it were thrown open, and a railway were constructed, there would be a fair demand for the land? I think it would be eagerly sought after.
2722. You think the Government would get a better price for the land with a railway than without one? I do.
2723. Do you reckon that the probable amount of traffic, both local and from and towards Coonamble, would be sufficient to make the railway pay if constructed? I live pretty near the road, and there is a heavy traffic along the road.
2724. I suppose it is fair to assume that there will be a greater amount of traffic drawn by the railway than will go along the road? No doubt there would. I am quite sure that if the railway were made there the acreage of wheat would increase in a very few years to a wonderful extent. From living in the district I know the opinions of the people. I know most of the people between here and Dubbo.
2725. Do they seem to think that they would increase the cultivation areas with a railway? Yes.
2726. Do you think a railway from Mudgee to Coonamble would be of any value to the people down about Balladoran? I do not think it would be of the slightest value to the people down there.
2727. The railway would be too great a distance from them to be of any practical value? Most certainly.
2728. If that line came within 35 miles of you, it would not be of any value? No; I would sooner go towards Dubbo.
2729. Is there anything else you would like to say in respect of the proposed line from Dubbo? No; only that I am of the opinion that if it were built the area under wheat would be increased in a few years to a large extent.

Sydney James Barden, grazier, sworn, and examined:—

- S. J. Barden.  
30 June, 1899.
2730. *Chairman.*] What are you? I am a grazier living at Myall View, 8 miles from Gilgandra, towards Coonamble.
2731. Have you done any farming? Yes.
2732. Do you know the country well between your place and Dubbo? Fairly well. I have been in the district twenty-four years.
2733. Can you give a general description of the land to be served by the proposed railway? The greater portion of the land between Gilgandra and Dubbo is suitable for agricultural purposes.
2734. Would the other portion be of any value whatever—say, for pastoral purposes? It is. I included that with the agricultural land.
2735. Would you describe the country between Gilgandra and Dubbo as being eminently suitable for mixed farming? I do; but, of course, there are patches which are not suitable. You will find these patches in the most favoured districts.
2736. Those portions which would not be suitable for wheat-growing would be suitable for pastoral purposes? The greater portion of them.
2737. Have you ranged much over this country? Yes; a good deal.
2738. How far west from the proposed line have you been? Beyond Warren. I know the country between Gilgandra and Warren well.
2739. Taking the country for 20 miles west of the proposed line, the remarks you have just made as to the character of the country would apply? Yes.
2740. Taking the country to the east of that line from here towards Dubbo, what is it like? It is good agricultural land.
2741. How should you describe the land between the Castlereagh and the Warrumbungles? I should describe most of that country as first-class land for agricultural purposes and good grazing land; also of course, there are patches which are not first-class.
2742. And also suitable for mixed farming? Very much so.
2743. How is the land generally held on the route of the proposed railway—in large or medium-sized holdings? It is held in large holdings and small holdings. There are numbers of small holdings.
2744. I mean is it held, not under lease, but as conditional purchase or freehold? There is a great deal of conditional purchase land.
2745. Have they large holdings—2,560 acres? Most of them have been increased to 2,560 acres.
2746. Can a man get a decent sort of living off 2,560 acres at present without a railway? Yes.
2747. If a railway were constructed, it would induce him to put his land to a better purpose? Yes; I think he would get a better living off a fourth of it, if he were farming, with a railway.
2748. Supposing he had more land than he could well farm himself, would there be any difficulty about getting tenants? I do not think there would be the slightest difficulty.
2749. Are there any tenant farmers in the district? I do not know of any so far.
2750. How far would it pay to carry produce to a railway? I think once you go beyond 20 miles it is rather far.
2751. You think that up to 20 miles you can manage? Yes.
2752. You have grown produce? I have grown a good deal of stuff which I have had to send 48 miles to Dubbo.
2753. It all depends upon the price whether it pays you to send to market? Yes; 3s. will pay me. I had to pay 6d. per bushel for carting.
2754. Have you any idea what the rate per bushel would be on the railway? No.
2755. Did that crop pay you? Yes.
2756. If it paid you to market your produce at Dubbo, 50 miles away, by ordinary team, the construction of a railway would be an inducement to you to increase your cultivation area? It would.

2757. When you were before the former Committee you had 100 acres under cultivation, and you said you would be inclined to increase the area? Yes; I have 300 acres under cultivation this year, and if a railway were guaranteed, I would have 1,000 acres in a very short time. S. J. Barden.  
30 June, 1899.
2758. With ordinary carriage by team, what minimum price would pay you to grow wheat? Two shillings and sixpence; it would pay me better than sheep.
2759. You think that if a man had a fair area to farm, 2s. 6d. a bushel would pay him? I am sure of it.
2760. You are quite clear in your own mind that the land is fit for wheat-growing? It is highly adapted for wheat-growing.
2761. It has proved that it is so? Yes.
2762. If a witness has stated that the land between Gilgandra and Dubbo is, generally speaking, poor, he makes a mistake? I think he had little or no experience in farming.
2763. Would the land on the eastern side of the Castlereagh average better or worse than the land on the western side? There is a greater extent of agricultural land on the eastern side, but it is not better than the frontage to the western bank. It runs back to the foot of the Warrumbungles.
2764. How far would that be in a direct line? Twenty-five miles.
2765. You think that whoever reported that the land was not suitable for agriculture, generally speaking, could not have made a proper examination of the country between Gilgandra and Dubbo? I think so.
2766. A witness made this statement to the Committee:—
528. I understand you to say that there is no probability of an agricultural settlement for the first 30 or 40 miles from Dubbo? Thirty miles—until you get to Coolbaggie Creek.
- ? The land is very good. Of course, there are patches of bad land which you will find in all countries; but taking it on the whole, I think it is highly adaptable for agricultural purposes.
2767. How would you describe the country along that road? Of course there are patches along the road—just a few acres—which are very bad.
2768. You think this information was gained by just driving along the road? I do.
2769. Had he gone wide of the road he would have found different country on either side of the road? Yes.
2770. How would you describe the country to Coonamble? I would describe the country on either bank of the river as high-class agricultural land. After you get a few miles from the western bank of the river going down, say, 20 miles from Gilgandra; after you get out 10 or 15 miles it opens out into what you may call pastoral land entirely, black myall plains.
2771. Is it good fattening country? Nothing better; but along the banks of the river, right away to Coonamble, it is all agricultural land.
2772. How wide would the strip along the banks of the Castlereagh be? I should think it would average a mile; that is, what we call the river flats. Then, on the eastern bank, it extends right away to the Warrumbungles, both high-class grazing and agricultural land.
2773. The leases are falling in next year? Some of the leases are falling in this year.
2774. Have you any idea if the Department is preparing a subdivision of these leases? They have already been surveyed.
2775. Are you getting ready for the subdivision? No; but I think lots of my friends are. I feel sure that the whole of the land, as soon as ever it is thrown open, will be snapped up.
2776. Do you think there will be any difficulty about getting any of the land? I do.
2777. You think there will be more than one application for a block? I think it will amount to a very large ballot for a considerable time. The land has been locked up so long that there will be a rush for it.
2778. Would you say that 90 per cent. of the blocks will be balloted for? Yes, for a certain time. I suppose the rush will work off in time.
2779. That land will be rushed by what you term small landowners in this district? Yes.
2780. Have you had any experience of the results that have followed the construction of a railway in other districts? No; but I have a pretty good idea that things will improve here very much.
2781. You have been along the route of the railway? Yes.
2782. Comparing it with the country through which other lines have gone, if it is found that it has been a wise policy to construct those lines you would not hesitate to say it would be a wise policy to construct this line? I feel sure that this will be a paying concern from Dubbo to Coonamble.
2783. If you get rid of any localism in your mind, would you say, on national grounds, that this line should be constructed? I think, as a national affair, it would pay.
2784. You think it would be a good speculation? Yes.
2785. *Mr. Watson.*] You stated that you paid 6d. a bushel to the teamster to take your wheat 48 miles to Dubbo;—what is the trainage per bushel from Dubbo to Sydney? About 7d., I think.
2786. So that for 277 miles carriage by rail you would pay 7d. a bushel, and for 48 miles carriage by team you would pay 6d. a bushel? Yes; and in some seasons you would pay more.
2787. The presumption is that 48 miles carriage by road is nearly prohibitive, unless the prices are fairly good? It is.
2788. *Chairman.*] If a railway were constructed, and we had really good seasons, would you truck your fats rather than drive them? Yes. It would be a great benefit in many ways. Without a railway you have to wait until you have a certain draft which it will pay you to take into Dubbo; whereas with a railway, if you had 100 fat sheep, you could truck them at once. Again, if you had ten horses, or nine or ten head of fat cattle, you could truck them. The cost is too great to drive a small number.
2789. Suppose a man had a large number of sheep, would it not pay him to drive them? You may be fattening sheep; but you may have only 100 of them fat at a time, and the same with horses and cattle.
2790. It would always pay a man to truck his fat stock in preference to driving them? Yes; more especially where the country has been taken up.
2791. *Mr. Trickett.*] The Government have stated that if this line is constructed the average rate for goods will be 32s. per ton;—what is the rate now from Dubbo to Coonamble? I think it is £4 at present. The usual rate is about £3 a ton.
2792. If a railway were constructed, and only 32s. a ton were charged, on an average, for carrying goods, do you think there would be any possibility of the teams under-cutting the railway? Not a possible show. In bad seasons they cannot travel; they have to camp if there is any wet weather. It is not possible for a team to travel with a load then.
2793. So that if the railway were constructed, and that rate charged, the Government would have a monopoly of the carriage? Certainly. There is no possible chance of teams competing with the railway here. They will not do the roads, I believe, with the expectation of getting a railway here. I have been growing stuff for twenty odd years, and during that time I have never known a total failure in growing



- S. J. Barden. growing crops. If I did not grow a crop which produced wheat, it produced a certain amount of hay. I cannot call to mind any one total failure.
- 30 June, 1899. 2794. *Chairman.*] Have you cropped the same land pretty frequently? It has been cropped every year for twenty odd years. You can go down 10 or 15 feet.
2795. *Mr. Levien.*] Did you ever try oats? Yes; but they grow too strong unless you take the poor soil for them. I have never used any artificial manure.
2796. *Chairman.*] What has been the average yield in a fair season? From 15 to 17 bushels. I have had as high as 35 bushels and as low as 8 bushels, which I did not consider worth stripping.
2797. During the present time? During the period of twenty years.

Stephen Chandler, farmer and grazier, Yalcogrin, sworn, and examined:—

- S. Chandler. 2798. *Chairman.*] What are you? I am a farmer and grazier, residing at Yalcogrin, 7 miles north-east of Gilgandra. My place is on the eastern side of the Castlereagh; it is on the Coonamble Road.
- 30 June, 1899. 2799. *Mr. Trickett.*] What is the size of your holding? 16,000 acres, consisting of freehold, conditionally purchased and leased Crown land. My holding carries about 3,000 sheep at the present time.
- 2800 Your flock has been very much reduced, I suppose, by the drought? No.
2801. How is it, then, that it is not carrying what it used to carry? I had between 500 and 600 head of cattle on the land this season, besides the sheep.
2802. What do you consider the full carrying capacity of your holding for sheep? If it were improved, about a sheep to the acre, I think, in fair seasons.
2803. Is yours an average of the land on that side of the river, or is it better than most of the land? I think it is about an average.
2804. Have you gone in for any farming? Yes; I have about 100 acres sown this year. I have been farming for seven years there, but only on a small scale.
2805. Has it been successful? I consider so.
2806. What crops have you grown, and what has been the average yield? Hay and wheat I have been growing, except this year. What wheat I grew for grain went from 16 to 30 bushels to the acre, and this last year it was very light.
2807. Do you look upon it as first-class agricultural land? Yes, in places; of course, there are patches, some good and some bad.
2808. Is the character of the land generally in the district such as to induce a large agricultural population? I think so.
2809. What are your future operations likely to be—enlarging your grazing or your agriculture? Enlarging the agriculture.
2810. Do you find that pays better than grazing? Yes.
2811. What distance have you to cart your wheat to Dubbo? Forty-eight miles. It is rather too far to cart.
2812. What do you pay for cartage? I never pay for any. I always draw with my own team.
2813. What is the rate of freight for that distance? For other loading I have been paying £2 a ton and 35s. a ton.
2814. How long have you been cultivating wheat in this district? Seven years.
2815. Have you enlarged your operations from time to time, or did you stop with the 100 acres? No; I had 10 acres at first.
2816. You have gone on increasing the area? Yes.
2817. Have you used or sold the wheat which you grew? I have used it for flour, seed, and horse-feed.
2818. Are you likely to enlarge your operations with a view to sending wheat to market? Yes.
2819. Are you preparing in that direction now? Yes; I am getting some land cleared.
2820. What does it cost you to clear land per acre? It has cost me from 15s. to a £, and one very thick bit I have let at 27s. 6d. an acre; it is pine and box country.
2821. Does it cost about the same for both? About the same.
2822. That would be land which has been ringbarked for some time? Yes; it has been rung for some time, but there is green timber through it still—seedlings which have grown up.
2823. Does that add to the cost? Yes, a good lot.
2824. Generally, do you not look ahead, and have the country all rung, so as to save the expense of clearing? I have not done so. The country has all been rung, but suckers have grown up and seedlings.
2825. Is it better to ringbark country some time before you clear it, or to clear it as green country;—suppose you were to clear the country right away, would that be very expensive? It would be more expensive than if it were cleared some years after it was rung.
2826. A farmer who came here and look up land would have to tackle the clearing at once? Yes.
2827. What would it cost per acre to clear green country? It depends upon the timber. I suppose it would run from 25s. to 30s. an acre.
2828. What do you think of the prospect of this railway, if constructed, advancing this district? I think it will advance the district a great deal as regards farming.
2829. It would create closer settlement? I think so.
2830. Have you had any experience of a district which has progressed by reason of the construction of a railway? In other parts where I have been it always has improved it in that way. I have been up in the Carcoar district, the Molong district, and the Forbes district.
2831. Those districts have all advanced as railway communication has been extended to them? I fancy so.
2832. Were you engaged in farming in those districts? Yes.
2833. For wheat-growing, how does this district compare with those districts? I consider it is quite as good as any of them for farming.
2834. Do you know the country pretty well between Gilgandra and Dubbo? I cannot say I know the country very well—only just along the road.
2835. Do you think it is good or bad country for agriculture? I think in parts it is very good, and in parts pretty rough again.
2836. But, taking it as a whole, you would not condemn it as land which is not likely to advance settlement? No.
2837. How far should you be from this railway? I think I should be 10 or 12 miles distant.
2838. If you were within 6 miles of a railway, and the average rate for goods from Coonamble to Dubbo were

- were 32s. a ton, I suppose you would avail yourself of the railway sooner than pay 35s. or £2 a ton to S. Chandler. cart your stuff to Dubbo? Rather.
2839. It would be a great advantage to you? Of course it would.
2840. You would willingly pay £1 or 25s. a ton? Yes.
2841. Do you know of any farms in the district which have been failures? I cannot say that I do.
2842. The people who have come here have come to stay, and have remained here? Yes; those I know seem to be well satisfied to stay here.
2843. Do you wish to make any other statement? No.

S. Chandler.  
30 June, 1899.

Alfred Mortimer, selector, near Gilgandra, sworn, and examined:—

2844. *Chairman.*] What are you? I am a selector, residing on the west side of the Castlereagh, 2 miles A. Mortimer. from Gilgandra. I have held the selection between nine and ten years.
2845. *Mr. Watson.*] What have you been doing with your land? I have been cultivating for grain. It is too far from the railway to cultivate for hay. It 30 June, 1899.
2846. Have you grown for grain many years? For the last nine years.
2847. Do you think it will pay to take wheat that distance to market with ordinary seasons? It will pay a little, but it will pay better if we have a railway close to us.
2848. What has been the average yield of your wheat crops, speaking roughly? I have never got less than 20 bushels per acre; I had 20 bushels per acre last year. I produce a sample of my wheat.
2849. We can take it, then, that you have a particularly good bit of land? I do not think so. I got the refuse. They had selected all round me before I took up land.
2850. Is this supposed to be a fair sample of your wheat? Yes. I have been stripping on the different farms for the last five or six years.
2851. You do not think your land is extra good land as compared with the rest of the district? It is more sandy—more monkey. Sandy ground, in my opinion, is the best land here, and it will prove so ultimately. I have stripped for everybody from here towards Coonamble. I do not think I have stripped in a fair season less than five bags per acre. I have stripped as high as ten bags per acre.
2852. That is on the banks of the river? Yes.
2853. That is rather better than it would be further back? The further back, I think, the better.
2854. Is the land heavier nearer the river? On the river, and in all seasons, it grows the least crop. It is all black soil—it is not adapted for agriculture; but a mile or so back from the river, where the box country is, it produces a better crop.
2855. Do you mean to say that the average for the district, with ordinary seasons, would be over 20 bushels an acre? Yes, where I have been. I have stripped for a good many gentlemen here, and I do not think there is one for whom I have stripped less than five bags per acre, and for some as high as ten bags per acre. I have stripped nearly ten bags for Mr. Barden. In a season like last year they went in for hay.
2856. Do you always get enough rainfall here to give you a good crop of hay? I believe, with cultivating, we could do without rain at all.
2857. You think the land about Gilgandra is better than the land nearer Dubbo? There are some portions towards Dubbo which are very good indeed.
2858. Taken generally, it would not be so good towards Dubbo as it is round Gilgandra? I think it is.
2859. On the whole? I cannot say exactly on the whole, but there is some splendid land between Gilgandra and Dubbo. There are miles and miles, on one side here, which it would be hard to beat in the country, or in the world.
2860. On the east side there are some scrub ridges here and there? Small patches.
2861. Do you think it would be fair to assume that, with the construction of a railway, a great deal of that land between Gilgandra and Dubbo would be utilised for wheat-growing? It will be all rushed for wheat-growing, every acre of it, and for miles down the river. It is adapted for wheat-growing. The district is only in its infancy yet.
2862. You have heard what the other witnesses have said this evening in regard to the general character of the land? Yes.
2863. Is there anything which you wish to say on that point by way of emphasis? The following is what I got from a well-known firm of seedsmen in Sydney. It speaks well for the character of the land in the district:—
- Dear Sir,  
Many thanks for the apples and peaches, which came safely to hand. The peaches are certainly the finest we have seen; the apples are also very good. We are exhibiting them in our window with your name and address on them, and hundreds of people have a look at them every day.  
Mr. Alfred Mortimer, Lockwood, Gilgandra.
- 202, Pitt-street, Sydney, 9 March, 1899.  
Yours faithfully,  
P. L. C. SHEPHERD & SONS.
2864. I take it from this post-card that you have experimented with fruit? Yes.
2865. Are you satisfied with the results of your experiment? Yes.
2866. Have you attempted to make a business of fruit-growing? I cannot sell my produce here; there is no outlet for fruit.
2867. Do you think a railway would encourage the production of fruit? Certainly.
2868. I should imagine from this post-card that you can grow very good fruit here? We can, and we do.
2869. Do you think that fruit-growing can be gone in for extensively with easy access to market? I am certain of it, and it would pay handsomely.
2870. What kinds of fruit would be best suited to the district? Peaches, apricots, and such like fruits.
2871. You think the rainfall is sufficient for growing those fruits? I think we can do without rainfall if we had high cultivation. We do not look for weather. The only thing we object to is the boggy roads.
2872. Is it a generally accepted idea that, with ordinary seasons and with ordinary prices, from 20 to 25 miles is the limit to the sphere of the influence of a railway upon agricultural production;—with ordinary land and an ordinary season, do you think that would be a fair assumption? It is too far. You could manage with wheat, but you could not manage with other things, such as chaff, and fruit, and vegetables; it is too far to take those things by team.
2873. Consequently, for proper farming, you require to be closer than 25 miles to a railway? Yes; as close as we can get.
2874. The more mixed the farming the greater probability of success, I should imagine, where the climate is favourable? Yes. You see, when a railway runs close to us we can always run a few sheep or a few head of cattle on our cultivation and send them away. We cannot do that now, on account of the long distance which they have to be driven to be trucked.
- 2875.

- A. Mortimer. 2875. Is it also your experience that land which has once been cleared and cultivated will, if allowed to go back into pasture, carry more sheep than land which has not been cleared? Considerably more. I have seen land in New Zealand fattening twenty sheep per acre.
- 30 June, 1899. 2876. Is there any other information you can give us as to the prospects of the railway if it is made? I think that where there is one family now there would be fifty families settled down if we had a railway.
2877. Where are you going to put them? There is plenty of land all round; all it wants is energetic men to use it.
2878. Not yet taken up? No; as good land as is taken up and used now.
2879. Crown land which can be opened for settlement? Yes; some of it is scrub and thickly timbered. If it will grow scrub and timber it will grow anything you like to put in; I think there is really a good future for this district.
2880. If the railway were constructed from Mudgee to Coonamble would it suit you or the people about here? It would be no good at all; we still should have to go to Dubbo. It would be 27 miles from my place to that line.
2881. You would sooner go to Dubbo? Yes; here and there we have a little macadamised road.
2882. Would it not be any advantage to get a connection with the Western line rather than with a line direct to Sydney? Yes; and that is where the Dubbo line would come in so handy for me. The storekeepers at Coonamble are getting their goods from Dubbo in preference to getting them from Warren, on account of the extra haulage. I feel confident that the line would pay 10 per cent. on the capital, because there are no engineering difficulties to be encountered on this route. It is level country, and there are few bridges to build.
2883. *Chairman.*] You think a connection with Mudgee would not suit you at all? No; it would do us harm.
2884. You speak of yourself;—would it suit the district? No. When we can grow produce—for instance, hay—and keep it for years, and there comes a drought in Coonamble, we can take the hay down with our teams. If a line came from Mudgee it would do us harm, because when we had stacks of hay for a dry season it would spoil our market in Coonamble.
2885. The reason why you prefer the Dubbo-Coonamble connection is that it would be a better one generally for the district, and that if you had the Mudgee connection you would only have Sydney for your market; whereas if you had the Dubbo connection, and there were any demand for your produce west towards Bourke, you would get that market and still have Sydney for a market;—is that so? Yes.
2886. Would you truck fats, do you think, to the metropolitan market from here? That I could not say.
2887. In addition to that, the Dubbo connection would give you a quicker connection with the Victorian market? Yes.
2888. So that you would have three markets by the Dubbo connection as against one market by the Mudgee connection? By having the Dubbo line we should have two markets—the west and Sydney.
2889. With the possibility of a third market—the Victorian? I cannot see so far ahead. As we get more land into cultivation we shall keep stacks in reserve. It is impossible when it is wet to use the Mudgee line.
2890. As a district railway, to serve a large district, do you think 37 miles extra carriage to Sydney, *via* Dubbo, would be counterbalanced by the fact that you would have other markets besides the Sydney market open to you by the Dubbo connection? Decidedly I do.
2891. Have any other crops been tried here besides wheat—potatoes, for instance? The seasons are so uncertain. I have grown good crops of corn, but we cannot depend upon the season.
2892. Have you seen any of the ironbark country cultivated? Only in small patches. There are different classes of ironbark land—some are gravelly, and some are sandy. Sandy ironbark will grow good crops. Little quartz gravelly ironbark is not so good.
2893. Of what description is the greater proportion of ironbark country—poor or fair? The greater proportion is fair. Where the ironbark country is, there are always patches along the creeks where the land is really good. Then again you come to a gravelly hill, where it is poor.\*

James Lewis, farmer, sworn, and examined :—

- J. Lewis. 2894. *Chairman.*] What are you? I am a farmer, residing at Clearview, 9 miles east of Gilgandra, up the river. I have been in the district about twenty years, and I have been on this new place seven years.
- 30 June, 1899. 2895. What class of country have you? Light soil.
2896. Have you any of that ironbark land? A small portion; a few odd trees here and there.
2897. Have you cultivated any of that land? No.
2898. Have you heard the evidence which has been given by other witnesses this evening? Yes.
2899. Can you confirm what has been said by the witnesses? A great portion of it I can.
2900. What portion of it can you not confirm—have there been any exaggerations? I do not know. There are things, perhaps, I could not be certain about.
2901. You mean that there are some things which are not within your own knowledge, and that as to the others which are within your knowledge, you can confirm them? Yes.
2902. Have you any doubt as to the future prosperity of this country? Not the slightest.
2903. If the railway is constructed, are you prepared to increase your cultivation? Yes.
2904. Have the results of your operations up to the present been of such a character that it would induce you to increase your cultivation? Yes.
2905. There is no doubt about that? Not the slightest.
2906. Have you any fresh evidence which you would like to give? I had about 47 bushels to the acre the year before this last year, and the lightest I had was 30 bushels.
2907. How many acres did you have in? I had about 70 acres in.
2908. And the 70 acres averaged over 30 bushels to the acre? Yes.
2909. Have you any knowledge of anyone who is farming ironbark country? Yes.
2910. I am told that you did some stripping for a farmer there? Yes. I did some stripping for a neighbour. His holding is all ironbark where this cultivation was. 2911.

\* NOTE (*on revision*):—There is one thing I would suggest, that is to bring the railway nearer to Gilgandra, so that the settlers on the east side of the Castlereagh River would have the benefit of the bridge at Gilgandra; there is no bridge constructed between here and Coonamble, and I think a slight deviation is all that would be required.

2911. How much did he cultivate? About 4 acres. He is only a new settler.
2912. Do you know his holding pretty well? Yes.
2913. Would half his holding be equal in quality to the 4 acres he cultivated? I believe it would. I consider he has ten times better land than he cultivated. He has a lot of good, box country. This bit happened to be close to his house, and he started to cultivate there.
2914. What was the result of that experiment? I think it went about four bags—that is, about a bag to the acre. It was kept down by the wallabies. It got too late in the season to do any good, as there was no rain.
2915. Have you any knowledge of any one else who has tried to cultivate that ironbark country;—there is a big strip of ironbark country on the eastern side of the Castlereagh, is there not? Yes; there is a good piece of ironbark country on that side, and there is a lot of good box flats on that side, too. There are more box flats than there is ironbark country—that is, for a certain distance out from this road.
2916. Do you think there are 400 square miles of that ironbark country on the eastern side of the line? I do not think there is—not within 10 miles of this line.
2917. The Committee has been informed that there are about 400 square miles of worthless land? There may be between Gilgandra and Mendooran. It is nearly all ironbark country over on that side after you get 10 miles away from the Coonamble Road.
2918. Would you take up any land in that ironbark country if you had a chance? Ten miles from this road I would, because there are parts of it where you can get good, box country, and there are parts of the ironbark country which are good. It has a sort of loamy soil.
2919. Could you get sufficient out of a 2,560-acre block to keep yourself and family on? Yes; and it would be a very big family if you could not. Several men I have been stripping for during the last five or six years live within about 10 miles of that country. There is some of the finest country out that way that I have ever seen.
2920. Where is it? It is 10 miles east from Gilgandra. It is out towards Bearbong—Steve Johnson's, Keith's, and Yeo's.
2921. What result has it yielded? From five to six bags to the acre this last season, which was a bad one. On one place the greater part of it was new ground, too.
2922. You say that there is a large quantity of land of the same description, which will produce that yield? There is. A man could get 2,000 or 3,000 acres in one flat without getting an ironbark tree.

J. Lewis.

30 June, 1899.

James Barling, grazier, Bongeabong, sworn, and examined:—

2923. *Chairman.*] You gave evidence before a former Committee on the proposal to construct a railway from Warren to Coonamble? Yes.
2924. You have had an opportunity this evening to look through the report of that evidence? Yes.
2925. Are you prepared to verify that evidence? In every respect, irrespective of the answers to questions 1146 and 1147.
2926. You stated that the carrying capacity of your land was 14,000 sheep in all seasons; we have had a severe spell of dry weather, and you wish now to modify that statement? Yes; during this past season 10,000 would be too many for the land to carry.
2927. Up to 1898 your experience was that it would carry 14,000 sheep? Yes.
2928. But owing to the unprecedentedly long spell of dry weather you have had, you found that it would not carry that number? It would hardly carry that number. I had to get rid of a number of the sheep. In other respects I can verify every statement I made to the former Committee.
2929. In answer to question 1204, you stated that you were preparing about 120 acres for agriculture;—have you cropped 120 acres? I have cropped 100 acres.
2930. Did it come up to your expectations? It is only just out of the ground. From present appearances it is very favourable.
2931. Any statement you made to the former Committee has been borne out, with the exception that the dry weather has altered the situation? Yes.
2932. *Mr. Trickett.*] Have you observed, as a resident of the district, that agriculture is progressing in the district? Altogether so. If the railway is constructed, I guarantee that I will go in largely for agriculture, and very shortly I shall have 1,000 acres in cultivation.

J. Barling.

30 June, 1899.

SATURDAY, 1 JULY, 1899.

[The Committee met at the "Telegraph Hotel," Gilgandra, at 9.30 a.m.]

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.

WILLIAM THOMAS DICK, Esq.

The Hon. WILLIAM JOSEPH TRICKETT.

JOHN CHRISTIAN WATSON, Esq.

ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Henry Machin, farmer and grazier, sworn, and examined:—

2933. *Chairman.*] What are you? I am a farmer and grazier, residing at Ranter's Creek, about 14 miles south-east from Gilgandra.
2934. What class of country are you holding? It is all good agricultural land, every acre of which I hold myself. It is timbered with box, bull-oak, and ironbark.
2935. Is there much ironbark? I suppose, out of the 1,600 acres I have, there are 400 or 500 acres of this flat ironbark country with bull-oak all through it, and box-trees here and there. It is not what you call ironbark solely and purely.
2936. Is it a fair average of what they call ironbark country? It is a fair average. The only difference in the run of the ironbark country is that you will get stony ridges here and there; that you would not call a fair average, as it is no good.

H. Machin.

1 July, 1899.

2937.

- H. Machin. 2937. In what is termed the ironbark country in this district, is there much of that ridgy land that is worthless? Not a great quantity of it. From my place to Balladoran, you cross one ridge about 15 miles that you would not call any good. I suppose there is a ridge about a mile wide in the 15 miles.
- 1 July, 1899. 2938. You will be quite safe in saying that less than 10 per cent. of the land is all ironbark country? There is not 10 per cent. of it that is taken up; but taking it all through, Crown lands and all, I would say there are from 15,000 to 20,000 acres selected round there.
2939. How many selectors have taken it up? The Macdonnells, three Mechins, the Tibbetts, Mr. Evans, and Mr. John Duncan. It will all grow wheat. The worst land here is not half as good as the average land in Riverina. I have had considerable experience in wheat-growing in the Corowa district.
2940. How would you compare it with the Corowa district? This has a better rainfall. I do not think the land here, on the whole, is so good, because down there it is all good nearly; you can travel over 100 miles, and it is pretty well the same land all the way. The better rainfall here gives you an advantage. It is a better wheat country here.
2941. You have grown wheat yourself? I have grown wheat for hay only yet. I am only a new settler. I went there in 1894.
2942. What has been the result of your operations so far? I have had a few sheep on the land all the time I have been there. I have also been clearing a piece of land, and got in a little wheat for hay. What wheat I have had in has grown as well as I could wish. I have also several neighbours growing wheat splendidly.
2943. Some of your neighbours have been there longer than you? A year or two only. We all went there practically at the same time.
2944. Have they grown wheat in small quantities for grain? I do not think any of them have grown much for grain.
2945. You are all practical wheat-growers, I suppose? Every one of us.
2946. Are you quite satisfied with your prospects? If we can get a railway to help us to grow wheat.
2947. How far will you be from the surveyed line? As the crow flies, my place is within 10 or 11 miles of the line. Mr. Terry, the surveyor, told me that the nearest point to me would be somewhere near Balladoran.
2948. Your place is about 10 or 11 miles east from the surveyed line? Yes. Mr. Terry, the surveyor, said it is about 10 miles as the crow flies. It is all Crown lands.
2949. Have you any knowledge of the country further east than where you are? Over as far as the Talbragar.
2950. That will be further south-east than where you are? I think so.
2951. How would you describe that country? When you get to the head of Ranter's Creek, there is a rough range—I suppose 2 or 3 miles across; then you begin to fall over towards the Talbragar; then there is a dividing range.
2952. There is a ridge dividing the Talbragar from the Castlereagh? Yes.
2953. Can you tell us generally how that range runs? No.
2954. Do you know the road from Gilgandra to Mundooran? As far as Breealong, about 16 or 17 miles.
2955. Would anyone travelling from say a little east of where you mention towards Mundooran, and travelling down towards Dubbo in a south-west direction, keep on that bad land? I do not think so.
2956. Have you been out as far as New Breealong? That is the run I am on.
2957. Would a line in that direction traverse that bad country you speak about? No; the ridge is more over towards Murrungundie.
2958. Would a track from Murrungundie to Mundooran cross the ridge or run along it? You would cross the ridge; it is a comparatively narrow strip.
2959. Do you know whether any of the settlers in your direction have thrashed out any wheat to try how much per acre it would produce? Not in the bunch of selectors that are there. A little nearer Dubbo they have. I think Reid's place would be the nearest, and that is within 12 or 14 miles of Dubbo.
2960. How many bushels to the acre did they get? Mr. Reid is away now, but he told me that he had as much as 40 bushels to the acre. I told that to some of them in Riverina, and they did not believe it.
2961. Did you believe it? Yes.
2962. You think the ground is capable of producing that yield? I do, because I have seen over 30 bushels to the acre obtained in Riverina.
2963. That is a very exceptional crop? It was only a small patch which produced at that rate per acre. The average has been something over 20 bushels; that is not too bad.
2964. What weight of hay per acre do you think a fair average crop? From a ton and a half to 2 tons, I think. Not in a season like last year, but in an average season.
2965. Would you grow wheat? That is what I intend to do.
2966. If you had a railway, would you? I should grow as much as I can with my own labour. To go in extensively for wheat-growing without the railway would be too much for me, as the cartage is too heavy.
2967. Your neighbours would do the same? Mr. Tibbetts told me he has let 60 acres, and there is more open to let if they like to take it.
2968. What is about the average cost of clearing that ironbark country? Mr. Tibbett's is paying 12s. 6d. for clearing dead timber. I do not know what it would cost to clear green timber. I do not think it would pay to clear green timber. I tried to clear a little, and I gave it up. I am waiting until the timber dries.
2969. What did you pay for ringbarking? 11s.
2970. How long do you wait before it is ready to treat for clearing? Four years would be plenty.
2971. You use it for grass in the meantime, I suppose? Yes; it is all rung there. All the country which is taken up is mostly ringbarked.
2972. Generally speaking, what is the nature of the country on the side of the river on which you are within a reasonable distance, say 20 miles of the railway line? It would be called by the old hands about here rough country; but compared to what I have been used to, we do not call it rough country. In Riverina where land is valuable you would clear anything, but up here Riverina men would call it very good country. A lot of the old settlers about here unless they could get a plain or river flat would not look at it. Several of the old hands have told me that I would starve.
2973. Still they were quite wise in taking the flats? Certainly, but still I think they would starve before they would touch the timbered land.
2974. They did not believe it was fit for anything? No. They will assure you that if you ringbark ground you spoil it; I have been told that since I came up here. 2975.

2975. You have given them an object lesson, and if there is any similar land thrown open for selection, do you think they will take up any? Certainly.
2976. Even the old men who swear by the flats? No; they are too old.
2977. It requires youth and pluck to tackle that country? Yes. It is not a matter of doubt what can be brought out of the ground. They have never seen anything brought out of rough or timbered country, and they think it cannot be done.
2978. But after, you have shown them what can be done? I have not been here long enough yet; if I live I will show them yet.
2979. Generally speaking, you think the country to be served by this railway is equal to any other agricultural country? I am quite certain of it.
2980. And on account of the rainfall you think it is somewhat better than the Riverina country? Certainly. We are all agreed on that about here, and we are all Riverina men out on this side, I think, without exception.
2981. *Mr. Watson.*] Some of the evidence, so far, has been to the effect that for the first 40 miles which the line from Dubbo to Coonamble would traverse—that is, up to Gilgandra,—the country on either side is inferior, and is not likely to assist settlement;—would you feel justified in supporting or contradicting that statement? I would contradict it emphatically.
2982. You think then that the land on either side of the line for the first 40 miles is likely to assist settlement? Certainly.
2983. And help in supporting the up-keep of the railway? I am quite sure of it. I think a lot of the misunderstanding has arisen from old hands speaking comparatively when they say it is “inferior land.” It is inferior land compared with the Macquarie flats; but, as for being inferior land, compared with what I have seen in Australia, it is not inferior. Compared with picked places there is no doubt that it is inferior.
2984. And productive too? Yes.
2985. *Chairman.*] Will it compare favourably with that land which you have seen cultivated in other parts of New South Wales? It would.
2986. And successfully cultivated? Yes.
2987. Have you any other statement you would like to make as to the country generally, or any matter which might be of use to us? No. The men who have come from other parts of Australia and New South Wales are all satisfied; every man I meet is satisfied, and most of them are practical wheat-growers.
2988. Is the whole of your family over here? No; there are only three of us in the country. We are Englishmen. I have only been out here fifteen years. I have been at farming ever since I came out.
2989. Some of the pastoral leases will be falling in very shortly here, if the land is thrown open would you recommend any of your friends to come here? Certainly.
2990. Have you any of them waiting? I could not say that I have anyone in view at the present time.
2991. But you would recommend your friends to come to this district? I would.
2992. And leave Riverina? It depends. If they had a good place in Riverina, I would not recommend them to leave it. I do not think it is wise to be shifting about if you are doing very well. As to getting hold of land in Riverina it is out of the question, because the land is too dear.
2993. *Mr. Watson.*] There are plenty of young men growing up round here who will want land shortly? Yes; but most of them who are brought up about here do not care about it. They have not seen how money can be made out of wheat-growing. I know the friends of mine in Riverina have cleared £4 an acre out of wheat. If you tell these people that land earns £4 an acre, they would say it is not worth the trouble. I think when they see there is money in wheat growing they will take to it. It was just the same in Riverina a few years ago. It was said that wheat would not grow there; it has been proved to the contrary.

Arthur Frederick Garling, storekeeper, Gilgandra, sworn, and examined:—

2994. *Chairman*] Were you examined by a former Committee on a proposal to construct a line in this A.F. Garling district? Yes.
2995. If I mistake not, did you not give some evidence as to an alternative line to Dubbo? Only in 1 July, 1899. reference to the Mudgee line.
2996. You were then of opinion that the Mudgee connection would suit the district better? No; I thought, from a national point of view, it was the line, but since I have studied the different routes and different markets I am altogether of a different opinion. If we have a line to here from Dubbo, we have the Bourke market and the Sydney market; we have a market out north, and we also have access by the Blayney-Harden line to the Victorian markets if they have a bad season there.
2997. When you gave evidence before the former Committee, you had not looked at the question sufficiently closely? No. At that time I had only been a short while in the district. Another thing to be considered is the fact that the Mudgee line, as it is proposed, runs along at the foot of the mountains. There is nothing whatever to feed that line from the east beyond 2 or 3 miles, so that it would be almost a dead letter after the enormous expense of constructing it.
2998. The Mudgee connection would only serve a strip of country between the Warrumbungles and the Castlereagh? That is all.
2999. What is the average width of that strip? I suppose it is from 20 to 25 miles. If the Mudgee line were constructed, the teams would compete against that line, because we are only 40 miles from Dubbo. If they had to cart 20 odd miles from here to the railway to the east, and to pay the extra railway freight, which would have to be comparatively high on account of the expense of construction, the teams would compete, and we should still use the Dubbo line, so that the Mudgee line would be of no use whatever to us. Constructed where it is proposed to be constructed, the teams would carry the stuff to Dubbo, and we should get it away more quickly and cheaply. As it is, I have stuff now coming from Sydney to Dubbo in preference to Mudgee. We shall save 9d. a ton on this stuff, which is going up to Box Ridge, near Gummin. In wool bales, and things of that sort, we can save 9d. a ton after paying the £3 freight by team from Dubbo.
3000. Have your views in reference to the Mudgee connection being a better line, from a national standpoint, been altered also? Yes. After leaving Mudgee, when you pass Gulgong and Tallewang, you pass through a lot of bad country till you get to about Cobborah, and then you strike good country on the banks of the

- A. F. Garling. the Talbragar, and then leaving Cobborah, towards Merrygoen, you pass through a lot more mountainous country. Just at the back of Merrygoen there is a piece of very fair country, and then, almost at the back of Merrygoen, when you are about half way across, you drop into a lot of very barren country, which seems to extend for a long way across and right down past Mundooran—right away down till you get on towards Breelong. You pass through an ironbark forest just this side of Mundooran; it is rather of a barren nature, a sort of white soil with pebbly stones in it, and large ironbark trees. It is the sort of white soil in which you find ironbark growing. This soil is not of much use for agricultural purposes, although it contains a splendid lot of ironbark. Going on down the river, when you get near Breelong, about 12 or 15 miles from here, you fall into good country, and it is good country the rest of the way then to Gilgandra. Then, from there you can extend across on to Tooraweena, along the foot of the mountains. Riding north from Breelong you go through Bearbung, Tooraweena, and Tundaburine, till you get to Box Ridge by Gummin. That carries you to the foot of the mountains. Then you can go down past Tenandra, Mr. Irvine's place.
- 1 July, 1899.
3001. Going north-west from Box Ridge, through Tenandra, what is that country like? It is all good country. That good country extends right across to Gulargambone. The distance between Tenandra and Gulargambone is about 21 miles.
3002. How far is Gulargambone from the surveyed line? The surveyed line from Dubbo to Coonamble runs very close to Gulargambone. That line would serve the whole of these people, from the mountains down, provided that it was not carried too far west from here.
3003. It is within, say, a couple of miles of the Castlereagh;—you think it would serve the whole of that country from Tenandra? Yes, because already they have to cart a great deal of their wheat and produce to Dubbo. Last year I bought most of the wheat, and it was carried. A great deal of wheat, grown right up about Gummin, was brought to Dubbo.
3004. From Tenandra to the surveyed line the distance would not be more than 25 miles? No, it would be within 25 miles.
3005. Would that be too far to carry wheat? No; considering that wheat was carried to market last year by team from Box Ridge and about there, which is between 80 and 90 miles, it would be very easy. The price was 3s. 9d. last year, and the roads were fairly good.
3006. In an ordinary season when wheat would be from about 2s. 6d. to 2s. 9d.? It would be almost useless to grow wheat there when the market would be about that price. If they had a railway within 20 or 25 miles they could easily manage to cart that distance, and make wheat pay better at 2s. 9d. than they would at 3s. 6d. now.
3007. Going further on towards Coonamble, what is the country like? I think in fair seasons they can grow very good crops, but it would not stand the weather so well there. The soil would be too rich in a wet season and too hot in a dry season.
3008. It is good fattening country? It would be splendid fattening country all through Calga. After getting through the Calga boundary, I consider it is sheep country then.
3009. You have fairly described the whole of the land now between Mudgee and Coonamble on the eastern side of the proposed line? Yes; to a distance of about 25 miles.
3010. Do you know the country on the western side of the line? Parts of it, I do. I have been as far as Collie.
3011. Generally speaking, is it equal to, better than, or worse than, the country on the eastern side? Parts of it are equal, but taking it right through it is not equal, but still it is good agricultural land right through to Collie, with the exception of a few places. From Mr. Barling's place right out to Berida it is all very good land, and right on to within 2 or 3 miles of Collie, which is about 20 miles from here, I consider there is splendid wheat-growing land. I have been a little distance in this north-western direction, and it is all very good land—that is, to the left of the Castlereagh.
3012. That is all good wheat land? It is all very good wheat-growing country in through there. Many parts along the river, I think, will be good maize-growing land in ordinary seasons.
3013. Do you know anything of the country as you get on towards Dubbo? Yes; I have been through from Gilgandra to Dubbo a few times.
3014. But off the road? Not off the road a great distance. I have not been much off the road, but still I can form a very fair idea of the country by what I have passed through.
3015. What is your opinion of that country? Most of the country is very good. About Balladoran it is particularly good, and also between here and Balladoran.
3016. Do you know anything of the railway reserve through there? I have not been through it. I know the place where it touches near Bobarah, but I do not know the rest of the reserve. The worst land between Gilgandra and Dubbo is, I consider, about from 10 to 13 miles on this side of Dubbo. There is a strip there about 3 miles wide, which I consider the worst land between Gilgandra and Dubbo. It runs almost east and west.
3017. Have you had any experience of railways running through other parts of the Colony? Yes.
3018. Suppose this line is constructed, would the country it passes through compare favourably with that traversed by other railways? Very favourably with many parts.
3019. Do you know of any agricultural district with railway communication where the railway is paying? Yes; I should say the line from Dubbo up through Wellington and that way is paying very well.
3020. Do you know that country? Yes.
3021. Would this country compare favourably with that country? Yes; a great deal of this country will compare very well with the country between Dubbo and Wellington.
3022. When you say that it will compare very well, do you think the average country here is equal to the average country there? Not quite equal to the average, although in plenty of places it is as good, because there are more of the flats—more flats in under the foot of the mountains. If you took out the mountains you would find the percentage of land here quite as good as the percentage there.
3023. Do you deal at all with sleeper getters? A little.
3024. Do you know what half-round sleepers would cost put on the line here? I suppose about 1s. 6d. each.
3025. *Mr. Watson.*] What do they get for taking them into Dubbo? 1s. 6d. a sleeper, and it takes nine sleepers to make a ton.
3026. *Chairman.*] What do you think a half-round sleeper will cost delivered on the line? I do not know rightly what they get for the sleeper, but I think it is 9d. each they get for cutting.
3027. 1s. 9d. would lay a sleeper on the ground at that rate? Close to the line. In many parts I think sleepers could be cut almost on the line. 3028.

3028. Would 2s. 6d. a sleeper, when it is put down, be reasonable? Yes; half-a-crown, put on the line. A. F. Garling.
3029. *Mr. Trickett.*] As a resident of Gilgandra, how do you view the proposal that the line should avoid the town and go some few miles to the west? I think that would make too great a gap between there and the mountains. I think the nearer to the town it can be brought the better, for various reasons. First, it would more evenly divide the country. It would go through a tract of country which will be productive, and it would give people on each side a railway within about 25 miles. Then, again, we have the water here for settlement. The town would have the benefit of water by the river and wells. When you get a few miles out they have not the same chance of getting water. Then, again, the ballast could be got from the river-bed for railway purposes.
3030. As regards the nature of the country for railway construction, how will the country close to the town compare with the country further back? I do not think there will be much difference in the facilities for railway construction. If anything, closer to the town you would be nearer to the ironbark forest.
3031. Is there not a ridge in front of the town which would be very suitable for constructing a line on? There is a little ridging which would be a very good place for constructing a line.
3032. How do the two lines compare as regards soundness of country for railway construction? I think about even. If it were brought across to the eastern side of the river, I think there would be a little more trouble, because there is some flat land, and they would have to form a sort of viaduct to carry the line across it.
3033. I do not speak with regard to crossing the river, but with regard to coming close to the town;—do you think it would be better to go right across the river? I think so, and cross the river just a little way down, and then run slightly on the eastern bank of the river through by Gulargambone.
3034. What about the extra expense of bridging? I think that would be comparatively nothing.
3035. A bridge would be a big item in the cost? You would save that cost in the haulage of timber.
3036. Because you would have creeks and so on to cross? If you avoided one little bridge you would have to create another.
3037. *Mr. Watson.*] You have more creeks to cross on the eastern side than on the western side? You have, but they are very small creeks.
3038. *Mr. Trickett.*] In your opinion, is the town worthy of being touched by the line? Yes; it should not be left out, because it is centrally situated. It is in a central position from Collie, Mundooran, Tooraweena, and all these other places. It is the crossing-place from here to Warren.
3039. Is it a long established township? Since it was a station at one time.
3040. How long has it been a township? You could scarcely call it a township till the last few years. It has been more of a little village; it is only growing of late. Just recently there has been a very good Government building put up in the way of a Court-house, and now they are increasing the size of the School-house.
3041. When these Central Division leases are thrown open, I suppose this part will increase in population? It must increase.
3042. This town will be looked to then as a larger centre? It will be a centre, and a rather important centre too, I think, where the town is situated. It is adapted for that on account of the water facilities.
3043. But I understand that one strong ground you urge is that keeping the line more to the east would split up the country better? It would be more evenly divided.
3044. You have changed your views with regard to the Mudgee line;—you might as well state what you think of the Warren-Coonamble route—whether it would be of any use to people between Dubbo and Gulargambone? It would be utterly useless; it is between 60 and 70 miles from Warren to Coonamble, and the teams are carrying from Dubbo to Coonamble, 100 miles, because of the extraordinary freight, and then the team freight on top of that. The people in Coonamble find it better to get their stuff up by this way now.
3045. I suppose you endorse the general opinion that the more you get to the east the better is the rainfall for agricultural purposes? Yes.
3046. *Chairman.*] Have you any statement to make? No; I have brought in some samples of wheat which were grown to the east of this place, up through Bearbung. It will show the Committee that the land produces very good crops. Last year there were very good maize crops grown at Bearbung, 10 or 11 miles south-east of here. Then grapes—some of the finest grapes I have ever seen—have been grown in this district, about 6 miles out from here to the Marthaguy Creek, by a man named Ranson. In 1898, off 2 acres he took £70 odd.\*

Archibald Campbell Berry, senior-constable, Gilgandra, sworn, and examined:—

3047. *Mr. Watson.*] Have you any statistics with regard to the progress of this district? Before a former Committee in 1898, I gave a lot of statistics; but now I have only the actual area under wheat for grain last year, and the yield, as supplied by me to the Government Statistician. A. C. Berry.
3048. Will you read the figures? The return for the year 1898–9 is as follows:— 1 July, 1899.

	Total Cultivation.	Wheat.	Yield.
	acres.	acres.	bushels.
County Ewenmar, Police District Dubbo .....	460	309	1,264
"    "    "    Coonamble .....	909	326	2,938
"    "    "    Dubbo .....	88	60	360
"    "    "    Coonamble .....	817	220	2,077
"    "    "    Coonamble, Collie .....	134½	.....	.....
"    "    "    Dubbo .....	173	112	392

\* NOTE (on revision):—There were one or two remarks I omitted which are reasons why the railway should be made touch the town, viz.: (1) The large bridge leading into the town across the Castlereagh, which is used by traffic from Mundooran, Tooraweena, Box Ridge, Gulargambone, and Coonamble. (2) There is a Government town at Gilgandra, where a line would pass by on the western side of the town; there is a slight rise about 400 yards from the town suitable for a station; and by crossing the river about a mile below the town, the line would then for most of the way pass along stock reserves, thus saving resumption.



- A. C. Berry. 3049. That would show a range of between 8 and 10 bushels to the acre for last year? Yes.
3050. From your knowledge of the district, do you think that might be taken as anything like an average or a poor return? It is much below the general average.
3051. Owing to the exceptionally bad season? Yes.
3052. At a former inquiry you produced some general statistics with regard to the district? Yes.
3053. Can you produce those figures as being relevant to the present inquiry? Yes; I hand in the following statistics relative to the land and cultivation:—

County Ewenmar, Police District of Dubbo, 1896-97.

Number of holdings.	Alienated lands.		Crown lands.	Total area under cultivation.	Area under wheat for grain.	Total yield of wheat.	Remarks.
	Freehold.	Rented.					
47	acres. 93,324½	acres. 5,280	acres. 262,676	acres. 187½	acres. ....	bushels. ....	The major portion of these Crown lands is far better cultivation land than grazing land.
42	80,090½	5,400	248,410½	231	48	1897-98. 908	The reduction in land this year from last is caused through sales, and the areas being taken in another police district.
32	47,601	990	63,233½	479	75	1,052	County Ewenmar, Police District of Coonamble, 1896-97.
31	42,239½	2,898½	82,432	518½	241	4,787	1897-98. A much larger increase of cultivation will be shown next year.
46	14,816½	780	79,641	276½	77	920	County Gowen, Police District of Coonamble, 1896-97. A very large portion of these Crown lands is more suitable for cultivation than grazing.
49	18,352½	1,364	69,881½	567	222½	4,337	1897-98. A much greater increase in wheat cultivation will be shown next year.

These holdings in both counties are within 40 miles of Gilgandra, and would all assist in supplying produce for the proposed railway. There is an estimated population of between 1,500 and 1,600 within the boundaries of the district.

3054. These statistics were prepared during 1898;—has there been any evidence of increase in population and settlement since then? There is a slight increase.
3055. Whatever change has taken place has been in the way of increased settlement and population? Yes.
3056. You have a good opportunity to come in contact with the farmers and other people settled round the district when you are collecting statistics? Yes; these statistics are collected from them personally every January.
3057. Have you had a number of conversations with them about the necessity of getting better communication? Yes; they have often spoken to me about it.
3058. Does there seem to be a willingness to go in for closer cultivation if a line is constructed? Everyone that has spoken to me on the subject has expressed his intention of cultivating very much more largely if he could get easier communication with the market.
3059. Do you act as Crown Lands bailiff? Yes.
3060. I suppose, then, you have a general knowledge of the character of the Crown lands? Yes.
3061. What percentage of them do you think would be fit for settlement if the Government threw them open? Fully 75 per cent. of the land is suitable for settlement, and there is quite 60 per cent. of that on the eastern side of the river suitable for cultivation.
3062. You think 75 per cent. of the land is suitable for settlement—that is, for combining grazing with agriculture—and fully 60 per cent. of the Crown lands on the eastern side of the river is fit for cultivation? Yes.
3063. Of the Crown lands on the western side of the line, what percentage would you put down as being fit for agriculture there—that is, in view of the later developments on the timbered lands within 20 miles of the railway? Between the Marthaguy Creek and Coolbaggie Creek, I think there is fully 50 per cent. suitable for agriculture—that is, down from Kickabil. You can go west as far as the eastern boundary of Bundemar station, and still get land fit for agriculture. There are selectors there now. I should say it would be about 15 or 20 miles west of the line. There is a fine lot of land down Bugabadah Creek.
3064. From your knowledge of the land generally around this district, you think it is such as to justify the construction of a railway? Yes; I think so.
3065. Is there anything else you would like to mention? There is some land up about Old Arbor which the majority of the people here are frightened of.
3066. Is that ridgy country? It is, but there are some fine flats in it. It is situated south from Breealong, and due east of Balladoran.
3067. Did you hear the evidence given by Mr. Mechin? No.
3068. Is that land about Old Arbor heavily timbered? Yes.
3069. Is it open country or ridgy scrub? Some of it is ridgy scrub and box flats. There is one place they call the Whipstick. It is very thickly timbered; it grows very thickly, but it is only whipsticks and roping-poles. It will be easily cleared. There is some bendee country about there too.
3070. Do you think it is the amount of timber on the land which frightens people from taking it up, or are they afraid of the character of the soil? I think it is the timber, because the soil, in my opinion, is good.
3071. Is it not a fact that there are some settlers out there? On Ranter's Creek, but nothing between Ranter's Creek and Balladoran.
3072. Is that near the place you call Old Arbor? It is about 3 or 4 miles from Old Arbor.
3073. Do you think others would take up land if railway communication were made near it? There are two or three about here who have actually expressed their intention to go in for land if there were a railway here.

3074. At present it is unoccupied Crown lands? The greater portion of the land dotted on the wall map is timber reserve. There is a lot of country there which is really useless as a timber reserve. There is one flat I know which would average quite three-quarters of a mile wide, and it must be 3 or 4 miles long. A. C. Berry.  
1 July, 1899.
3075. That is about 3 miles along the Castlereagh River;—you think that land is useless as a timber reserve? It is all box, yarran, and budda country.
3076. That is not worth keeping as a timber reserve? No.
3077. But it is suitable for settlement? Yes.
3078. In your opinion, a portion of that reserve might be thrown open without any danger to the forests? Yes; and even in through the ironbark ridges. The ironbark ridges out there are not gritty; they are a red loamy soil, and in between the timber is hop-bush, pine, and budda. It is rather a sandy nature; I think it is suitable for cultivation. A man named Paine had 6 acres under cultivation up there last year. Although it was a bad season, he took 16 bushels off 6 acres. You can see some of the ironbark trees standing in the paddock where he cultivated. Other settlers who have gone in for wheat-growing stick to it.
3079. Taking the general run of the country between Dubbo and Gilgandra, has it been your experience that those men who have attempted to make something of the land by cultivation have been satisfied? Yes; they are increasing their areas every year since I have been here.
3080. So that all who have tried cultivation have been comparatively successful? They are apparently satisfied with the results.

[The Committee met at the "Telegraph Hotel," Gulargambone, at 7:30 p.m.]

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.

WILLIAM THOMAS DICK, Esq.

The Hon. WILLIAM JOSEPH TRICKETT.

JOHN CHRISTIAN WATSON, Esq.

ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

James William Taylor, near Gulargambone, grazier, sworn, and examined:—

3081. *Chairman.*] What are you? I am a grazier residing at Warrie, 4 miles north of Gulargambone, down the river. I have 16,000 acres of land. J. W. Taylor.  
1 July, 1899.
3082. Have you cultivated any of that land at all? Yes; I have 150 acres sown now.
3083. Have you had any cultivation before this year? Yes; I put 100 acres in last year.
3084. What was the result? I had not a very good result last year.
3085. You ascribe that result to the dry weather? The fact of the matter is that I did not put it in early enough, and even if I had, I think the season was very much against it. But the year before I had a very good crop. I only put in 8 acres. I sowed only half a bushel to the acre. I did not have it in until August; and I cut  $3\frac{1}{2}$  tons of wheaten hay off 8 acres.
3086. That I suppose led you to increase your area? That is just the reason why I went in for it.
3087. Did you use that wheaten hay yourself, or did you find a market for it? I kept that for my own purposes, and it came in very acceptably too.
3088. The result of that experiment led you to plant a greater area? Yes; it showed me exactly what the ground could produce. The result proved that I could put the land to better purpose than grazing.
3089. It has been suggested to the Committee as an alternative scheme that the connection should be with Mudgee in lieu of Dubbo;—how do you view both lines? I do not know anything about the Mudgee line. I have never been down that way. I think on account of Mudgee being in such a very deplorable state it would perhaps hinder us a long while in getting a railway. The Mudgee line is in a very rickety state. I know all this district not only from Gulargambone to Dubbo, but from here all the way to Coonamble. From Coonamble to Dubbo it is magnificent agricultural land, every acre of it.
3090. A railway coming by this way would throw open any amount of country? Beautiful agricultural land. I know nothing about the Mudgee line.
3091. How far would the Mudgee line be from you? It would be about 16 miles, I suppose.
3092. How far would you be from the Dubbo line? It goes right through my run.
3093. Through your freehold? No; not through an acre of freehold.
3094. So that there would be no land for the Government to resume there? No.
3095. Divesting your mind of that aspect of the case, will you tell the Committee what you know of the trend of traffic, and where it finds its way? The traffic is very great indeed from all these places to Dubbo, more especially in the wool season. I have counted as many as twenty-six and twenty waggons loaded with wool from different stations in one day going from here to Dubbo.
3096. Does any of it find its way over to Warren? No; there is very little going there this year. I am not sure about last year, but all the wool came Dubbo way this year.
3097. At any rate, as far as this place is concerned, there can be no doubt at all that the preference would be for a Dubbo connection? Not at all. I am quite sure we are all very much in favour of the Dubbo route. I know that I am for one.
3098. Have you any other reason for giving a preference to the Dubbo route? No; except that it would save a tremendous lot of haulage. The Warren-Coonamble line I do not think would be altogether a favourable line at all.
3099. You have no market west? No. There is such an extra haulage on the route.
3100. Dubbo is a bit west of Mudgee, and the distance would be a bit longer if you found a market in Sydney;—would Sydney be the market which you would be generally using? Yes; that is the principal market.
3101. Do you think if the Mudgee connection were made you would use that line, or are you too far away to use it? Most certainly I would use it.
3102. *Mr. Trickett.*] What is the freight from Gulargambone to Dubbo now? I think it is about £2 7s. 6d. a ton—that is what it was last year, but it is sure to be more this year.
3103. What would be about a fair average? I do not think it has ever been less than £2 5s.

- J. W. Taylor. 3104. Do you think if a railway were constructed from Gulargambone to Dubbo road-carriage would be an extensive competitor? I think it would not.
- 1 July, 1899. 3105. It has been stated by Mr. Harper that the average freight from Coonamble to Dubbo would be about 35s. a ton over the railway;—do you think, with that average charge per ton, there would be any possibility of the teams competing with the train? Not at all.
3106. Therefore, if the railway were constructed, and the Government stuck to that rate of freight, it would command the greater part of the freight, you think, up to within, I suppose, a few miles from Dubbo? I think it would command nearly all of it.
3107. What do you look upon as the chief feeder for a railway from a district like this? I think the extensiveness of the agriculture. I think this district will be nothing but an agricultural district if we have a railway. There is no doubt that it would be a splendid way for us to get our sheep away. It costs us about 2s. 2d. or 2s. 3d. a head for every sheep we land in Sydney with the present state of the stock route.
3108. Are there many sheep sent from here to Sydney, or do a lot of the sheep go to the boiling-down works? There is a good number of sheep going to Sydney, and there would be a lot more sent if we had ways of getting them down. There is no feed on the stock route at all. If we send our sheep they are famished when we put them in the trucks at Dubbo; they are almost unfit for market by the time they get to Sydney.
3109. Are cattle grown here much? Not just about here; but I think there are a number of stations down below Coonamble which go in very extensively for cattle.
3110. Have you watched the development of agriculture in this district? Very minutely.
3111. With regard to a great deal of unattractive looking land, what has been the result when it has been taken up and cleared? It gives excellent results.
3112. Pine country? Splendid results.
3113. And ironbark country? Yes. Of course, there is not very much ironbark just here; but I have known that country to give splendid yields of wheat.
3114. How far would you be from the Mudgee line? Only about 16 miles. I think it comes through Mr. Irvine's place—Tenandra.
3115. Of the three routes to Coonamble, which line, in your opinion, will be the best as splitting up the country when it comes abreast of Gulargambone? In that way, I suppose, the Mudgee line would be the best. I think it would split up a good lot of country.
3116. Is there much good land between where the Mudgee line is marked and the Warrumbungle Range? I do not know; I have never been across that way.
3117. But the railway could not be of any service to the country on the other side of that range? I really could not tell you that.
3118. Do you know the exact route of the Dubbo-Coonamble line? Yes.
3119. What do you think of that line as regards its route, and as regards its going away from Gilgandra;—do you think that is desirable, or would it be better to bring it up to the town? I think it would be better to take the line where it is marked on the map.
3120. You think it should go as straight as possible? Yes; I am sure it would be the cheapest and best way. The route is a straight line, and would not interfere with the township in any way.
3121. The line is surveyed about a couple of miles from Gulargambone? Yes, it is about 2½ miles from here.
3122. Does that meet with the general approval of the people here? Yes, principally; but I think most of the residents at Gulargambone would rather see the line come down on this side of the river.
3123. Even with the railway constructed as proposed, you would have to cross the river from the town? Yes.
3124. There is no bridge? No bridge?
3125. Is the river always crossable? It has been crossable here for the last three years.
3126. But in ordinary weather, when you get your ordinary rainfall, can you generally get across, or would it necessitate the construction of a bridge if the traffic increased by very much from this side? It would necessitate the construction of a bridge. There are tremendous quicksands in this river when it is running. It is very dangerous.
3127. Independently of the Sydney market, which you said you make for, is there any other outlet for the produce or the stock of this district? Dubbo.
3128. Is there a market out towards Coonamble and beyond there? I do not know, except for fodder. We are going to erect a mill in Coonamble. We are talking very much of it, and it would be a big thing to send wheat over to the mill at Coonamble.
3129. About what is the carrying capacity of the country here for sheep? I think about a sheep to the acre.
3130. That is in an ordinary season? Yes; year in and year out.
3131. Assuming that it carries a sheep to the acre, would it be better to keep on with the sheep or to clear the land and go in for agriculture? Decidedly agriculture.
3132. Can you state how many bushels of wheat to the acre have been obtained here in a fair season—that is, for a crop of some extent? I have been told that about this district there have been yields as high as 40 bushels to the acre.
3133. That would be rather out of the way;—what would be about the average? I should think this country would yield an average of 22 bushels to the acre.
3134. That is a very good yield, is it not? It is; but I think this country is quite capable of doing it.
3135. But a farmer getting regularly a yield of something under 22 bushels would look upon the crop as a paying crop? I think 16 bushels to the acre is a very paying crop.
3136. What price per bushel could be looked upon as a fair average price to remunerate a farmer? I consider that if we get 2s. 7d. a bushel it would pay us.
3137. Is that the price which is generally procurable, as far as your observation has gone? The price of wheat recently has been much higher than that. I think an average price of 2s. 7d. a bushel would pay a person to go in for growing wheat.
3138. Is there any other farm product which you think would be gone in for to any large extent? Yes; lucerne and corn. I think nearly everything in the way of produce could be grown in this country.

3139. Has anyone tried to grow lucerne and corn? Yes; we have had some wonderful yields of corn in this district. Mr. Skuthorpe on the adjoining station, Gulargambone, had a yield of 70 bushels to the acre. J. W. Taylor.  
1 July, 1899.

3140. As we went from Dubbo to Gilgandra we were told, and saw evidence, of increasing agriculture;—I suppose they have not got out here to any extent yet? From what I hear a number have gone in very extensively for cultivation of late. I think Mr. Keogh, of Warrina, has over 100 acres in, and Mr. Tobin, of Wingadee, has 70 acres. He bought a property on the river here recently—he is going in very extensively for farming, I believe.

3141. About what percentage of the land within 10 or 15 miles of the railway about here do you consider fit for agricultural purposes? I am quite certain there is about 80 per cent.

3142. Up this part of the line? Yes.

3143. Although some little while ago this pine and scrub land was always looked upon as unfit for agriculture;—has actual experience in this district shown that when it is cleared and ploughed it produces good results in wheat-growing? Yes.

3144. That is actual experience, not conjecture? Yes. That pine country not only in this district, but in other districts gives good results.

3145. *Chairman.*] Is there anything else that you would like to say? No; I think I have told you all I can tell you, with the exception that I am quite certain in my own mind that a railway will pay from the very start from here to Dubbo. I am not speaking from a selfish point of view, because it is perhaps more than likely I may not be in the district very much longer.

3146. Is there much Crown land in the district? There is a tremendous lot of Crown land.

3147. The leases will be falling in within twelve months;—do you think there will be any great demand for that land for agricultural purposes? That all depends. I really believe it will be in demand.

3148. You are pretty certain that there will be a demand for the land if a railway is constructed? If a railway comes I am certain of it. I really believe that this district will be another Narramine.

3149. If it does not come I suppose it will remain pastoral land? Yes; it will be no good for cultivation. Unless the railway comes we cannot get our stuff away.

3150. I suppose if you go in for agriculture here it will carry a much heavier population than it does when it is under sheep? Yes; and we should be able to carry more sheep than we do. We could have agriculture at the same time.

3151. *Mr. Trickett.*] Is it bad country for travelling on by team, when you get a slight rainfall? It is terrible country.

3152. That is a great hindrance to your getting your produce regularly to market? Yes; it is not only a hindrance to the transit of the produce, but it is a hindrance to a person if he wants to drive. I left here in the coach one night at 9 o'clock, and at half-past 3 o'clock in the morning we were only 4 miles from here, and this part of the country between here and Armitree Plain is comparatively good to what it is in the black soil.

John Kearney, farmer, Gulargambone, sworn, and examined:—

3153. *Chairman.*] What is your occupation? I am half a farmer; I used to be a storekeeper here; I sold out, and retired from the business. J. Kearney.  
1 July, 1899.

3154. *Mr. Watson.*] You are still farming? Yes; I am living on the farm, which is on a township about a mile from here. I have been in the district twenty-one years.

3155. You are acquainted with the different proposals to reach Coonamble by railway? Yes.

3156. Leaving out of account the proposed line from Warren, will you give your opinion as to the desirability of adopting the line from Dubbo or the line from Mudgee? I am in favour of adopting the Dubbo line.\*

3157. Can you give any particular reason for that preference? Nothing personal.

3158. But you must hold some reason for preferring the Dubbo route? I think it would suit this place and Coonamble much better than any other line which could be constructed, and they would have the railway much sooner anyway.

3159. Leaving out of account the question of time, do you think it would be a better line to construct from the local point of view as well as the national point of view? From the national point of view the Mudgee line is the better. I think it would open up more agricultural country, and country of a better class too for agricultural pursuits.

3160. What part of the line between Mudgee and Gulargambone would be better fitted for agricultural pursuits? I may say all the portion lying west of the Warrumbungle Mountains.

3161. Where would it start—that is, towards Mudgee? I think it would start somewhere about Cobborah.

3162. You think there is good country from that onward? There are little ranges of mountains intervening—ridges and that sort of thing. There is some rough country in there, too; but there is a great deal of agricultural country lying in there.

3163. How far east of the line surveyed between Mudgee and Coonamble would the Warrumbungles lie? In places not 6 miles, in places not 3 miles.

3164. Could the average distance from the Warrumbungle Mountains to the line be called 10 miles or 15 miles? It would average about 6 miles until you get into ridgy country.

3165. There would be an average of 6 miles of good country on the eastern side of the line? In some places 10 miles; in some places not 3 miles; but an average of about 6 miles.

3166. There would not be a great deal of traffic drawn from an area of country 6 miles wide on the eastern side of the line? No; unless it were wool. There are a great many wool producers on that side of the line. There are Mr. Ferguson, Mr. Brown, Mr. Dowling, Mr. Irvin, Mr. Featherstonhaugh, and all along to Goorianawa and Calga.

3167. On one side of the line you say you have an average of 6 miles that is fit for agriculture? I did not say it would be all fit for agriculture. I said an average would be between the ridges and the line.

3168. Is it fair to assume that the greater portion of that country is fit for agriculture? I presume that part of it will be fit for agriculture.

3169. On the western side of that line would there be a wider area fit for agriculture? Yes; it would be very nearly all fit for agriculture right in to the Castlereagh. 3170.

\* NOTE (on revision):—I should prefer the Dubbo route if it came close to the river at this place or crossed the river at Curban.

- J. Kearney. 3170. How far west would that extend—20, 25, or 30 miles? No; it is only 15 or 16 miles from here to the railway line.
- 1 July, 1899. 3171. I am speaking of the country down a bit further;—what would be the average character of the country along the line on the west side? Of the country on the other side of Mudooran I know very little. I know there is a great deal of land lying down the Talbragar, which is fit for agriculture, and a great deal up the Talbragar too. That would be on both the east and west sides of the line.
3172. How many miles would be the limit from which the line could draw this traffic on the western side for agricultural purposes—20 miles or 30 miles? I suppose the line would be supplied 30 miles away.
3173. If on one side you have 6 miles of agricultural land, and on the other side 30 miles of agricultural land, would it not be a better idea to take the line further west, and thus more nearly cut the good land in halves? I daresay it would, but anyone who would bring produce from the mountains would have to cross the Castlereagh, if the line were on the other side—and that is an argument for the Dubbo line—and that is not always crossable.
3174. At the present moment we are not thinking of the crossing of the river, which, after all, means only the matter of a bridge. The point I wished to get at was, whether you thought it would not be a proper thing to take a line as nearly as possible right through the centre of your agricultural area? I think it would be the wiser plan.
3175. And more likely to result in a large quantity of traffic for the railway? Yes. The line from Dubbo will, in my opinion, split the agricultural country up better than the other, because there is only a strip 5 or 6 miles wide on the eastern side of the Mudgee line.
3176. While on both sides of the Dubbo line you have an area of very good agricultural country? There are 30 miles on each side.
3177. You think the Dubbo line would better split up the agricultural country? I think so. It would better divide it, anyway.
3178. And, presumably, it would have a better chance of paying from that cause? Of course it would. It would be supplied from the mountains as well as from other sources here.
3179. The objection you urge against that is the necessity of crossing the Castlereagh? Yes.
3180. At Gilgandra there is a bridge;—is there any other bridge between Gilgandra and Coonamble? The next bridge is at Coonamble.
3181. Looking at the matter from the agricultural standpoint, at the time you are drawing wheat, is the river difficult to cross in an ordinary season? It is always difficult to cross in dry seasons as well as wet, more so in the wet seasons because of the quicksands.
3182. But in a dry season it is difficult to cross? It is. It is a bad river to cross at any time of the year.
3183. There are no natural rock bottoms you know of which would assist the crossing? No; there are 6, 7, and 8 feet of sand under your wheels wherever you go, in places 20 feet of sand.
3184. In ordinary seasons is there much water in the river after harvest when wheat is being drawn? I have never taken notice of it. Within the last four years we have seen the river running, I think, about once or twice in the winter.
3185. That is rather out of the ordinary? That is out of the ordinary because we have seen it a banker here often and often and had it uncrossable for weeks at a time.
3186. That is usually in the winter? Yes.
3187. You would not want to be drawing wheat at that time? No.
3188. Do you think you would get a load of wheat across there at the present time? It would be according to what quantity you would consider a load.
3189. Say 5 tons? It would take two teams of horses to draw 5 tons across the river.
3190. Would it not be possible for a man, when he was drawing wheat, to double-bank when he got to the river and get across in that way? That is what he would have to do. They have repeatedly done that. Hardly any team is fit to cross the river singlehanded.
3191. If agricultural settlement developed rapidly on the eastern side of the river as a consequence of railway connection being made, it is possible that the Roads Department might put in one or two bridges along the line? Yes.
3192. Do you think that would involve a very great outlay? It would involve a very great outlay because it is a very wide span to cross. Any crossing on this river is very wide.
3193. Did you ever hear what the bridge at Gilgandra cost? No.
3194. You think there would be a necessity to bridge one or two of the crossing places if agricultural settlement increased? I do indeed, and here in particular.
3195. How close would it be necessary to have bridges to assist agriculturists on the eastern side? I think that would entirely depend upon where you had your sidings or stations.
3196. Assuming that the sidings or stations are made to suit the bridges, where do you think you would need them, say, from Gilgandra to here? One at Curban, and one at Gulargambone.
3197. Do you think there would be much agricultural development between Gulargambone and Coonamble? There is a great deal of cultivation down that way.
3198. How many bridges do you think you should need? I do not think they should require any bridges.
3199. These two additional bridges you think would be sufficient? For the present, any way. As agriculture extended, I suppose that requirement would be met.
3200. If two additional bridges were made, do you think the line on the western bank of the river would fairly serve the settlers on the eastern bank, and for some distance back? I do indeed. I am further of the opinion that if the line were taken across from the western to the eastern bank of the river at Curban, there would be no necessity for road bridges.
3201. How would the settlers on the western bank of the river get on? I think there are but very few from Curban down to Gulargambone. All the men who go in for agriculture live about Curban.
3202. Is there any good land between Curban and Gulargambone on the western bank side of the river? Yes; but it is not utilised.
3203. We are assuming a different state of things, and that the good land will be utilised? There is plenty of good land there.
3204. So that although there may not be settlers to-day, the probability is if the line were taken on the eastern bank of the river, there would then be settlement on the western bank to provide for? Yes; there would.

3205. In either case you are faced with the difficulty of getting access to the line from one bank of the river? Yes; we should still require one bridge.
3206. You would require one road bridge and railway bridge which takes the line across? Yes.
3207. A railway bridge would be more expensive than a road bridge in all probability? Yes.
3208. You are faced with that difficulty whichever way you look at the matter? Yes; but still all the timber requisite for the construction of a railway bridge is to be found within 4 or 5 miles of Curban.
3209. Summed up, then, you are in favour of the construction of the line from Dubbo to Coonamble? I am.
3210. But, in default of that, you would like to see one constructed to Mudgee? I should like to see railway communication to Coonamble from that point.
3211. I gather from your evidence at the previous inquiry that you are not in favour of the route from Warren to Coonamble? Under no consideration.
3212. It would be of no value to the people of this district? We should never use it, except for parcels.
3213. The only line which would serve you would be a line from either Dubbo or Mudgee, and you prefer the line to go from the latter point? I prefer the former.
3214. Is there anything else you would like to add? No.
3215. You heard what Mr. Taylor said of the productiveness of the district generally;—can you substantiate his evidence? I can endorse all he said as to the productions of the district.
3216. And what it could do if you got railway communication? Yes; in favourable seasons.

J. Kearney.  
1 July, 1899.

Thomas Hetherington, grazier, near Gulargambone, sworn, and examined:—

3217. *Mr. Dick.*] Have you resided long in this district? Eight years.
3218. Do you know the country to be served by the proposed railway from Dubbo? Pretty well.
3219. Do you think the construction of a railway along that route would lead to development in agricultural pursuits? Yes; I think it would lead to a very extensive development.
3220. Is it good agricultural land all the way as far as Coonamble? Generally it is.
3221. Have you anything to add in support of the line from Dubbo to Coonamble which has not been given by any of the previous witnesses? No; I have nothing particular to add.
3222. Do you go in for any cultivation yourself? I go in for a little.
3223. If the railway were constructed, would you be led thereby to go in for agriculture to a larger extent? Yes.
3224. Do you think, in order to make the land in this district pay the agriculturists, it is absolutely necessary that you should have a railway? I think so. We shall never make the land pay for agriculture until there is a railway.
3225. You would be practically about 12 miles from the route of the proposed line? Yes; about 12 miles from here.
3226. Taking the country east from Gulargambone, right out to the Warrumbungles, is it in the main good agricultural land? It is principally all agricultural land from Gulargambone right out to the Warrumbungles.
3227. How far east is that? It must be a little over 20 miles, I think.
3228. Taking that stretch of country between the proposed line through Gulargambone and Gilgandra on the one side and the Warrumbungles on the other, is it in the main good agricultural land? Yes.
3229. Is it likely to be brought into immediate development by the construction of a railway? Yes.
3230. You know, of course, that there is an alternative route suggested from Mudgee? Yes.
3231. Have you had any opportunity of considering that project? I do not know much about that line; I have never travelled it.
3232. In the case of a bad season there, do you think you would find a market for fodder crops out among the pastoralists centred round Coonamble and to the north? Yes. There would be a market in dry seasons for chaff, and so on.
3233. *Chairman.*] Is there anything else you would like to say? You referred a while ago to agriculture in pine country. I have cultivated a piece of pine country to a small extent, and it yields very good crops.
3234. Is the result of your experiment encouraging? It is very encouraging.
3235. Have you ever tried to cultivate ironbark country, not the ridges? I do not know anything about ironbark country.
3236. Have you ever seen any of that country under cultivation? No.

T.  
Hetherington.  
1 July, 1899.

John Edwin Williams, first-class constable, Gulargambone, sworn, and examined:—

3237. *Mr. Shepherd.*] You have prepared, I understand, a return showing the agricultural statistics of the district? Yes; a return from the collections made in January.
3238. What is the extent of the district in which you collect the returns? It extends down the river—that is, north towards Coonamble—as far as Bennett's Flat, which is 14 miles from here; it goes 24 miles west of Gulargambone, as far as Curban on the south-east, 17 miles; to the Warrumbungle Mountains on the east, and as far north as Wingidgeon, 40 miles from here.
3239. Will you now be good enough to read to the Committee the return which you have prepared? It is as follows:—

J. E.  
Williams.  
1 July, 1899.

STATEMENT of agricultural returns collected by Gulargambone Police, January, 1899.

Area—510 acres for hay yielded.....	193 tons.
560 „ wheat yielded.....	2,000 bushels.
160 „ miscellaneous crops, including maize, almost a total failure.	

Total..... 1,230 acres.

The area under cultivation this year is about the same as last year; it may be a little more, but the difference is not much. The wheat crops at present look well.  
Approximate estimate of population, 1,180.

3240. You have gone round and seen the people in the district under your supervision? I have travelled to each person's place.

3241.

J. E.  
Williams.  
1 July, 1899.

3241. Do these people seem satisfied with their prospects? I have only been here a little over a year. It has been a drought nearly all that time, and naturally the people are suffering. Their prospects are not very good. In a great many instances they have had to remove their stock. Their crops were not satisfactory this year. Those who were cultivating were very dissatisfied with their returns.
3242. Do you think they are looking forward to better times, or are they thinking of trying to leave the district? I do not think they are trying to leave the district. I do not know anyone settled on the land who is speaking of leaving the district.
3243. They attribute the smallness of their returns to the drought? Yes.
3244. Under more favourable circumstances they would expect a very large increase? Yes; many of them have told me they have had splendid crops off the same land when they have had suitable seasons.
3245. As you have only been here a short time, you are not aware of the character of the crops they get? No; I have never seen any very good crops.
3246. Have you any other information to furnish in connection with the progress of the district or the likelihood of its progress? No.
3247. You think there is a slight increase in the area under cultivation this year as compared with last year? Yes; there are persons preparing land. It is principally at the foot of the Warrumbungle Mountains, on the east side, where the increase is taking place.
3248. Has fruit been grown in the district to any extent? No; it is not grown to any extent.
3249. Just a few peaches grown here and there, I suppose? Yes. I do not think there is 1 acre of an orchard or a vineyard anywhere in the district; just a few fruit-trees here and there.
3250. Did you think that the few trees you saw are doing well? Yes. I saw some very fine fruit this year, particularly grapes. This is a great grape country; the vines do well here.
3251. You think, on the whole, the settlers in the district are looking forward hopefully to better times? That is my opinion.
3252. What is about the size of an average holding? There are a good number of leasehold areas from 2,500 acres to as high as 4,000 acres.
3253. Are there many freeholders amongst them? A great number of freeholders.
3254. Have you any idea of the extent of the holdings of the freeholders? I can tell you the area of freehold land in the district, but not how it is distributed amongst them.
3255. Will you give the area? The total area of alienated land in the district I have described is 113,882 acres, of which 1,733 acres are let from private owners.
3256. Have you ever been engaged in agricultural pursuits? Not very much. I have done a little maize-growing. I assisted when I was at home.
3257. I supposed you are able to form an opinion of the character of country when you see it? I do not profess to be a judge, but still I think I would know good land from bad land.
3258. What is your opinion of the land in this district? I think the timbered country in this district is all good agricultural land, but the plains, in my opinion, are not good for agriculture. They are scalded—they seem to burn up too much; they get too hard during the summer.
3259. Do they produce good grass? Fair. Since I have been here I have never seen any great length of grass, but it has been a dry season.
3260. For agricultural or pastoral purposes they are not so good as bush land? The graziers say the myall plains are the best grazing country. Out on the Warren line this year the only man who had a crop of hay had it in a sand bed. It was a pine scrub which had been ringbarked and cleared. He put in 8 acres of scrub land and 8 acres of plain land for wheat. From the 8 acres of plain land he got no return, and from the other he got nearly a ton to the acre.
3261. How do they usually provide water for their stock? Large tanks and dams. It is very good holding country in most places, especially in these plains.
3262. Water is readily got by sinking? Not always. It is surface water they get in the tanks; they depend on the rains.
3263. At what depth do they generally get water by sinking? Just about Gulargambone they get water within 15 feet. I have known places where they have bored down 150 feet, and could not get water in numerous places.
3264. Is it a fact that by sinking a very short distance in the river beds and the creek beds they can get a large supply? In the river. I do not know about the creek. In the river above here you can scrape sand out with your hands and get a drink of water.
3265. Have you any knowledge of the Crown land which is likely to be thrown open to selection within the next year? Portion of it I have, and that is the Tundaburine holding.
3266. Does that prove good land generally? Very good agricultural land.
3267. There is a very large extent of it, I believe? Yes; I do not know how much is going to be thrown open. There are 75,000 acres of leasehold there, but I do not know how much of that area is conditional lease.
3268. *Mr. Trickett.*] Do you think the land which is going to be thrown open there would be more suitable for agricultural than pastoral purposes? I am not quite sure where he is going to consolidate. There is a lot of leased land in box-timbered country, which is very good agricultural land. There are some selectors there who have really good crops, and if that portion—and there are thousands of acres of it there—is thrown open it will make splendid farms; but if it is out on the plains it will not be so good to the farmers.
3269. *Chairman.*] Suppose the pastoralist acquired by consolidating all that good land, do you think it would pay to rent land here? Yes; in that particular place a man who was paying a good rent, I do not know the exact rent, made a good living on 200 acres rented from Mr. Brown. He had it all under cultivation, and he seemed to consider that it paid him. He has got a lease now at Narramine.
3270. Where did he find a market for his produce? At Coonamble this year. He never harvested it himself; he sold it as it stood to a firm of forage dealers in Coonamble.
3271. They bought the crop for hay, I suppose? Yes, very little of it was harvested for wheat.
3272. You have heard it stated that in all probability land such as you have described—good agricultural land—will be devoted to agriculture, and pastoral pursuits will be given up on that land;—do you think that will be so? I do not know. If it is in small holdings no doubt it will. If it is thrown open in small holdings it will be cultivated. If it is in larger leases I think it will be used as pastoral land. I have

have heard that it is to be thrown open in blocks of 300 acres or 400 acres to suit farmers. It is not surveyed yet.

J. E. Williams.  
1 July, 1899.

3273. You do not know sufficient of agricultural pursuits to be able to say whether an area of 300 acres or 400 acres is enough for a man to get a decent living out of? Yes, under agriculture in that country it is enough. The man who rented 200 acres made a good living.

Gideon Rutherford, station manager, near Gilgandra, sworn, and examined:—

3274. *Chairman.*] What are you? I am manager of Tugland, for Messrs. Goldsbrough, Mort, & Co.

G. Rutherford.  
1 July, 1899.

3275. In what direction is Tugland? It is 8 or 9 miles on the road from Gilgandra.

3276. Will you make the statement which you wish to make? I came to Tugland about two years and ten months ago. It was a very bad time, as everyone knows. I was very busy. I only had one man to help me on 15,000 acres, but I determined to have a little bit of a crop if I could. I had not time to plough the land, so I sowed seed on an acre of ground and harrowed it in. I got over a ton of wheaten hay off it. I have some of the wheaten hay still.

3277. Was the land you sowed a fair sample of the whole of the land? It is a very fair sample of the box country. One great mistake is made by all the witnesses I have heard so far. They describe the ironbark country here as the same as the ironbark country in Victoria, which it is not. In New South Wales it is a red ironbark, and when it is taken out the land will grow a good crop; but in Victoria that country is utterly useless when you do take it up. The ironbark here, as far as I see, is very rotten. It is not the same kind of ironbark as grows in Victoria, or on towards the Murray. I have been down there and round Lake Cudgellico. It is not the same ironbark as is grown round there; it is a very different kind. When it is taken out here I am under the opinion that the land will grow very nice crops.

3278. Is the soil it is growing on different? Certainly. This ironbark country here will grow kurrajong, but the ironbark country down there will not. Most farmers look for kurrajong country to grow a crop in.

3279. How much land have Goldsbrough, Mort, & Co. in that holding, and what do they use it for? The greatest part of the holding is put to the use of grazing. This last year I am trying to put in 100 acres of cultivation—not in the kind of country which has been described, but in myall plain country. But the rest of the country, I should think, is about 15,000 acres of grazing country—pastoral, if you like to call it so.

3280. What is the carrying capacity in ordinary seasons? About 3,500 sheep.

3281. It carries about a sheep to 3 acres in an ordinary season? Yes; but you must recollect that 10,000 acres of it are not improved.

3282. *Mr. Watson.*] The reason why it is not improved is because the lease will fall in shortly? It falls in this month.

3283. What do you think the improved country, just about where you are, will carry in an ordinary season when it is ringbarked? I think country which is improved will carry a sheep to 2 acres, if watered; if 3s. 6d. an acre is spent, it will carry two sheep to the acre.

3284. *Chairman.*] About what proportion of that lease which is falling in is good agricultural country, do you think? I consider all of it would be.

3285. *Mr. Shepherd.*] I should like to get some particulars about the crop you got by simply harrowing the ground:—in the first place, what kind of harrow did you use? Just the ordinary barrow.

3286. Was it loaded at all? I stood on it.

3287. Did you harrow and cross-harrow? No; I simply harrowed once.

3288. Did you roll the grain under? No.

3289. Did you ever hear of a crop of wheat being produced in that way before? I never did. I considered that the cost of the wheat was so little that I would risk it. The ground was almost like sand at the time. I knocked up the sand, and I got a very good yield, much better I was told than people who ploughed their ground that year.

MONDAY, 3 JULY, 1899.

[The Committee met at the Council Chambers, Coonamble, at 10.30 a.m.]

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.

ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

William Makin Thomas, staff surveyor, Department of Lands, Dubbo, sworn, and examined:—

3290. *Chairman.*] How long have you been stationed in the district? Three years.

W. M. Thomas.  
3 July, 1899.

3291. During that period have you had the opportunity of visiting most parts of the district to be served by the proposed railway from Dubbo to Coonamble? I have been over the whole of the district repeatedly.

3292. With the aid of this map, which shows the land for 20 miles on each side, will you describe the country to be served by the line? For about 10 miles from Dubbo the land on the western side is chiefly good agricultural country. For 15 miles beyond that—that is up to about 25 miles—it is patchy; but there is very good agricultural country and there is some of it poor. About two-thirds of that country will be agricultural country, and the remainder will be poor country. From there until you enter the valley of the Castlereagh, about 36 miles from Dubbo, you get agricultural country. From that point to Coonamble, on the western side, you will have first-class agricultural country and pastoral country. Almost the only limit to your agricultural country is the rainfall. The country on the bank of the Castlereagh, for about 2 miles to 2½ miles from the river, is the richest of alluvial country, formed by the washing down of the sandstone hills and the rich detritus from the volcanic range of the Warrumbungles and the old sandstone range. That is a rough description of the western side of the line. Now, on the eastern side for the first 10 miles out of Dubbo, the land is good, agricultural land, but there is only a narrow portion of that which will be served by this railway. For the next 15 miles—that is to a point 25 miles from Dubbo,



W. M.  
Thomas.  
3 July, 1899.

Dubbo, the land on the eastern side is very patchy. On the banks of the Coolbaggie there is some good agricultural land, and there are strips of good agricultural land intersecting the great ironbark forest; but the ironbark country itself—not the box-country in which ironbark grows, but ironbark country, with a soil formed of poor, white clay mixed with ironstone gravel—that country is only fit for growing what it is growing at present, namely, ironbark, and it is more valuable for that purpose than any other purpose to which man can put it.

3293. What area of that country is there? There will be fully two-thirds of the country on the eastern side, in that 15 miles which will be from fair to poor for agricultural purposes.

3294. *Mr. Watson.*] The remaining third is what? Country which will produce sufficient to pay any man to take it up and work it at once, and compete successfully with the good land on the other side.

3295. *Chairman.*] The remaining third consists of box flats? Yes, and alluvial country close to the water-courses. In these questions it is a matter of comparison largely.

3296. *Mr. Watson.*] That description brings you to a point 25 miles from Dubbo on the eastern side? From that point to the Castlereagh at Gilgandra, about one-half of the county on the eastern side will be good agricultural country.

3297. *Chairman.*] How will you describe the other half—from fair to poor? A good deal of it is only fit for growing timber. From Gilgandra to Gulargambone you have the same, rich, agricultural country on the banks of the Castlereagh, and for an average of about 4 miles east of this bank. East of that strip again is poor scrubby country, unsuitable, I think, for agricultural purposes, and only capable of small stock-carrying capacity. From Gulargambone to Coonamble you have a rich, agricultural country, and rich, pastoral country also.

3298. Within 20 miles north of Coonamble, what is the character of the country? For 10 miles from Coonamble, north-west, about one-third of the country will be suitable for agriculture; the rest is chiefly very rich pastoral country. In my opinion the black soil plains are not suitable for agriculture, but experience may show differently. They have never been properly tried yet. The formation of black-soil plain is this: The subsoil is a hard, dark blue or black clay; and the surface soil is extremely fine, owing to the slow flow of the water which has formed it. The sand from the old sandstone range and the heavier portion of the detritus from the volcanic range have been caught before reaching the black-soil plains, leaving an extremely fine earth only to be deposited on them. This extremely fine earth, together with the heavy clay subsoil, is a big impediment to the proper drainage necessary for agricultural land. That is my reason for saying I think these black-soil plains will not be suitable for agriculture. They are as rich pastoral country as one can get. For the other 10 miles, one-half is largely scrub country, suitable for agriculture, but with a somewhat limited rainfall. The rainfall is about 22 inches; but it is not a question of the quantity—it is a question of the diffusion. The remaining area is excellent, pastoral country.

3299. Are you acquainted with the country along the line from Mudgee to Coonamble? Only the portion which is within the Dubbo district.

3300. *Mr. Watson.*] Will you state the boundaries of the portion you know according to this map? The country from Cobborah to about 20 miles north of Mundooran would not be served by the Dubbo-Coonamble line. Around Cobborah there is a valley of very rich agricultural land with a good rainfall—that also applies to the country immediately around Mundooran; but there the extent of agricultural land is smaller.

3301. What is the character of the country between Cobborah and Mundooran? The country between Cobborah and Mundooran I do not know so intimately. From Mundooran, north-west towards Toorawcena, the country is poor scrubby ridges. Round Toorawcena and following the course of the small watercourses there are areas of good agricultural country. From there you reach land which I know will be served fairly well by the Dubbo-Coonamble line, and you are on the edge of the Dubbo district. Coonabarabran is outside the Dubbo district. While we are on the question of rainfall perhaps I may be permitted to hand in an analysis of the rainfall during agricultural months, for twenty-five years, in the Coonamble district east. I have given the averages for the months of March, April, May, June, September, and October. I have also analysed these months in pairs—March and April, May and June, September and October, and in a summary I have given my own opinion of these averages—that is, that it will give nine years of good crops, five years of bad crops, six years of small crops, and five years when there will be practically no crops. I would point out that this period of twenty-five years which I took as being a quarter of a century begins with 1874, 1875, and 1876, which were three bad years, and ends with 1897, 1898, which were three years of shortage in the rainfall. In preparing this summary I took that fact into account.

3302. Will you be good enough to read the return? It is as follows:—

ANALYSIS of Rainfall during Agricultural Months, for twenty-five years, in the Coonamble District East, *i.e.*, from 1874 to 1898 inclusive.

Month.	Average rainfall.	Average wet days.	Years when rainfall was—			Years of useless rain.
			Below the average.	Equal to the average.	Above the average.	
	in.					
March .....	2.13	4	14	0	11	9
April .....	1.50	3.5	13	6	6	8
May .....	2.03	5.0	13	3	9	11
June .....	1.65	5.0	10	5	10	7
September .....	1.35	4.5	14	1	10	13
October .....	1.77	4.0	10	5	10	8
March and April .....	3.61	7.4	15	1	9	5*
May and June .....	3.70	10.0	13	2	10	3*
September and October .....	3.12	8.5	11	7	7	5*

\* Below 1.5 inches.

Average annual rainfall=22 inches.

*Summary.*—Nine years, good crops; five years, fair crops; six years, small crops; five years, no crops.

The years of useless rainfall, *i.e.*, a rainfall less than 1.5 inches, in either pair of months—March-April, May-June, September-October—were 1874, 1875, 1876, 1880, 1885, 1888, 1895, 1896, 1897, 1898. Total, 10

It will be noted that this period begins and ends in three bad years.

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The rainfall is so uncertain in March, sometimes so heavy and sometimes so small, that in the twenty-five years' period there are no years within a small decimal of the average. Our good average months, when the rain is well diversified, are April, May, June, and October. The number of years when the rainfall was above the average was in March, 11; April, 6; May, 9; June, 10; September, 10; and October, 10. In ascertaining the years of useless rainfall, when the rainfall was so small and so distributed as to be useless, I had to take both things into account, so that I cannot give the quantity. I had to use my own discretion. If there were ten wet days, and  $1\frac{1}{2}$  inch of rain, and the ten wet days were distributed over the whole month, that is of very little use; but if there were three wet days, and  $1\frac{1}{4}$  inch of rain, that is a useful rainfall. As regards the groups, March and April I took to be the ploughing months, May and June the sowing months, and September and October the months when the crop must get the rain to fill the ear. From the data that in ten years the rainfall was in any one or more of the groups below  $1\frac{1}{2}$  inch for the two months, I have drawn the deduction that, out of twenty-five years, in nine years there will be good crops, in five years fair crops, in six years small crops, and in five years practically no crops.

3303. *Chairman.*] That statement covers the country to be served by the proposed railway? It covers the smallest rainfall country—that is, the country from Coonamble east. That would not apply to the country from Gilgandra towards Dubbo, where the rainfall is heavier and more diversified.

3304. *Mr. Watson.*] Would it apply to the country immediately east of Coonamble, right down to Gilgandra? It would apply to all that country and the country in towards Coonabarabran, increasing slightly as you reach Gilgandra and as you go up towards the mountains.

3305. *Chairman.*] I suppose you have often come in contact with the settlers? Yes.

3306. Taking into account the rainfall, have they expressed any opinions to you as to whether agriculture would be a success if entered upon in those portions which you have described as being fair agricultural country? You want another element; you want the market and the possibility of reaching the market.

3307. If a railway is constructed you will get that market? Yes; and only small areas have been cultivated owing to that want.

3308. Successfully cultivated? Yes. It has been proved that artesian water can be obtained at Gilgandra; the water just trickles over. It may be used as a pumping station, as many of the artesian wells are used to-day in America. That town appears to me to be on the southern edge of the artesian water. Then as you approach Coonamble you are coming right into the bed of the artesian water. In those years when the rainfall was short it could be supplemented and will be supplemented after the country is opened up by irrigation from artesian water. The opening up of the country will give a settler the opportunity to make artesian water pay by giving him a market for his produce. A flow equal to the flow from the Coonamble bore would supply the deficiency of rainfall in all the short years in my analysis, except the very bad ones. I estimate that 3,000 acres can be irrigated from one bore at a cost of 9d. per acre per annum. I reckon that a bore can be put down for £1,000, and I am sure the time is not far distant when a bore will be put down here for less than a £1,000. I allow £50 a year for distribution, that is for constructing the necessary distributing channels and keeping them in repair. They will want constant attention. I also allow £50 to pay the interest on the capital invested.

3309. *Mr. Trickett.*] Would not that extra charge of 9d. per acre be so heavy as to affect the pockets of the farmers? The charge of 9d. per acre will reduce the value of the land; it will not affect the farmer's profits. It simply means that he will not pay the capitalised value of 9d. per acre for that land, as compared to the country where the rainfall is sufficiently diversified to equal what will be produced by irrigation.

3310. You are satisfied that that water would be useful for the purposes of the crops? Experience has shown in Coonamble that the bore water is most useful for all cottage garden purposes and for the growth of lucerne. Other crops I do not think it has been tried upon. If it will grow those things I think it will suit wheat also.

3311. *Chairman.*] How long has it been used here? Between three and four years.

3312. Does the water contain anything which in time would cause the crops to deteriorate? I could not say. Not living here I have had no practical experience. When passing through Coonamble I have seen patches of lucerne irrigated from the bore water.

3313. *Mr. Watson.*] In that rough estimate you gave of the cost of insuring a sufficiency of artesian water to supplement the annual rainfall, did that charge of 9d. per acre include only the interest on the cost of putting down the bore and the cost of the distribution channels, or did it also include the labour of (say) one man to attend to the bore? It only included the cost of putting down the bore and distributing the water. What I had in my mind when I made the estimate was that the time is close at hand when every group of four selectors in this district will put a bore down as near as possible to the common corner and arrange to distribute the water among them. Each farmer would attend to the distribution of the water on his land.

3314. *Chairman.*] There is a large area of Crown lands falling in shortly? A large area.

3315. Are you doing anything in reference to those lands now? I am designing them for subdivision in the portion east, but chiefly north and west of Coonamble.

3316. I suppose in preparing your subdivision you are guided by the experience of the district as to the area required to enable a man to get a good living and something beyond that? Sufficient to give a man a comfortable living, and so that he will remain on the land if possible.

3317. An area sufficient to enable him to maintain himself and a decent-sized family? Yes.

3318. And what area, on an average, would you consider sufficient? Two thousand five hundred and sixty acres is a suitable area for agricultural and pastoral purposes combined.

3319. Under the present occupation, how many men would be employed on, or what produce do you think would be obtained from, that area? That would depend partly upon the capital expended.

3320. Are there not holdings here with 75,000 acres? Yes.

3321. How many men are employed in working a holding of 75,000 acres? From twelve to sixteen hands would work 75,000 acres. I think ten hands for 50,000 acres would be the average in this district for pastoral purposes.

3322. If a railway is constructed, then, you are of opinion that the country will be so developed that it will carry double the population it now does? More than double.

3323. It will carry at least double the population? Far more than that.

3324. *Mr. Watson.*] A man with 2,560 acres would have to employ labour, so that if it is suitable for agriculture it would carry far more than double the population? Yes; it would be one man to 5,000 acres at present. You can say safely that you will increase the population five times.

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3325. *Chairman.*] There will be a settled population on that land of at least twice the number? No; you can say that there will be a settled population of at least five-times the number. I am sure I am well within the mark. At the present time ten hands are employed to work 50,000 acres. Give each family 5,000 acres, which is double the area I spoke of, and average a family at five persons, and you have five times the population on the land.

3326. From your evidence I gather that you are of opinion that the construction of a railway, on account of its tending to develop country, would be justifiable in this district? I am quite certain it will. You will not only increase your pastoral and agricultural population five times, but you must have distributors to serve those people; you must have towns also, so that my estimate that it will induce five times the population is actually small.

3327. *Mr. Watson.*] Is that after you allow for the proportion of land which, in your opinion, is unfit for agriculture? Yes.

3328. *Chairman.*] You think the general increase in population right through the district, including towns, will be five times? Yes.

3329. *Mr. Trickett.*] When you were examined by the previous Committee, you stated that you were pretty confident that good crops would be expected in the district for two years out of every three? Yes.

3330. The paper which you have handed in gives good crops for nine years, fair crops for five years, small crops for six years, and no crops at all for five years; so that there are only fourteen years of good and fair crops in a period of twenty-five years;—that hardly comes up to your former calculation? Not quite, but very nearly.

3331. It is only fair to state that at both the beginning and the end of your term of years there had been three very bad seasons? Yes.

3332. With ordinary good seasons right through, do you think the former statement would be borne out, say two good crops out of every three? Yes; I think if I had the rainfall for four or five years previously those figures would prove that my first statement was correct.

3333. I do not quite understand how you are going to apply your irrigation idea;—will you explain how a block of about 3,000 acres could be treated by irrigation? I contemplate that a group of four or five selectors on adjoining selections would put down a bore in the most suitable place to distribute the water over these four or five selections. That water would be used for watering their stock, and, in years when it was necessary, for supplementing the rainfall for cultivation.

3334. The water in each case would have to be carried for a considerable distance in pipes or open channels? In open channels. If the bore were situated near the common corner, the furthest distance it would have to be conducted along on any one holding would be about  $1\frac{1}{4}$  mile, so as to irrigate over the whole of that area of 750 acres.

3335. That expense would have to be borne by the whole of the selectors? Yes.

3336. Would it be very great? I have included the cost of that work in the charge of 9d. per acre.

3337. When you were examined by the previous Committee you handed in what appears to me to be rather a concise report on the character of the land on the three routes;—I wish to know if you are prepared to hand in that report as a part of your evidence to-day, and if you endorse the facts that are therein stated? I endorse all that is stated in the report, which I have much pleasure in handing in:—

Surveyor W. M. Thomas, to the Chairman of the Parliamentary Standing Committee on Public Works, reporting upon the character of the country and the settlement on proposed railway lines from Dubbo to Coonamble, Warren to Coonamble, and Mudgee to Coonamble, within the Dubbo district.

Sir,

Dubbo, 29 March, 1898.

In compliance with instructions from the District Surveyor of Dubbo, I have the honor to furnish you with the following report upon the character of the country and the settlement that will probably furnish the carrying trade for each of the proposed lines, Dubbo to Coonamble; Warren to Coonamble; Mudgee to Coonamble, within the limits of the Dubbo District, and until that source of probable trade becomes the same for all three proposed lines.

The plan furnished with Mr. Surveyor Mackenzie's report to you in December last, on this subject will, I submit, serve as an illustrative reference for this report.

1.—Dubbo to Coonamble.—The first 50 miles from Dubbo—The total area that will be drawn from on the eastern side of this proposed line is about 1,300 square miles. Of this area, about 300 square miles consist of good agricultural and pastoral land, undulating, and either now or before it was cleared, timbered with yellow box, apple-tree, belar, and white box; and situated in the valley of the Castlereagh and Talbragar Rivers, the Coolbaggie Creek, and their feeders.

2. About 220 square miles are State forests reserves, chiefly ironbark. Into this forest, so large is the supply of valuable timber, the Railway Commissioners at one time proposed to construct a tramway from Dubbo, and the necessary land reservation was made for that purpose. This tramway, I understand, was to carry railway sleepers to the main line.

3. About 350 square miles are oak, pine, and wattle scrub, and open box country, fair grazing land when ringbarked, and when cleared, capable of producing fair crops of wheat and hay.

4. The remainder is poor scrub country.

5. All the good land and part of the fair land within this area are now settled; the Castlereagh, Talbragar, and Coolbaggie frontages thickly so.

6. The rainfall is from 23 to 25 inches.

7. On the western side of the 50 miles of proposed railway line, it will draw traffic from about 600 square miles. Of this area about 150 square miles are open pastoral and agricultural land. About 250 square miles are fairly good timbered agricultural land, and the remainder is poor sandy or ironstone gravel country.

There is one ironbark and pine forest of 12 square miles. The average rainfall is from 20 to 23 inches. On the good and fair country an average holding is about 2,000 acres.

8. Of the remaining 40 miles of this Dubbo to Coonamble line the country within the Dubbo district from which it can draw is chiefly first-class pastoral plain country interspersed with timbered and dry ground, which forms shelter and refuge for stock in wet seasons.

It will carry a family to about 3,000 acres. The average rainfall is from 20 to 23 inches. The portion of the timbered and red-soil plain country that lies in the district of heaviest average rainfall within this area will probably be found suitable for agriculture.

9. Warren to Coonamble.—On the eastern side this line will draw trade from about 2,000 square miles, chiefly open and plain, red and black soil, myall and white-wood country, interspersed with belts and patches of scrub and timbered lands. The timbered country and the red-soil plains are suitable for agriculture. The remainder is first-class pastoral country, except about 100 square miles of poor scrub lands.

This area contains three successful artesian bores at Tenandra, Bourbah, and Coonamble respectively. The average rainfall is from 20 to 23 inches, and the area capable of supporting a family will average about 2,560 acres.

10. On the western side the subject line will draw from about 1,200 square miles of country almost wholly red and dark-soil plains separated by only narrow belts of timber, except where the monkey scrub runs through it about a mile wide. The average rainfall is from 18 to 21 inches. A small portion of this contiguous to a railway line may be cultivated, but probably the major portion will for many years be chiefly used for grazing, for which it is eminently adapted. This area would appear to be wholly within the artesian water supply basin limits.

About 3,000 acres are requisite to support a family.

11. Mudgee to Coonamble.—About 100 miles from Coonamble this proposed line enters the Dubbo district and runs for 30 miles across one corner through generally fair to poor country, undulating and well timbered. The good land in this area is immediately adjacent to the banks of the water-courses, has an average rainfall of about 26 inches per annum, and is very suitable for cultivation.

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For about 30 miles further the trial line lies outside the Dubbo district, and passes over rough and broken country. Thence to Coonamble, about 40 miles, it passes through about 15 miles of timbered heavy dark-soil, undulating country, and afterwards traverses rich pastoral plains, very suitable for sheep farming.

I have, &c.,

WILLIAM M. THOMAS,

Staff Surveyor.

Line.	Side.	Probable supply-area for carrying trade. "A"	Class of country.				Present class of occupation.	Settlement—Average holding.	Average rainfall in inches per annum.	
			Good.	Fair.	Poor.	Forest reserves.				
		Sq. miles. About.	Sq. miles. About.	Sq. miles. About.	Sq. miles. About.	Sq. miles. About.		Acres. About.		
Dubbo to Coonamble...	East— first 50 miles.	1,300	300	.....	.....	.....	Agricultural and pastoral .....	2,000	} 23 to 25	
		.....	.....	.....	.....	220	Supply of valuable timber.....	.....		
		.....	.....	350	.....	.....	Fair grazing when cleared and ringbarked; capable of producing wheat and hay.	3,250		
		.....	.....	.....	430	.....	Plain.....	5,000		
Do do ...	West— first 50 miles.	600	150	.....	.....	.....	Pastoral and agricultural .....	} 2,000		} 20 to 23
		.....	.....	250	.....	.....	Timbered, agricultural .....			
		.....	.....	.....	200	.....	Timber supply.			
Total .....	.....	1,900	450	600	630	232				
Dubbo to Coonamble...	Last 40 miles.	2,300	1,950	.....	.....	.....	Portion suitable for agriculture; chiefly pastoral plain.	} 3,000	} 20 to 23	
		.....	.....	150	.....	.....	Sheep farm .....			
		.....	.....	.....	200	.....	.....			
Total for whole line	About 90 miles.	4,200	2,400	750	830	232				
Warren to Coonamble..	East ...	2,000	1,900	Small portion	.....	.....	Chiefly pastoral; some agriculture.	2,560	20 to 23	
Do do ...	West ...	1,200	1,150	.....	100	.....	Sheep farming and grazing ...	3,000	18 to 21	
		.....	.....	Small portion	50	.....				
Total .....	About 64 miles.	3,200	3,050	.....	150	.....				
Mudgee to Coonamble	100 to 70 miles.	600	50	.....	.....	.....	Cultivation .....	2,000	} 26	
		.....	.....	100	.....	.....	Cultivation and grazing .....	3,000		
		.....	.....	.....	350	.....	Grazing .....	5,000		
Do do ...	Last 40 miles to Coonamble.	1,600	1,400	.....	.....	100	Timber Supply .....	.....	} 18 to 23	
		.....	.....	100	.....	.....	Pastoral and sheep-farming ...	3,000		
		.....	.....	.....	100	.....	do do .....	.....		
Total .....	.....	2,200	1,450	200	450	100	Grazing .....	5,000		

Line marked "B."	Side or length.	Probable supply area for carrying trade.	Class of country.				Crown land.	Present class of occupation.	Settlement—Average holding.	Average rainfall in inches per annum.
			Good.	Fair.	Poor.	Forest reserves.				
		Sq. miles.	Sq. miles.	Sq. miles.	Sq. miles.	Sq. miles.		Acres.		
Leaving main Western line somewhere between Dubbo and Narramine, and running northward approximately through parishes Coolbaggie, Emogandra, Cobboco, Kiekabil, Milpalling, Bundobering, Berida, and joining line Dubbo to Coonamble, about 50 miles from Dubbo.	East ...	850	200	.....	.....	.....	Agriculture and sheep farming	2,000	} 23	
		.....	.....	350	.....	.....	" "	3,000		
		.....	.....	.....	300	.....	.....	Grazing .....		5,000
		.....	.....	.....	.....	.....	250	.....		.....
		.....	.....	.....	.....	.....	About 100	Timber supply .....		.....
		.....	.....	.....	.....	.....	.....	.....		.....
	West...	800	650	.....	.....	.....	.....	Agriculture and sheep-farming	2,560	
		.....	.....	100	.....	.....	.....	Sheep-farming .....	} 3,000	
		.....	.....	.....	50	.....	.....	Grazing .....		
		.....	.....	.....	.....	.....	100	.....		
			1,650	850	450	350	100	.....	.....	

A comparison of the above figures with those in the previous table for the first 50 miles of the "A" line, viz., the trial line from Dubbo to Coonamble, will show that this "B" line is fairly well out in the good country; for while the proportion of the fair and poor country on the eastern side of the "B" line is about the same as on the eastern side of the 50 miles of the "A" line, the proportion of such country on the western side of this "B" line is very much less.

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3338. When you gave evidence on that occasion your attention was drawn to four lines of railway between Dubbo and Narramine, marked A, B, C, and D;—line A, is I think, as nearly as possible, the line which we are now considering? Yes.

3339. Line A was described as a line which “goes pretty well north from Dubbo and a little west of Gilgandra, on to Coonamble”? That was the line I referred to.

3340. That was the line which you then favoured, and which the Committee seemed also to favour? No; I think you will find that the line I favoured, and which the Committee seemed also to favour, was B line.

3341. Line B was thus described—“This line leaves the main North-Western Railway about midway between Dubbo and Narramine, crosses the Macquarie just below the junction of the Coolbaggie, runs almost direct north to the Marthaguy, crossing it about 2 miles east of Berida station, and meeting line A 9 miles further north”;—you then favoured that line, and you still favour that line as the route from Dubbo to Coonamble? Yes. The starting point is not a matter of importance to me; that is a question for engineers to settle, in view of engineering difficulties. My object in favouring that line was to get west of the surveyed route about 5 to 7 miles, so as to keep well in to the good agricultural country, and get away from the margin of the poor ironbark forest—to have a line that would serve a good depth of agricultural country on both sides.

3342. I wish to draw your attention to this paragraph in the official history of this proposal:—

As it is desirable to keep the railway in the best possible position for receiving produce, Mr. Deane is of opinion that the line, instead of being moved westward, as recommended by the Works Committee, should, if possible, be kept nearer to the Castlereagh, between Gilgandra and Gulargambone, so as to make the carriage as short as possible from the districts on the east side of the river; at the same time, such a position would equally suit the west side. The Engineer-in-Chief for Railway Construction considers the line, as laid out, to be the cheapest possible, and has supplied me with the following estimate and description.

Does this route, which you sketched out then, and which you now seem to favour, agree with that idea? Yes; my object was to serve all the agricultural country east of the river, including Tundaburine, and at the same time serve the agricultural country on Berida, that is on the west side of the line. The Railway Commissioners estimate that the working expenses—that is the total annual cost, will amount to £13,437, and the receipts to £11,867, leaving a loss of £1,570 a year at the start. Having studied the district as you have done, and having in view all its best possibilities, do you think that that shortage in the receipts of the line would be likely to be made up within a reasonable period? In view of my own information as to the rapid increase in population here, I am confident that that shortage will be made up. If the annual shortage is £1,570 it means only an increase of 12 per cent. to balance the accounts. I am quite confident that if their estimate is based on the present production of the district, the construction will increase that production far more than what is equivalent to 12 per cent.

3343. *Mr. Watson.*] There is one statement in your evidence which struck me, and that is the statement as to the country between Gilgandra and Gulargambone;—after you get 4 or 5 miles to the east of the river the land then is poor, as far as agriculture is concerned? Yes.

3344. Generally, it is poor land? Yes.

3345. We have been led to believe, by the greater part of the evidence given so far, that the land between the Castlereagh and the Warrumbungles, to the foot of the ranges or hills, is good;—you do not coincide with that idea, apparently. The argument used by those who favour the construction of the Mudgee line, is that it would tap good agricultural country to the east of the Castlereagh, between Gilgandra and Coonamble? The following leaseholds, Tuckland, Bearbung, Bundybundally, Mundar, part of Tooraweena, and part of Yalcogrin, consist chiefly of poor scrub land.

3346. Some scrub land when cleared is good enough for agriculture;—what is the character of the soil within those holdings? This country is ridgy, cold clay, and ironstone gravel, and sandstone ridges.

3347. Is the land along the foot of the Warrumbungles good land? It is as rich as can be got—that is on Tundaburine and Calga.

3348. How far from the Dubbo-Coonamble line, at the nearest point, would it be to this good land at the foot of the Warrumbungles? On the average about 22 miles. That strip of poor country which I have described lies in between, during a portion of the route, the good land at the foot of the Warrumbungles, and the good land on the bank of the river.

3349. So that you would have an oblong block of bad country sandwiched between two strips of good country? Yes.

3350. What would be the average width of the land at the foot of the Warrumbungles that is good? About 7 or 8 miles.

3351. Do you think that strip of good land would be outside the influence of the Dubbo-Coonamble line if constructed? I do not. It will be sufficiently close to be served, and added to its proximity is the fact that this poor country, unsuitable for agriculture, makes the best of roads.

3352. Is it an absolute block of inferior country, or are there patches of fair country between the ridges? Taking it as a whole, its inferiority is somewhat a matter of comparison—that is, it is inferior to the good agricultural country adjoining it, and consequently will not be classified with it. The block of inferior country is not an oblong; it is more triangular, with its apex west of a point on the Castlereagh, about 6 miles south of Gulargambone.

3353. Is that country uniformly inferior, or are there patches of fair land through it? There are patches of fair land through it.

3354. So that even that block, you think, would help to contribute some traffic to the railway, assuming the better land to be settled first? As population increases a considerable area of that land would come under occupation also. On Bundybundally there are several settlement leases of about 3,500 acres. If I remember aright these blocks have been open for occupation for nearly twelve months, and in spite of the rush for land they still remain unoccupied.

3355. Although offered at a low rental? Yes.

3356. Can you state from memory what capital value has been placed upon them? I think 12s. 6d. is the capital value placed on them, and the rental will be 1½ per cent. on that. That land on Bundybundally would come under the head of my last description of the land; it contains patches of land very suitable for agriculture.

3357. Do you think the railway would have much effect on the prospect of getting tenants for those settlement leases;—do you think they would have any better chance, or is the land so bad that it would not have much effect in that respect? The railway will assist in getting tenants most certainly; but it will not be occupied while there is better land to be obtained.

3358.

3358. Where is Bundybundally situated? It is about 14 miles due east of Curban or Terabile. The Mudgee-Dubbo line runs across the corner of the Bundybundally leasehold.

3359. When compiling this table of the areas which would be served by the line, and their respective qualities, to what distance from the line did you go on each side? Ten miles only; as Mr. Ewing, the late Chairman, requested me to do.\*

3360. It has been usual in these inquiries to assume that the land for 20 miles on either side of the route would be served by the projected railway, if not already served by a line. It is well, therefore, to have it distinctly stated that your estimate embraces only 10 miles on either side? I think it is stated that it is based on a 10-mile radius.\*

3361. With a 20-mile radius? The quantities will be slightly qualified.

3362. Do you think the areas of good land, as shown in this tabulated report, would be doubled by taking a 20-mile radius? The areas of good land, speaking generally, on the western side of the proposed line, would be, approximately, doubled, by taking in a 20-mile radius, but not so on the eastern side.\*

3363. Would there be any increase there? There would be an increase in the area of good land within the 20-mile radius, as compared with a 10-mile radius. For the last portion of that description in my evidence there would be an increase, approximately, of double the area given; but for the remainder the increase would not be nearly so great; in some portions the increase would be very small, because my object was to keep the line away from the bad country.\*

3364. And with a 25-mile radius you would touch upon even better land to the east than that you would with a 20-mile radius? Averaging the bad portion between Gilgandra and Gulargambone, the area affected on a 25-mile radius would include the first-class agricultural land at the foot of the Warrambungles.

3365. The line as shown on this map keeps a little to the west of both Gilgandra and Gulargambone. Assuming that the general direction of this line were decided upon,—that is to start from Dubbo and follow a general course towards Gilgandra, as against keeping further to the west generally,—do you think it would be worth while to attempt to get closer to Gilgandra;—do you know any reason why that centre should not be touched? My own opinion is that the line would catch more produce, in other words, serve more people, when placed west of Gilgandra, in about the position shown by line B in the previous Committee's report.

3366. But I wanted you to assume, for the moment, that line A—that is the line shown by the broad red mark on this map—is decided upon, would it then be worth while to deviate slightly in order to reach the centre of Gilgandra? I think not. I think it would be better as it is, because of the good agricultural land lying in to the immediate west. If your railway line is so far off as to force them to carry direct to Dubbo, or send to Warren, you are handicapping a lot of very good land.

3367. Do you prefer, in any case, to leave Gilgandra a little on the east? To leave Gilgandra on the east you are coming in close to the river at Curban. That will serve this strip of good agricultural land on the Warrumbungle, quite as well as if you come in at Gilgandra.

3368. You must recollect that there is no bridge at present at Curban, while there is a bridge at Gilgandra for the people to get across to the railway from the east? Yes; but the cost of constructing a bridge over the river will not be a great item.

3369. With increased settlement it is probable that the Roads Department will see to that being done? Yes.

3370. *Mr. Levien.*] In this inquiry a witness has stated that Gilgandra is "on the eastern bank of the river";—what do you say about that statement? The town of Gilgandra is on the western or left bank of the Castlereagh.

3371. So that he must have known little or nothing about the settlement there, to make that statement? Or else nothing about the points of the compass.

3372. In answer to the question, "On which side of the river is the better country," he says, "To the east";—what do you say? I say the larger area of better country is on the west. Immediately adjoining the river the country is equal on either side.

3373. Referring to the country from Dubbo to Gilgandra, this witness is asked this question: "It would be better to cultivate that sort of soil than the yellow soil in the western country?" And the answer is, "Yes. From Dubbo to Gilgandra is a desert; it is a big ironbark scrub." What do you say? I say he only saw a portion of it.

3374. This statement is made by a gentleman who thinks he knows all about it; is he wrong do you think? He is quite wrong in that statement. It is quite possible for a man to travel from Dubbo to Gilgandra, and during 15 miles of his route to go through an ironbark forest; but he would not travel on the proposed railway line.

3375. Your opinion then is that this gentleman is wrong in what he says? My opinion is that he is wrong, and the large number of settlers occupying the land between Dubbo and Gilgandra, and growing cereals upon it, justifies my statement.

3376. *Mr. Dick.*] I think you stated that you are engaged in subdividing the large leasehold areas which are to fall in within a very short period? Yes.

3377. Is it for the purpose of cutting them up into small holdings? Yes.

3378. I think you stated that as the result of that change the population in the district would largely increase? It will largely increase.

3379. That increase will be due to cutting the leases up into smaller holdings, and not to the construction of the railway? The increase will partly be due to the cutting up of the leases, but the railway will assist materially in making that increase in population still greater.

3380. In that calculation you made about the increase, I think you said the result would be that the population would practically quintuple? Yes.

3381. I think you said that at present it takes ten men to work 50,000 acres? That is about the average occupation employment on a pastoral holding.

3382. Is it the custom for men engaged in that sort of work to have their families on these large holdings? Some of them have.

3383.

W. M.  
Thomas.  
3 July, 1899.

\* NOTE (on revision):—My replies to these questions are not strictly accurate in so far as relates to the radius adopted for the areas treated of in the tables. My verbal evidence at the previous inquiry on 30th March, 1898, was based on a 10-mile radius, *vide* question 1461, page 48, No. 1 Report, of 30th June, 1898; but the tables were compiled on a varying radius, as will be seen from the areas quoted in the column "Probable supply area for carrying trade." In that respect the tables explain themselves.

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Thomas.  
3 July, 1899.

3383. That would somewhat impair your calculation? That would modify it, perhaps, but that calculation, as I remarked at the time, was based on the pastoral and agricultural occupation, and did not include the towns.
3384. I quite understand that; but it also seemed to assume that the ten men who now worked 50,000 acres are all single men, whereas those who are to take up blocks are all men with five children apiece? When I mentioned towns, I should have explained that I had thrown the towns in to balance the families of the present employees on the stations.
3385. With respect to that scheme you spoke of for supplementing rainfall by irrigation, what kind of crops can be irrigated in this district? Maize, wheat, hay, potatoes, oats, and all vegetables.
3386. For all that kind of agricultural produce, assuming that the railway is built, where would the growers find a market? The hay and maize would find a fairly considerable local market, and also the potatoes. The market for the wheat must be Sydney, and outside the Colony—of course from Sydney—for a great quantity of it. A small quantity of the wheat would be used locally, but the larger quantity would be sent away.
3387. What would you call your local market for hay—what would cause a local consumption of hay? A consumption north and west of Coonamble, where the rainfall is more uncertain and smaller, and renders the country unsuitable for agriculture.
3388. This statement is given in evidence by Mr. Harper:—

412. Could not you very well say that, if the line as first proposed by the Railway Commissioners, from Warren to Coonamble, had been constructed, before long there would have been one required from Dubbo to Coonamble? I would not like to say that the pressing necessity has arisen yet for the construction of the proposed line. I think it is a matter for reflection as to how the area to which I have referred should be served.

That is the great area of country lying between the Western line on one side and the Northern line and the North-west line on the other;—would you agree with a statement that it is still a matter for consideration how that large area of country is to be split up by railway, or would you pin your faith direct to the Dubbo-Coonamble line as a means of splitting it up? After fully considering the whole question, I am of opinion that the Dubbo-Coonamble line will best serve the interests of the residents on the subject area.

3389. You have, I suppose, considered the various proposals which have been put before the country for the splitting up of that area? Yes; I have given them consideration, and I may say, until I went into the matter very thoroughly, I was of opinion that the Coonamble-Warren line was the best one in the interests of the people; but when I examined the matter thoroughly, I came to the conclusion that my first opinion was erroneous, and that the Dubbo-Coonamble line will best serve the interests of the residents on the subject area.

3390. Do you think the teams could successfully compete with the Dubbo-Coonamble railway in good seasons? In good seasons they might; but the term "good seasons" has a very limited meaning. The good season for carriage purposes will be when there is an abundance of grass on the road, and yet the rainfall has not been sufficient to make the roads heavy. I find that a fair average for the cost of carriage between Dubbo and Coonamble by team is £2 10s.; from Coonamble to Warren a fair average is about 35s., and the railway carriage, I understand, from Dubbo to Coonamble will be 32s. a ton. A comparison of these figures will show that teams are hardly likely to compete successfully with the railway. At such a time as I had previously defined as a good season they might; but these periods would be so brief that teams would not probably be found on the roads at all.

3391. Am I right in taking it that it is your opinion that this line would take to extra local markets, wool, wheat, and meat, practically? Practically, wool, wheat, meat, and hay, when we had a good season and Riverina had a bad one. Just as at present hay is going from Dubbo to Wee Waa and Pilliga *via* Sydney and Narrabri and Gunnedah—just as at present, owing to the good season, Dubbo can supply hay to those places, so when we had a good season and Riverina had a bad one, by means of this line and the Blayney-Harden line, we could supply hay to Riverina.

3392. Has much been sent *via* Sydney, Narrabri, and Gunnedah? I could not give you the quantities, but I know that it has been sent. I have not been in Dubbo for four months. I understand, in the district where I heard it, that there were some consignments sent direct from Dubbo.

Herbert Mandeville Nash, licensed surveyor, Coonamble, sworn, and examined:—

H. M. Nash. 3393. *Chairman.*] What position do you hold? I am a licensed surveyor in the Coonamble district. I have been eleven years in this district, nearly, and I have been qualified nearly twenty-three years.

3394. Perhaps you would prefer to make a statement to the Committee which would enable them to better understand this question? I do not think I wish to alter any portion of the evidence I gave at the last inquiry.

3395. Have you seen a copy of your evidence at that inquiry? Yes.

3396. Do you verify that evidence, or has experience taught you that there is any wrong statement in it? No. On reading over the evidence I do not see anything for me to alter; but there is one remark I would like to make in reference to the country between Gilgandra and Dubbo. Since the last inquiry was held I have been over that land, and in view of my having given that evidence, I made myself a little better acquainted with the land.

3397. What is your opinion now of that land? I think it is not nearly so bad as I then stated it was, although I do not pretend now to have a very deep knowledge of it. I think that a good deal more of the country, if it were cleared, would be suitable for agriculture than I thought when I gave my previous evidence. As far as this present line is concerned, I am only well acquainted with the country from Coonamble up to Gilgandra.

3398. Are you well acquainted with the route all the way from Coonamble to Gilgandra? I think I know it pretty well.

3399. Are you able to give the Committee any opinion as to whether the line should be built on the west side or the east side of the Castlereagh? I am quite satisfied in my own mind that it will be advisable to make the railway on the west side, as is proposed.

3400. You have examined that country between Coonamble and Gilgandra since your appearance before the last Committee, and you have modified the opinion which you then expressed? I have modified it considerably. At the previous inquiry I said I might give an opinion but that it would not be entitled to much weight, as that country was out of my jurisdiction.

3401. Now your opinion carries some weight? I think it is a little more valuable.

3402.

3402. In the country you described as being bad, have you seen any of the land put under crop since your previous examination? No. H. M. Nash.  
3 July, 1899.
3403. Do you know whether anyone has taken up any of that land for that purpose? Not of my own knowledge. The principal reason why I would like to modify my previous evidence is that there is a good deal more box and forest country than I thought there was, and I know that box forest country, when it is cleared, is well suited for agriculture.
3404. Is there anything else you would like to add to your former evidence? No. I have listened very carefully to Mr. Thomas' evidence. I know other parts of the district perhaps better than he does, and I indorse his evidence as to the part from Gilgandra to Coonamble.
3405. You were in the room while he was giving his evidence, and you corroborate all that he has stated? Yes; and I do that with eleven years' knowledge of this district; that is, of course, as far as that knowledge goes.
3406. You think that if the railway is constructed it will tend to closer settlement in this district? Yes.
3407. Have you any knowledge of country which is being served or opened by a railway in other districts? I was up at Temora at the time of the big rush. I remember Temora when there were only about 100 acres of agricultural land all round it. I laid out a lot of gold-mining reserves in 1880, and since then it has obtained a railway, as far as I can judge, by reason of its agricultural advance quite as much as its gold.
3408. Have you seen Temora since the line was constructed? Yes.
3409. What has been the result? I hardly knew the place, it was such a contrast from what it was in 1880.
3410. Has cultivation greatly increased? Yes.
3411. Taking the land to be served by the proposed line from Dubbo to Coonamble, do you think the same result would be got? I do not know that it would make so much difference here—that is, generally.
3412. How does the land to be served by this line compare with the land which has been served by the Temora line? Some of this land is much better I think, and some of it is not as good.
3413. As regards railway traffic, if it were justifiable to construct a line from Temora, in your opinion would it be justifiable to construct this line? I certainly think so.
3414. *Mr. Watson.*] You stated that you were at Temora during the original rush;—going through that country—I suppose you went from Cootamundra—you would see ironbark and some rough country? Yes.
3415. And a lot of scrub, even on the flats—sifted bush and other kinds of scrub? Yes.
3416. Hardly attractive-looking to a man going there at first? Quite so.
3417. Do you think that in its then state that it was much better country than the ironbark country on the route of this line? In its then state it looked to be hardly good for anything.
3418. Are you aware that agriculture has developed very largely down that way? I do not know of my own knowledge; but I know, by reading, that a perfect transformation scene has taken place.
3419. A lot of country which it was originally thought was unfit for agriculture, and not of much value, even for sheep, has since been proved to be of great value for agriculture? Quite so.
3420. When you said at the previous inquiry that the country between Dubbo and Gilgandra is comparatively poor, I suppose at that time you had only travelled along the stock route, or the main road? That is all.
3421. Through absolutely unimproved country? Yes; it was pretty nearly all unimproved. It was not ringbarked.
3422. Consequently, there would not be much grass there at any time? No.
3423. Since then you have had an opportunity to look more closely into the character of the land between those points? Yes.
3424. And you think you have reason to alter your opinion? To modify it a good deal.
3425. That means, I suppose, that you have seen since then a larger area of better country? That is it.
3426. There are two kinds of ironbark country, I understand, between Dubbo and Gilgandra—one kind consisting of ridgy country, growing only ironbark, and the other flatter country, growing also other timber? Yes.
3427. Do you think the open or flat ironbark country would be of any value for agriculture, if cleared? I think it might; but my opinion would not be worth much. I do not know instances where it has been tried.
3428. You heard what Mr. Thomas stated with respect to a triangular piece of poor land east from Curban, and east also from Gilgandra;—do you coincide with that statement? As a matter of fact, I measured up Bundybundally. I know there are good patches, and I agree with what he said about that; but taking it as a whole, it is not worth much.

Edward Whitney, grazier, sworn, and examined:—

3429. *Chairman.*] What are you? I am a grazier, residing at Nebea, about 12 miles north-east from Coonamble. E. Whitney.  
3 July, 1899.
3430. Have you a fair-sized holding? I have about 40,000 acres of secured land—that is, freehold, conditional purchase, and conditional lease, and about 40,000 acres of leasehold land. We have been making some exchanges lately, so that I cannot be quite positive about the acreage.
3431. What is it fit for—pastoral pursuits, or agricultural? For both, I think.
3432. Could it be subdivided so as to settle men on it at mixed farming? I think so.
3433. In fair-sized areas? Yes.
3434. What area would you consider sufficient to carry a man and his family? From what I have seen, they seem to do very well on 2,560 acres, where they get fairly suitable crops; but I think, considering the rainfall, even a little larger block than that would be better.
3435. It will give them a better chance to put away something? Yes; they can live on it, and some have done very well.
3436. Do you send away much wool? About 800 bales; but of course we should not be able to send away as much as that next year when we lose the leasehold.
3437. Off the land you hold, including freehold and leasehold, you send away about 800 bales? Yes.
3438. Where do you send your wool to? To Dubbo always.
3439. Is there any wheat grown out your way? I have not known of any wheat being grown for grain, but we have grown wheat for hay. 3440.



- E. Whitney. 3440. Do you think it would pay you to grow wheat out there to send away? It might with a railway. It certainly will not now; there is no demand. Although we got an exceptionally high price this year for our own chaff, still there is only a very limited demand in Coonamble.
- 3 July, 1899. 3441. Suppose a railway were constructed to Coonamble, do you think it would pay to cultivate for hay, bearing in mind that your market will probably have to be in Sydney? That is rather a hard question to answer.
3442. I mean taking an average of years? As far as I can understand a very much larger area has been put under cultivation this year than hitherto, and if that were to go on indefinitely it is just possible that there would be over-production. In that case it certainly would not pay to send so far away, but with the ordinary production and the country consumption I should think it would. They can grow wheat to pay at Narramine, and the extra distance would not make such a great difference, I should think.
3443. Where do you truck your sheep? We sell all our sheep as stores as a rule, but any sheep we have sent down have always gone by Dubbo.
3444. The line which is referred to the Committee is a line from Dubbo to Coonamble, and an alternative route is suggested from Mudgee to Coonamble;—would the route from Dubbo serve this part of the country better, do you think, than the route from Mudgee? I am sure it would, because we may get the one in three years' time, and the chances are we will all be grey-haired before we get the other.
3445. Suppose there were a certainty of getting either one or the other within a reasonable time, would it? I do not know that it makes a very great difference to us.
3446. The line to Mudgee would give you Sydney as a market, whereas the line to Dubbo would give you the choice of two or three markets? Yes.
3447. Would that be an advantage, do you think, to the people here? Certainly.
3448. That being so I presume you would prefer a Dubbo connection? Certainly; there is no doubt about the Dubbo line in preference to the Mudgee line.
3449. At the previous inquiry you were examined; have you anything to add to your evidence on that occasion? I think not, but I am quite prepared to answer any questions. The question, I take it, is not so much whether we ought to have a railway, as whether we ought to have the railway by one route or the other.
3450. No; we want you first of all to prove the necessity for a railway to Coonamble? In a season like this a railway would have been of very great service to us, and at the same time it would have been of service to the people of Sydney. If we had a railway I could now, although we are suffering from a drought, send fat sheep down to Sydney, but I have not got a sufficient number of them to make it worth my while to travel them over bad roads. Although the sheep might be in fairly good condition here they certainly would not be in good condition by the time they arrived in Dubbo, but they would be in quite good enough condition if I could get them into Sydney in two days by rail. It is a very different thing from travelling them over roads which are eaten bare, and taking a fortnight or more to go down.
3451. What do you think they would lose in value by travelling to Dubbo? In a season like this, allowing that the sheep are not real prime to start with, it would simply make the difference between fetching a price as saleable sheep and not fetching a price at all.
3452. Taking a good season with plenty of grass what would be the difference? In a good season with plenty of grass it would make very little difference—it would make a difference, but not very much. The sheep would not depreciate to the extent of becoming unsaleable.
3453. Suppose a railway were constructed, and you had a series of really good years, would you be likely to travel your fats in preference to trucking them here? I cannot say without having tried, but I think in all probability we should prefer to truck, and instead of sending down a large mob to send down the tops very often.
3454. *Mr. Watson.*] Instead of a large number of varying quality? Yes. I think one thing which will be almost certain to make the railway used is the fact that the Lands Department has been letting the stock routes, so that in many cases they are not of much use to travelling stock. Travelling stock can go over the routes, but there is nothing for them to eat.
3455. You think that the subdivision of the public estate will pretty well ensure traffic going on to the railway because each person will have fewer fats to send at a time, and it will not pay him to take them by road? I certainly think that where it would pay him to send down 2,000 sheep, it might not pay him to send 500. As far as the driving is concerned, the cost of taking 2,000 sheep would not be any more than the cost of sending 500.
3456. Does the wool from this district go to Warren since the extension from Nevertire was constructed? I think some considerable amount of it did go there, but we have never sent any. To some extent we have been in the hands of Wright, Heaton, & Co. We have made a contract with that firm, and they sent the wool to whichever station suited them best.
3457. *Mr. Watson.*] Which station has generally suited them best? So far, they have always sent our wool by Dubbo.
3458. *Chairman.*] Does the general traffic go by that way to Dubbo? I think so. In the case of fat sheep I think nearly all go that way.
3459. Which connection—Dubbo, or Mudgee, or Narramine—do you think would be best to suit the people of Coonamble and the people about Coonamble? I have never been through the country which a line from Coonamble to Narramine would traverse, but I do not see what would be gained by taking the railway that much further west. I should think Dubbo would be decidedly the best connection. There is good agricultural land all the way along the route which the line would probably follow.
3460. *Mr. Shepherd.*] You say you think 2,560 acres would be a sufficient area for a family;—do you mean that it is sufficient for pastoral purposes or for agricultural purposes? For pastoral purposes.
3461. And if the land is suitable for agriculture, what area do you estimate will be sufficient to support a family in the event of a railway being brought here? I should hardly like to say without thinking out the matter very carefully, because the price a man would get for his produce means such a great deal. Suppose the whole district were put under cultivation instead of sheep and cattle they could not possibly expect to get the same price for their produce as they do now.
3462. But there is such an enormous outlet for the wheat. If you had a railway you would not be confined to the district at all, or even to the Colony; you might always calculate upon getting from 2s. 6d. to 3s. a bushel, I should think? 400 or 500 acres I should think would be ample for a man. In Grenfell there

- there are numbers of settlers who have only 100 acres and they are making a very good living out of that area. F. Whitney.  
3 July, 1889.
3463. Do you think the land here equal to the land at Grenfell? I think the land here is equal to anything in the world. The rainfall is the chief trouble; but I have always understood that wheat can be grown in 16 in. of rain, and our average during the past twenty years has been over 22 in.
3464. Have you much of your land rung? A considerable amount.
3465. I suppose you have never attempted to clear up the land—that it is left in the way in which most of the ringbarked country is left? We have been clearing up a considerable amount of the freehold land.
3466. You run a sheep to how many acres? We have always gone in for understocking. At present I have not more than a sheep to 2 acres.
3467. In your previous evidence you said that you ran about a sheep to  $1\frac{1}{2}$  acre, and from that to  $1\frac{1}{4}$  acre;—I suppose you have not altered the estimate since then? No; this year has been exceptionally dry, and I have kept the numbers down, and then our lambing has been 20 per cent. less than we usually expect.
3468. Do you allow your sheep to run over the whole area, or have you the property divided? We have it subdivided into many paddocks.
3469. Do you spell them alternately? I will not say that we have done that altogether; but every now and again we do give a paddock as much spelling as we can. We cannot very well spell it completely.
3470. The great advantage in having paddocks is to enable you to spell your grass? What I mean is that we have not given any one paddock six months' spell. It is a rule with us to give them a spell until after the next rain, and after rain falls to give it, perhaps, a fortnight or three weeks without putting sheep in.
3471. One great advantage in spelling is to enable the grass to seed, so as to increase the pasture? Yes. I may say, from the subdividing of the paddocks, we have been able to send away just the same number of bales as we did before 1884, when a large amount of land was taken away from us.
3472. About what does it cost you to ringbark the land you have? The highest we have paid has been 1s. 6d., and the lowest, 9d.
3473. What is the character of the timber on the land? It was mostly belar and budda that we ringbarked.
3474. Have you much timber which would be useful for commercial purposes—ironbark or box? We have no ironbark at all; but we have, and have had, some very good pine. A large amount of the pine which has been used for the saw-mill in Coonamble during the last twenty years has come in from our land.
3475. Do you think it would pay to send sawn pine from Coonamble to Dubbo by railway? I should be doubtful of that, simply because there are large pine forests, I understand, between Coonamble and Dubbo. There is a good deal of black pine, which is not of much use.
3476. How is your property watered? Entirely by tanks and dams.
3477. No natural flow? No.
3478. You have not tried sinking wells, I suppose? The only wells we have had have been soakage wells, 14 or 15 feet deep, and then they hold no permanent supply.
3479. You have no watercourse running through your property? Yes; but it only runs in floodtime.
3480. Have you not tried to find water in the bed of the watercourse? Yes. There is no water there; you get on to clay bottom very soon.
3481. What is the general character of your 40,000 acres of secured land;—is much of that land fit for agriculture? I think so.
3482. So that in the event of a railway coming here, you would be able, probably, to deal with your land as many stockowners are doing now—to let it out on the share system, which seems to be coming into fashion very quickly? I am quite certain that the land is suitable enough for agriculture. I am not sure if we should prefer to cultivate on those lines.
3483. From the information you have gathered amongst the residents, do you think there is a disposition to go in for agriculture in the district? I think so, but they are perfectly hopeless till they see some outlet for the produce.
3484. If a railway were opened, do you think there would be a very large increase in the agricultural area? Yes.
3485. I suppose wheat is the only crop which is cultivated here;—do the growers seem pretty well satisfied with the results? I think so; but as far as I know, people have only grown wheat for their own requirements.
3486. Have you heard of any holding being forfeited in the district? No; I do not know of any.
3487. You are aware that in about twelve months there will be a very large area of Crown lands thrown open? I am sorry to say I am.
3488. Do you know if many people are likely to take up land here when they get the opportunity? I do not know of many myself; but I know that every time land is thrown open there is always a great number of applicants at the ballot-box.
3489. At all events, you think it is likely that there will be a large number of applications? I have made up my mind to lose every acre which will be thrown open. I think it will all go the very day it is made available.
3490. I think you stated that you are not very particular as to which line is opened—the Mudgee line or the Dubbo line? I should like to see a railway from anywhere; but if we have to wait till we get a connection from Mudgee, I should give up any idea of a railway at all.
3491. You are almost sure to get one line within a reasonable time; but, of course, you will not get both lines;—in the interests of the whole Colony, which line do you think would be the better one to open? I think decidedly the Dubbo line.
3492. Why do you think that line is preferable to the other? I always understood that there was some idea, sooner or later, of having a line from Werris Creek to Dubbo, and from there on to Melbourne. It seems to me that, if we can connect at Dubbo, it will be far better than going to Mudgee, and then having to work round to the Western line.
3493. *Mr. Watson.*] I understand you to say that you think a railway would pay if brought to Coonamble? I think so.
3494. Suppose you were looking at the matter purely as a private speculation, on which route, from your general knowledge of the country, would you prefer to run the line? I think I should take the Dubbo route, decidedly.

- E. Whitney. 3495. Therefore you think that is the line most likely to pay? Yes.
3496. *Mr. Trickett.*] You have gone in for some agriculture? On a very small scale. We have had 15 acres in, and this year I put in about 50 acres. Last year, owing to the dry season, I got no crop at all to speak of, but the year before I got a return of, I think, between 2½ and 3 tons to the acre.
3497. In a good season you had a crop? Yes; we had between 2½ and 3 tons of hay to the acre.
3498. Did you treat any of the crop for wheat? No; we cut it entirely for hay. Wheat was practically useless to us. There was no flour-mill or means of utilising the wheat.
3499. As regards the sheep land, what profit per acre do you think you get out of that area? We reckon the gross return of a sheep at about 3s. 11d., and it would take from an acre and a quarter to an acre and a half to carry a sheep.
3500. Which would leave a return of between 2s. and 3s. gross per acre? Yes.
3501. How would that return compare with the return per acre from similar land used for agricultural purposes? I have been selling the bigger bulk of the hay I got two years ago at as high as £7 10s., but the lowest I got was £3 10s.
3502. *Mr. Watson.*] What price is hay here now? I think chaff is about £7 or £8; that is the price I sold it at in Coonamble.
3503. *Mr. Shepherd.*] In your previous examination I see you said that some of the farmers reckoned your crop at about 35 to 40 bushels to the acre—is that correct? Yes. That was only remarked by men who were passing. If I thought that any persons knew anything about the matter I asked what they thought it would yield. We never tested it in any way.

Thomas Dun Bertram, medical practitioner and Mayor of Coonamble, sworn, and examined:—

- T.D. Bertram. 3504. *Chairman.*] You are mayor of Coonamble? Yes, and a medical practitioner practising in the town. I have little to add to the evidence I gave at the previous inquiry.
3505. *Mr. Trickett.*] You have been residing here a little over six years? Yes.
3506. Will you give the Committee some statistics in regard to the town? The town was incorporated in 1880. The municipality comprises 23½ square miles. The population in the town is about 1,800, and in the district between 8,000 and 9,000. The general rate is 1s. in the £; the lighting rate 3d. in the £; and the water rate 1s. in the £. The municipality has a debt of £1,000. The annual rental of the improved lands within the municipality is £11,700, and the capital value of the same is £117,000. The capital value of the unimproved lands is estimated at £32,500. The general rate and the water rate yield over £1,100.
3507. The water scheme was carried out by the Government at a cost of £5,594, and you had the usual term of 100 years in which to pay the principal and interest? Yes. We are well ahead of our obligations; our revenue more than meets the annual charge.
3508. The return from the water rate shows a profit? It shows a decided profit. In regard to the debt of £1,000, a sinking fund has been established within the last year to pay off the debt. We got £100 to the credit of that fund within a year.
3509. Since you have been residing here has the town progressed in population? Very decidedly it has. I should think there must have been a 25 per cent. increase in the population during the term of my residence.
3510. You are competent and able to speak as to the health of the town? It is a provokingly healthy town.
3511. As a doctor and as the mayor of the town you must meet a great many persons;—could you tell us what is the consensus of opinion as to the route for a railway to connect Coonamble with the main line? I honestly believe the vast bulk of the people here will be thoroughly satisfied with the connection from Dubbo.
3512. Suppose a resident wishes to visit Sydney, how long does it take him to go there and return, in fair weather? To get there it takes him two days, and to return it takes two days,—so that to go to Sydney and to return, unless you break your neck at it, it takes a week, and that allows you only two and a half days in Sydney.
3513. To go right through, it is a very tiring and fatiguing journey? It is.
3514. With increased accommodation, I suppose there are a good many people with means who would largely avail themselves of the opportunity to take trips to the metropolis? I have no doubt of it. There are many persons who spend the summer here, who would go away for the hotter part of the summer, I believe, if they had proper facilities for travelling. Mr. Donald Fletcher, of Ballagula, the president of our Railway League, is, I am sorry to say, unavoidably absent in Sydney; he is an expert. He has experimentally grown, I think, all sorts of crops. He believes this district will become one of the greatest wheat-producing districts in the Colony.
3515. Is there anything else you would like to state? There is a proposal afoot to establish a flour-mill here. I am thoroughly satisfied that it would have been carried through but for the drought. The provisional committee who were appointed considered it advisable not to proceed with the matter till the drought had broken. But even with the drought, and bad as it was, I suppose very nearly half the shares in the company could have been allotted there and then.
3516. I suppose, in your travels through the district you must have noticed that agriculture has advanced? It has. There was not, practically, any agriculture when I came here; but it has gone on increasing, and is increasing every year.

Peter Aloysius Polin, storekeeper, Coonamble, sworn, and examined:—

- P. A. Polin. 3517. *Mr. Dick.*] Have you lived here long? About twenty-three years.
3518. Then, I presume, you have a pretty fair knowledge of the district? Fairly good.
3519. Your business relations, I suppose, extend some distance round Coonamble? About 30 miles in every direction.
3520. Has the district progressed during the period of your residence? Wonderfully so.
3521. Do you expect the district to go ahead in the same way in the immediate future? I think so.
3522. Do you think its progress is likely to be arrested if the railway is not constructed? I think it will be fairly stationary. Of course, the throwing open of these Crown lands a year hence will bring a population here if the railway does not come.

3523. Do you think the progress of the town would have been even more rapid than it has been, had a railway been extended to the district some years ago? Certainly it would.
3524. Do you think it is necessary, for the success of this small holdings policy, that a railway should be constructed? Yes; I think one would help the other considerably.
3525. You do not think small holders could get on without a railway in this district—that is, men who go in for agriculture or mixed farming? I think they could to a certain extent; but of course they would not have the same facilities for getting to a market as they would have with a railway.
3526. In other words, you believe a railway is really necessary for the success of that new policy in this district? I thought it was necessary twenty years ago.
3527. Still you admit that during that period the town and district have progressed wonderfully? Yes.
3528. Can you give us any idea of the goods traffic from Dubbo to Coonamble? I cannot say that I can. I gave evidence before the last Committee, and I think I stated the amount of carriage which we paid yearly.
3529. In your evidence you stated that, "from July, 1891, to July, 1897, the amount we paid for carriage from Sydney to Coonamble was £7,364 18s. 11d.";—have you been paying more or less since 1897 for the carriage of goods from Sydney? About the same.
3530. Do you think there has been an increase in the amount of goods brought into the district from Sydney and other places along the line during that time? I think so.
3531. Do you think the Dubbo connection, as it would give you practically a connection with two markets, would be more advantageous to Coonamble than the Mudgee connection? I think so.
3532. In other words, you prefer the Dubbo route to the Mudgee route? I would, as a business man.
3533. Do you think it is the best route in the interests of the country at large? I do.
3534. Do you think it is likely that the carriers could compete between Dubbo and Coonamble with the railway if constructed? It would depend on what the Railway Commissioners charge.
3535. The railway rates from Dubbo to Coonamble will be as follows:—For 50 per cent. of the goods, £1 18s. 9d.; for 25 per cent. of the goods, £1 11s.; and for the remaining 25 per cent., about £1 3s. 3d.; the ordinary through rates give an average of 32s. per ton;—under those circumstances, do you think that in fair carrying weather the teams could compete with the railway? I think it would be an impossibility at that rate.
3536. Is it a fact that in 1898 goods were carried from Coonamble to Dubbo for 30s. a ton? I believe they have been. We never had them carried for that price. The lowest price we paid was £2 a ton, and we have paid as high as £20 a ton.
3537. You never paid anything less than £2 a ton? That is the lowest.
3538. Did that low rate of £2 a ton occur in the case of back loading—in the case of wool going down and goods coming back? I think it is a starvation price to carriers. There is not a carrier who could make money at it.
3539. *Mr. Watson.*] When you got the carrying done for £2, were they getting back loading? Yes.
3540. *Mr. Dick.*] It was return traffic? Yes.
3541. It has been stated by one witness at this inquiry that, "as a matter of fact, last year goods were carried between Coonamble and Dubbo for 30s. a ton,"—that is a statement the truth or untruth of which you have no knowledge of;—you have never heard of it being done? I have heard that the Chinamen had loading delivered from Dubbo to Coonamble for 30s.
3542. For what portion of the year, as a rule, are the roads here fit for travelling by teams? They are fit at all times; but, of course, the winter is the worst time for travelling.
3543. They are practically fit at all times for the carriage of goods? Yes.
3544. For what portion of the year are the roads in such a condition that carriage becomes very cheap? It depends upon the season; it depends upon whether there is grass.
3545. For what portion of the year are the grass and the roads in a good enough condition to bring the rate down very low? Probably in the summer-time, if there is plenty of feed.
3546. Could we say for three months of the year? More than that—six months.
3547. Then, if the railway were constructed and the train took the whole of the carriage during the remaining six months, do you think you would have teams along the line for the good six months competing with it? Not at the rate of 32s. a ton. They could not live at it.
3548. Would the removal of the teams from that long stretch of country—from Coonamble to Dubbo—have a somewhat serious effect upon the intervening townships? I do not think it would interfere with them.
3549. *Mr. Shepherd.*] Do you think that the carriers have accepted a very low freight rather than return empty;—do you think it is possible that that may have accounted for the low freight? It may. If a man has a team of horses in good condition he must accept any price before he would turn them out to starve.
3550. Suppose a man had been engaged to take a load to Dubbo he would rather take a very low freight, I should think, than come back empty? I have known them many times to come back empty rather than take 30s. a ton.
3551. *Chairman.*] Is there any other statement which you wish to make? I think if the railway had been running during the last twelve months it would have brought an enormous quantity of forage into this district. I think there have been over 1,000 tons of forage used within a radius of 20 miles during the past twelve months.
3552. You mean that that would have been local traffic;—that produce grown to the south, that is, towards Dubbo, would have been brought here? Yes.
3553. That would have given a railway between Dubbo and Coonamble carriage amounting to £1,000? I believe so.
3554. Do you think there is sufficient country about here to be developed, and that it would be developed by a railway, if constructed, so as to enable that line to pay? I do indeed. I have not had much experience in farming, but fifteen or sixteen years ago I had 20 acres under cultivation, and I got 80 tons of chaff off it.
3555. Have you seen other districts through which a railway has been constructed with which this district would compare? I cannot say that I have. I have not had much experience in that respect.
3556. *Mr. Trickett.*] Do you look upon Coonamble as a large distributing centre? I do.
3557. For what distance round are goods sent from Coonamble? Thirty miles. 3558.

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- P. A. Polin. 3558. Your operations extend over that distance? Yes; perhaps further.
3. July, 1899. 3559. From what distance to the north do you think wool would be brought to the railway? I should think from about 40 or 50 miles.
3560. How much per ton does it cost you to get your goods from Sydney? It would average from about £9 to £9 10s. at the present rate of road carriage.
3561. Of that sum, how much goes for road carriage on an average? £2 during the last twelve months; but I have paid as high as £20 a ton from Dubbo to Coonamble.
3562. I suppose there is very little doubt that if a railway were constructed from Dubbo to Coonamble, and you could get your goods carried for an all-round price of 32s. per ton, you would avail yourself of the railway? Certainly, or even more than that. The convenience in itself would be very great. Carriers at times may be a month or six weeks on the road. I have known them to be two months on the road from Dubbo to Coonamble with loading.
3563. Wheat-growing in this district is a recent development? Yes.
3564. Do you look upon that development as a very great advantage to the district? Certainly.
3565. Do you think there would be any market for produce of that kind outwards, or would it always be towards the metropolis that it would go? I think there would be a great local consumption.
3566. Within say 30 or 40 miles of Coonamble? All the wheat which has been grown locally so far has commanded a ready sale at from 4s. to 6s. a bushel.
3567. That is a top price? Six shillings would be a top price; I have paid that for wheat.
3568. Is it a good quality of wheat? Very good.
3569. It does not suffer from rust or anything of that kind? No.
3570. *Mr. Watson.*] You stated that you prefer the Dubbo connection as a business man;—you are aware, I suppose, that the Mudgee connection would mean a saving of 37 miles of carriage to Sydney? Yes.
3571. Are we justified in assuming that you think the additional markets opening to the westward from a connection with Western line will compensate for that extra 37 miles of carriage to Sydney, *via* Dubbo? Notwithstanding that the Mudgee line will be so much shorter than the Dubbo line, I think the carriage on the Dubbo route will be much lower.
3572. Why? The Commissioners are working the lines on economical principles, and therefore if this line costs more the carriage must be more.
3573. I dare say you are aware that in the case of most branch lines—nearly all, practically—a local rate is put on until the line is made to pay? Just so.
3574. The sooner the line pays the sooner that local rate is abolished in favour of a through rate, which is lower? Yes.
3575. Do you think there is a probability of getting a through rate sooner if it is taken *via* Dubbo than if it is taken *via* Mudgee? Certainly; the cost of construction must be considerably more on the Mudgee route than it would be on the Dubbo route.
3576. The line would have to earn additional interest each year to compensate for that? Certainly.
3577. The extra distance in construction might be compensated for by the additional lands which would be opened up, and which would help to give traffic to the railway;—which route do you think is the more likely to open up country? I think the line from Coonamble to Dubbo will open up sufficient country to make it a payable line of itself.
3578. Do you know the country between Coonamble and Mudgee well? Fairly well; I have been through it several times.
3579. Do you think if a line were constructed from Dubbo to Coonamble there would still be sufficient country left to the east to justify the extension of the Mudgee line towards Cobar? I am not competent to express an opinion on that.

Thomas William Medley, Inspector of Stock, Coonamble, sworn, and examined:—

- T. W. Medley. 3580. *Mr. Watson.*] Will you be good enough to state the boundaries of your district? Taking Coonamble as the centre of my district, I go down south of Gulargambone 30 miles; across from Gulargambone easterly to outside Calga boundary, about 24 miles; northerly 30 miles; westerly 50 miles; north-westerly 50 miles; and south-westerly to a point within 12 miles of Warren.
3. July, 1899. 3581. How many sheep are there in your district, and what is its area? The area of the district is 2,769,944 acres, and it contains 1,637,160 sheep, 6,180 horses, 14,254 cattle.
3582. Last year you stated that there were 235 pigs in the district? I did not return them in this annual report.
3583. Do you think that number would be approximately correct? Yes; there are not a great many in the district.
3584. Since you gave evidence before the former Committee there has been a falling-off of 100,000 in sheep, 2,000 in cattle, and 800 odd in horses? Yes.
3585. You attribute that falling-off, I suppose, to the severity of the drought? To the drought.
3586. How do these returns compare with the returns during the last ten years;—has there been an increase? There has been a steady increase ever since I came here.
3587. A steady increase in the carrying capacity of the district? Yes.
3588. To what is that attributable—to a better understanding of how to utilise the land? I think so. The country has been cut up a great deal, and the selectors have made better use of the land.
3589. You think that smaller settlement allows of better use being made of the land, even for pastoral purposes, than the system of large holdings? Certainly.
3590. Do you think the small settler improves his property more in proportion to the size of it than the large holder does? I think he does.
3591. Perhaps he is able to pay greater attention to the breeding and care of the stock generally? He pays a little more attention.
3592. In any case you think it is a fact that the system of small settlement permits of a greater quantity of stock being carried, even if it used for pastoral purposes alone? Yes.
3593. In what way could the country within your district be classed;—is it sound, healthy country for stock? Yes, very sound. When I first came here there was hardly anything wrong with it, except the Cumberland. Since then we have had a little fluke, and worms, and that sort of thing introduced from other districts.

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3594. Have you had anthrax? It has always been here.
3595. Is it very prevalent? It has been in a good many places.
3596. Is it peculiar to any class of country within the district—the plains or low country—or is it common to all the district? Some of the country which appears to be the best is the worst for the anthrax. In many cases the best of land appears to be infected with anthrax.
3597. I think you said that in some portions of the district, where it was formerly very prevalent, it has now almost disappeared? From what I can ascertain, in places where twenty years ago it was very bad, of late years there has been very little of it.
3598. And it has made its appearance in other parts where it was not previously? Yes.
3599. I have been informed that you have experimented in irrigation to a small extent? To a very small extent—only half an acre of garden.
3600. Was it sufficiently large for you to form any judgment as to the possibilities in that connection? Quite.
3601. What is your opinion of the possibilities for irrigation with artesian water? I think if it is properly carried on, with proper drainage, it pays well without a doubt.
3602. Did you have any experience of irrigation before you tried this experiment? No.
3603. The authorities say it is a common error with people who first attempt irrigation to use rather much water;—your own experience was of a similar character? I think so, to my cost.
3604. You tried lucerne, I believe;—was that successful in the way of yields? It did well for the first three years.
3605. What returns did you get? I could not tell you about the tonnage, but as often as I got round to one end I could cut it at the other end. Of course I was not cutting it for a large number of stock. It did well. At the end of that period of three years a portion of the paddock got too much of the water and the other got too little of it, so that it all died out. It had not been properly attended to; I could not attend to it properly. I do not think the roots got down deep enough.
3606. Is the soil itself not deep enough, do you think? It is pretty well known that lucerne roots go down about 7 feet. I think the soil there is not that depth; therefore, I do not think it lasts so many years. The general life of lucerne is, I believe, seven years.
3607. You think the soil where you experimented was not deep enough for the purpose? Not for lasting.
3608. Do you think the water you put on went right down? Yes.
3609. Is it a clay bottom? I have never gone deep enough to see that.
3610. What depth was the soil there? I never went more than about 2 feet in it.
3611. But in many places in this district the soil is of a greater depth than 6 feet or 10 feet, is it not? Yes; on the banks of the creeks and rivers it is deeper. It is a sort of wash, a great deal of it. I believe in some parts close to my place it is deeper, but back in this paddock I am more on the flat.
3612. Is the place where you tried the experiment black soil, in plain country? It is not quite black; it is more loamy.
3613. Did your experience suffice to convince you that it is possible to make a success of irrigation if properly carried out on a comparatively small area? Without a doubt.
3614. Did you try any other kind of crop besides lucerne and fruit trees? In the first year where I put the lucerne in I grew wheat, and I never saw a finer crop anywhere—not in Victoria.
3615. You cut that crop for hay? Some of it I thrashed out.
3616. Have you any idea how much water you used in proportion to the area of land? I can hardly say how much. I had no method of measuring the water. I find it very good for the flowers.
3617. They do not seem to suffer from the quality of the water? Not in the least. We have all kinds of flowers there.
3618. Referring to stock matters, do the people go in much for fattening here with a view to reaching the market? A great deal.
3619. And travelling them to the nearest railway? Yes.
3620. Which point do they generally make for with a view to marketing fat stock? The larger quantity of fat stock which go from here go *via* Dubbo to Sydney.
3621. Seeing that the distance to Dubbo is greater than the distance to Warren, which we may look upon as the nearest railway station, I suppose there must be more grass on the stock route? It is a better route than the Warren one. There are not many of them going from this side to Warren with stock.
3622. How long does it generally take them to get fat stock from here to Dubbo? From about fifteen to sixteen or eighteen days, generally.
3623. Do they deteriorate much on that trip? That is very much according to the season. Sometimes there is plenty of grass on the roads, and at other times there is very little grass, and very little water.
3624. In an ordinary season there must be some deterioration, I should imagine, in taking fat stock that distance? Very slight, I think, in an ordinary season, if they are taken carefully.
3625. Do you think with an ordinary season the owners of stock here would prefer trucking their stock at Coonamble, and having them sent through to Sydney in, say, a couple of days, rather than have the almost three weeks' journey, which travelling to Dubbo would involve? I think they would certainly truck here a great number of them.
3626. You think the major portion of the fat stock, leaving stores out of account, would be trucked here? I think so.
3627. In ordinary seasons do they fatten many cattle? Not a great many cattle.
3628. There is a fair number of cattle in the district, I notice? There are a good many fattened; but I think, as a rule, they have not such a great number of cattle in the district.
3629. Eighteen thousand? But it is a large district, and a rich one.
3630. You do not know of their fattening many cattle for the market? There are small lots.
3631. Do you know of any station where they make the fattening of cattle their main object? No. For the most part they confine themselves to sheep as far as fattening is concerned. I think Wonbobbie fattens more than most.
3632. How many cattle would they have, roughly? 400 or 500 at most. They get stores on, and turn them off fats.

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3633. As far as the railway is concerned it would have to rely on fat sheep only for traffic;—it could not expect much traffic from fat cattle and fat stock? Mostly sheep. There is a great proportion of sheep sent from this district.
3634. In a fair season this is a good fattening district? Very good.

John Cook, hotelkeeper, Coonamble, sworn, and examined:—

- J. Cook.  
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3635. *Chairman.*] You desire to make a statement, I understand? Before I came here to live, I did a great deal of travelling between Coonamble and Dubbo, and I know a good deal of the country on both sides of the river. I have been farming pretty well all my life. I think I have a good knowledge of the soil—that is, agricultural land.
3636. Were you in the room when Mr. Thomas gave his evidence? Part of the time.
3637. Did you hear what he said in reference to the land and its capabilities? I heard part of his evidence.
3638. Did you agree with what you did hear? I agree with a lot that I heard him say.
3639. Do you think you heard the principal points he made? Yes; regarding the land about Gilgandra.
3640. And the whole district? Yes.
3641. And you quite agree with him? I do.
3642. About what proportion of the land about here do you think will be fit for agriculture? A great quantity of it would be. The best of the land about here has never been tested. The best land for cultivation in this district is timbered country. A lot of that country has not been cleared—sandy loamy soil, of which there is a great quantity all round Coonamble. It is land which holds moisture well.
3643. How would you describe the Crown lands in this district? I have not a great idea of the Crown lands. I suppose a lot of the good land has been got already; but I think there is a lot of good land available yet, or will be available.
3644. Do you know if anybody is waiting to get hold of some of this land when it is available? I know a great lot.
3645. Do you think there will be much of a rush for the land? I think so.
3646. For 1,000,000 acres? Yes.
3647. What proportion of that area do you think would be taken up for mixed farming? Three parts of it, I think.
3648. Have you noticed any very great increase of population about the district? There has been a good increase, but the district is paralysed from the want of a railway as far as the farming industry is concerned. There would be a lot coming here if we had a railway. I am farming a little, but I would do a great lot if there were a market, and a lot of other people would do the same.
3649. You are simply kept back by reason of the fact that you have not got cheap carriage? Certainly; we have not got a market.
3650. Are you quite satisfied that agriculture has passed the experimental stage here, and that you would be able to compete with others; because if you go in for much cultivation about here, you will have to take another market besides the local one? Certainly we would, and that is what we want.
3651. Do you think the experiment has proved that it would pay to cultivate and send your surplus to Sydney and compete there with other districts of the Colony? I think so.
3652. You are quite satisfied on that point? I am quite satisfied that there is soil in this district which is suitable for farming; and a large quantity of it, too.
3653. Have you studied prices of late years in the metropolitan market? Yes.
3654. Having that knowledge, you are of opinion that it will pay to produce in this district, and send your surplus as far as Sydney? It will pay to grow produce here as well as it will in any other part of the Colony.
3655. *Mr. Trickett.*] How long have you been here? I have travelled in this district off and on twenty-five years. I was farming in Dubbo eighteen or nineteen years.
3656. It has been stated by Mr. Harper that they expect to get over £1,000 for the carriage of minerals;—what minerals are there in this district which could be carried by rail? I could not say. I have not had any experience of minerals.
3657. Have you heard of any minerals? I have heard of a little about the mountains and different little places, but nothing worth speaking of.
3658. I suppose if there had been, you would have been sure to hear of it? Rather.
3659. *Mr. Dick.*] You have had a good deal of experience in the carrying trade? Yes, and farming; more particularly in farming.
3660. You know something about carrying at any rate? Yes.
3661. You have stated that there would be a good local market in this district for agricultural products? At times; it depends on the seasons.
3662. Have they not got that good local market now? Yes.
3663. How is the railway going to improve that market for them? The drought is causing a good market at the present time.
3664. Is this what you wish to convey: unless you have a drought, you have not a local market? If we have a good season we should have a lot of stuff to send somewhere—that is, if there were any large quantity grown, we should have to have a market to send it to.
3665. From your experience of carrying, do you think there would be any chance of successful competition on the part of carriers with this line from Dubbo to Coonamble? I do not think so.
3666. Not with an average rate of 32s. per ton which the railway is to charge? I do not think so—not with me anyhow. I have teams still.
3667. Do you mean to say that you could not compete at that rate? I would not try.
3668. Is that from a patriotic motive or from a £ s. d. motive? I could find something better to do than using them in that way.

Henry Lyons, agent for Messrs. Wright, Heaton, & Co., Coonamble, sworn, and examined:—

3669. *Mr. Shepherd.*] How long have you been residing in the district? About twenty-three years.
3670. Have you been engaged in carrying all the time? No.
3671. How long have you been connected with the firm of Wright, Heaton, & Co.? About seventeen years.
3672. I suppose you are pretty well acquainted with the district in every direction? I am.
3673. Where does your principal loading come from? From Dubbo.
3674. Have you a large business with Mudgee? No; very little.
3675. Have you taken loading in any other direction? Yes; our firm also takes loading from Warren, but there is very little coming that way—a few tons now and again.
3676. Have you an estimate of the tonnage you have carried between those two points during the last few years? No.
3677. I suppose there has been a general increase for the last seventeen years? Yes.
3678. What do you think has been the average tonnage for the last five years? I could not tell, as the records are kept in Dubbo and Sydney.
3679. But you have a rough idea, I suppose, of the average tonnage? I do not know.
3680. For instance, how many times a week are you in the habit of despatching—taking one week with another? The Dubbo office keeps the records. The teams load in Dubbo; and it is only in the wool season that teams load here.
3681. I suppose a great many of them, in returning, take back sleepers and sawn timber? Yes, close to Dubbo.
3682. Of that you would have no record? No.
3683. What is about the average rate of freight per ton between Coonamble and Dubbo? I should say from £2 10s. to £3 when there is no wool going up.
3684. I suppose in the wool season you generally have better feed on the line, and freight is a little lower than at other times? The freight is sometimes a little lower for goods coming down from Dubbo; they get loading both ways, and they take it at a little lower freight.
3685. At what season in the year is the carriage at the lowest point? From when they start shearing—sometimes in August, sometimes in September—to about December.
3686. I see from your evidence at the previous inquiry you have carried goods for as low as £2 a ton;—under what circumstances was it done? I expect the carrier agreed himself.
3687. You strike an average between £2 10s. and £3? Yes, all the year round.
3688. Do you know what the rate of freight is between Mudgee and Coonamble? No.
3689. I see you said in your former evidence that the rate was about £2 10s.;—has there been any traffic of late years between Mudgee and Coonamble? No, not that I know of. We never get anything coming from Mudgee. There used to be a little flour coming up at one time from Gulgong, but that was years ago. There has been nothing coming up since then.
3690. Do you think the carriers would endeavour to compete with a railway between Dubbo and Coonamble, or do you expect that they would give up altogether? At 3s. a ton they could not compete. They would not put their horses in to compete.
3691. So that the railway would get the whole of the traffic? I think so.
3692. Do you think the railway, if opened here, would increase the produce? I think so. I fancy there will be more settlement about the district if the railway is opened.
3693. It would encourage agriculture, for instance? I think so.
3694. And possibly more money would be spent on the sheep runs, and so on? There is not the slightest doubt.
3695. It would give an impetus to the place altogether? Yes.
3696. In the interests of the whole Colony, not considering the interests of Dubbo alone, which line do you think it would be best to adopt—the Dubbo, the Warren, or the Mudgee? If we could get a railway in the same time from Mudgee as we could get it from Dubbo, I would be in favour of the Mudgee line.
3697. In the event of only one line being opened you would give the preference to the Mudgee line? Yes. I believe there is more agricultural land between Coonamble and Mudgee—over at the base of the mountains on the east of the Castlereagh.
3698. Do you think it would open up a larger area? I think so.
3799. Both agricultural land and pastoral land? I do not know about pastoral land—I think that is all pretty well taken up; but agricultural land it would be for small settlement.
3700. The railway will probably serve the country for 20 miles on either side; do you think the whole of that area of 20 miles on either side would be available chiefly for agriculture? I think the most part of it would be.
3701. For the whole distance? Yes.
3702. There is really no barren country at all? There is barren country in places, but I do not think there is much.
3703. About what percentage is there? That I could not tell you.
3704. Have you any idea of the general feeling in Coonamble as to the two lines;—which line of the two would be preferred? I think the Dubbo line.
3705. But you think the Mudgee line would be the better one? In the interests of the whole Colony I do.
3706. Could you describe the character of the country between Coonamble and Mudgee? I have not been over there lately. It is a good many years since I went through it; but it is good agricultural country nearly all the way.
3707. Is it well timbered? There are some parts well timbered. There is myall for part of the way; there is box when you get towards Cobborah and Gulgong; there is some ironbark there too.
3708. How far does the cultivation extend from Mudgee in this direction? I think it extends along the Castlereagh, very nearly up to Mundooran, off and on in places.
3709. How far would that be from Mudgee? About 70 miles.
3710. Is there anything else you would like to say? I do not think so, except that you can ascertain from the Dubbo office or the head office what tonnage comes through to Coonamble.
3711. *Mr. Trickett.*] In answer to Mr. Shepherd, you said you would like the Mudgee line if you could get it? In the same time as the Dubbo line.

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- H. Lyons. 3712. By that I suppose you meant that the Mudgee line is so much more expensive that you hardly see a probability of a line being made from there? That is what I meant.  
 3 July, 1899. 3713. What is the distance from Mudgee to Coonamble? It is about 172 or 173 miles by road.  
 3714. The estimated cost of the Mudgee-Coonamble line is between £3,500 and £3,700 a mile for 150 miles, and the estimated cost of the Dubbo-Coonamble line is £2,400 a mile for 93 miles;—I suppose you have these figures in your mind when you say that you hardly think that a line will be made from Mudgee? Yes.

Daniel Neil McAlary, grazier, Weetalibah, sworn, and examined:—

- D. N. McAlary.  
 3 July, 1899. 3715. *Chairman.*] What are you? I am a grazier, residing at Weetalibah, 19 miles north from Coonamble. I hold about 7,300 acres of conditional purchase and conditional lease land.  
 3716. Are there many settlers in this district with a holding of much the same size as yours? The average selector has a smaller area than I have. Some of the holdings are larger, but not many, I suppose.  
 3717. Do you think the proposed railway will be a benefit to you and others holding a smaller area than you do? I think it would be a very great benefit to us if we had a railway.  
 3718. You would be able, I suppose, to send fat stock to market? Yes.  
 3719. Are you able to do so now? Unfortunately we are not, through the want of a railway. As a general rule, small holders with a small lot of sheep cannot get a fat mob large enough to pay for driving the distance we have to send. I have found out that it will not pay to send less than from 1,500 to 2,000. It is very rarely that a small holder will have that number ready at once to send away. As a general rule, we can, all through the year, get 200 to 300 to fill three or four trucks, and in three or four weeks we can get a few more in that way.  
 3720. You would take advantage of a market when it was to send your fat stock away? Yes.  
 3721. At the present time you cannot take advantage of a market? No.  
 3722. How many fats could you get ready to send away at once? As a general rule, I have not had more than about 500 at any time. I did on one occasion send away as many as 1,200 at once.  
 3723. In a good season would it not be possible for a few of you to combine and send 2,000 or 1,500 away by road to Dubbo, even though a railway were here? I do not think so.  
 3724. You do not think there is a probability of anything of that sort occurring? I am sure I would not. I have had that much experience in sending fat stock to market to know that once they leave the soil they are accustomed to the sooner you have them in the market the better.  
 3725. You think that even in a very good season they would fall off quite sufficiently, at any rate, to prevent you from using the road instead of the rail? Yes. Any person experienced in stock must know that once they leave the place they are accustomed to they are falling off in condition all the time till they get to market.  
 3726. So that there is no probability of what I suggested occurring when the railway is constructed? I do not think there is the slightest probability.  
 3727. Have you had any experience in farming? Just a little. The only thing I ever grew was a little hay.  
 3728. I suppose the reason why you cut for hay was, not that you were afraid that it would not make grain, but that you had no market for wheat? Yes.  
 3729. What did it shape like when you cut for grain? It looked very well; it was a good crop.  
 3730. Have you any idea what it was likely to yield? That I could not say.  
 3731. Are there any of your neighbours who have grown wheat? Yes; men who had been practical farmers in other parts of the Colony told me that they grow better wheat here than they could in other parts, such as Riverina and Brookong.  
 3732. Experienced farmers have informed you that there are better possibilities here than in some other districts which are considered favourable? Yes.  
 3733. Are you likely to go in more extensively for agriculture if a railway is constructed? It is my intention to cultivate about 500 acres, and possibly more, if the line is constructed.  
 3734. I suppose others will do the same? Others have told me that they will do so.  
 3735. You have heard some of the evidence given here to-day;—do you corroborate what has been said as to the nature of the land, as far as your knowledge goes? I corroborate the evidence of those who consider that a large portion of the land in the district is fit for cultivation; I corroborate that part of their evidence.  
 3736. Is there any statement you wish to make? This year we have had a very bad season, and if we had had a railway I think a large number of the valuable stock which have perished in the district would have been saved. Some would have sent their stock to market as fats; others would have brought in artificial feed for their valuable stock, but through the expense of getting feed here, and the way we had to get it, they thought it would pay them better to let the stock die. At the present time many of the small holders are in a fix just now through being overstocked. They would not have been in that fix if they had had a railway to send away their stock and their fat sheep. It did not pay them to send away little lots, and that causes them to be in a fix, with the possibility of a large number of their stock perishing in the winter.  
 3737. That would mean not only a saving to you, but some benefit to the consumer in Sydney? Yes, and to the country. Stock, instead of being allowed to die in large numbers in the paddocks, would be sent away, the producer would get something, the consumer would get some benefit, and the Government would benefit.  
 3738. How many sheep to the acre do you carry? About a sheep to the acre in an ordinary season—not such a season as we have passed through.  
 3739. You have increased your holding lately? Yes.  
 3740. Have you increased the number of your sheep too? Yes.  
 3741. So that you can carry the same number now as you carried when the last Committee was here? The same proportion. The last land I got is not thoroughly improved. A very large proportion of the land was covered with green timber when I got it. It has not had time to improve since then. At the present time I have about a sheep to the acre upon all my country, and about 160 head of cattle.

3742. Would a connection with Mudgee suit you as well as a connection with Dubbo? I do not think so. I think the Dubbo connection would suit better.

3743. I want you, if you can, to put aside any idea of the now-or-never business;—what we want to get at is what route would be the best, not only in the interests of this district, but in the interests of the country? I am still of opinion that Dubbo is the best route.

3744. We cannot call every person as a witness;—would you like to say that you think others around you are of the same opinion? There are some of a different opinion; but certainly the majority of the people I see say they are in favour of the Dubbo connection.

3745. For what reason? It gives us, in my opinion, more markets. It gives us the Sydney market, and a market on the Western line to Bourke. Sometimes we have a good season here when they have a drought at Bourke, and if we had a railway, we could send our produce to Bourke and other stations along the Western line. We should also have a better chance of communicating with the southern side by the Blayney-Harden line. That, in my opinion, is a very great consideration to us.

3746. I suppose you also think you would have to pay more carriage, seeing that the Mudgee connection would cost £1,000 a mile more than the Dubbo connection? Yes; I am of opinion that it would cost us more to send our produce to Sydney *via* Mudgee, owing to the heavy local rates.

3747. *Mr. Shepherd.*] You have a higher average per acre than any witness we have had yet;—you have one sheep to the acre, and you have a number of cattle as well as sheep on the land? The cattle I have not had long.

3748. Is your land all cleaned up? It is not cleaned up, but I am very particular about the ringing.

3749. Do you kill all the injurious timber and grub up any young stuff which comes up? Yes; I send my men out with mattocks, and they take up all the seedlings. I allow nothing to grow which would prevent the feed from growing. I allow no timber to grow except the edible scrub.

3750. Very few persons pay any regard to those things;—half the land seems to be taken up with rubbish—undergrowth and broken limbs? I consider it more necessary to keep down the undergrowth than even to ringbark, because, as a general rule, if you ring country and neglect it afterwards it is worse than if you never touched it at all.

3751. You are evidently deriving a benefit from that policy, by having a larger carrying capacity than anyone? It is about ten years since I settled on my country, and I have had men over a good part of it three times in that period.

3752. What do you consider the best time for ringbarking? It is greatly owing to the season. Some people will say that if you ring at certain times it will not sucker. I have tried by ringing at that time; in some years it would sucker and in other years it would not. A good deal depends upon how the work is done, and a good deal depends upon whether it is a wet or dry season.

3753. If you ringbark six or eight weeks after rain you are more likely to be successful than if you ringbark at any other time? I think so.

3754. *Mr. Watson.*] Is your place on the river? No; it lies exactly between here and Pilliga. I am away off the river. I am at a place called Weetallibah Creek.

3755. It can hardly be classed as part of the river flats? No.

3756. There is no plain country amongst it? Yes; it is myall, belar, and budda country mixed—open plain country.

3757. Would your place be a fair average of a good area of country, or is it better? I think so. There is a lot of Crown land to be thrown up next month right alongside me, which I consider quite equal to my country. Of course it is not equal to it now, because it is growing a lot of timber.

3758. If it is improved it will be as good as your land? I see no reason why it should not, as it is only divided from my property by a fence.

3759. You think that a great portion of that part of the district is as good as your land? I do. Many of my neighbours—some of the smaller holders—as a general rule, carry about the same amount of stock per acre.

John Rigney, grazier, near Coonamble, sworn, and examined:—

3760. *Mr. Trickett.*] What are you? I am grazier, living about 10 miles east from Coonamble.

3761. You have a holding of 11,200 acres? Combined. It is a family selection, and is used chiefly for sheep-grazing.

3762. How many sheep to the acre do you carry? Two sheep to 3 acres—that is, about 1 acre and a half to the sheep.

3763. Is your land fully improved and cleared? Yes.

3764. Is that about its average carrying capacity? Yes.

3765. Where do you send your wool to? To Sydney *via* Dubbo.

3766. What carriage do you pay from your place to Dubbo? I could not say. I contract with the agents to take the wool right through to Sydney for about £6 10s.

3767. What do you think of the proposed railway from Dubbo to Coonamble? We want a railway to Coonamble. I am not altogether in favour of the Dubbo route. I think the Mudgee route is the best route for agriculture. It would open up more country—it would be for the good of the country entirely, and it would be a nearer way to Sydney.

3768. I suppose if you could not get a line from Mudgee you would not object to a line from Dubbo? No.

3769. We have heard a great deal from other witnesses about the advantages of having more than one market if the railway is constructed from Dubbo to here;—what do you think of that? There is no doubt we should.

3770. Do you send all your stock and wool to Sydney? Yes.

3771. How do you send live stock? To Rylstone. We have sent occasionally to Dubbo.

3772. How far is it to Rylstone? 160 miles from here.

3773. Do you find that a good line? Yes, in ordinary seasons.

3774. Do not the sheep suffer very much by being driven all that distance? They fall away.

3775. Would it be an advantage to you if you could send them direct all the way by train? Very much.

3776. What number do you send when you drive them to market? From 2,000 to 3,000.

3777. I suppose with a railway it would be a great advantage to the smaller settlers to be able to send small lots of stock to the market? Very much.

3778.

D. N. MoAlary.

3 July, 1899.

J. Rigney.

3 July, 1899.

- J. Rigney. 3778. Have you gone in for agriculture at all? Yes. When I first came to the district I went in for agriculture, and I was very successful with wheat and hay growing. I do not go in so much for it now.  
 3 July, 1899. 3779. Have you increased your area in that respect? No; when I first started I used to breed sheep, and when I left off breeding and started fattening I left off agriculture at the same time.  
 3780. You abandoned agriculture because you do not go in for that line? I am going in for it again. I am making a start this year on my place.  
 3781. What description of country is it? It is myall country, with a black soil.  
 3782. Would that be good for wheat-growing? Yes.  
 3783. Does it cost very much to clear? I am one of the lucky ones. There is very little timber on our country. It is plain country.  
 3784. Are you going in for agriculture for the purposes of your stock, or for the purposes of sale? For stock.  
 3785. Do you think you would be likely to go in extensively for selling if there were a good market? There is no doubt that a railway would bring it on.  
 3786. Is that the generally-expressed opinion in the district? I think so.  
 3787. You heard Mr. McAlary's evidence;—do you agree with that generally? Yes; except as to carrying capacity.  
 3788. His land must be specially good and specially improved? I think he has been one of the lucky ones—getting sometimes 3 or 4 inches of rain when his neighbours get none.  
 3789. I suppose you agree with other witnesses, too, that to cultivate land for wheat pays better than running sheep on it? Combined.  
 3790. Is it well-watered country where you are? No; it is watered by artificial dams.  
 3791. It is good country once you get water? It holds well.  
 3792. Do you think this country about here is country which will be useful for the development of small holdings? Yes.  
 3793. Do you think it would encourage men with small capital to come here and take up small holdings, and largely increase the population of the district? Yes.

William Farrell, sheep-farmer, near Coonamble, sworn, and examined:—

- W. Farrell. 3794. *Chairman.*] What are you? I am a sheep-farmer, at the back of Bundy, 14 miles west from Coonamble.  
 3 July, 1899. 3795. You were examined before the previous Committee? Yes.  
 3796. Were you supplied with a copy of your evidence? Yes.  
 3797. At that time I think you favoured the Mudgee connection? I do not think so. I said there was no doubt that the Mudgee line would be the best. The league did not ask for any route.  
 3798. You stated in your evidence, I think, that you thought the best line, from a national standpoint, was the Mudgee line? That is what I thought.  
 3799. Are you still of that opinion, or have you been led by further experience to modify it? At that time I did not know that the land between Coonamble and Dubbo was good for agriculture; but I have learned since from men who lived there, and different men who have travelled through the country have told me, that it is good agricultural land.  
 3800. Therefore, you now modify your opinion, and prefer the Dubbo line? Yes.  
 3801. Have you anything further to add? No.

Martin Gilligan, farmer and grazier, near Coonamble, sworn, and examined:—

- M. Gilligan. 3802. *Chairman.*] What are you? I am a farmer and grazier, 13½ miles west of Coonamble.  
 3 July, 1899. 3803. Have you been present during this inquiry to-day? Not quite all the time. I came here just as Mr. Thomas was leaving the chair, and Mr. Nash was taking his place.  
 3804. So far as you have heard the evidence, do you agree with it? I quite agree with it.  
 3805. What area do you hold? I have 5,000 acres. At the present time I only carry about 3,400 sheep. I have lost a lot through the drought.  
 3806. Are you carrying now 4,000 sheep? With lambs and all, I am carrying about 3,400.  
 3807. It is generally considered good fattening country about here? The principal part of it is pastoral land, and what is not fit is then tip-top for what I call pastoral purposes. I have had forty years' experience of farming.  
 3808. Have you done any cultivating? Yes. In good seasons I have had very good results; but of late the seasons have not been too good, and, of course, the results have not been too good. I have only been cultivating a small lot, but I intend to extend my farm to 100 acres. I cultivated 12 acres last year. I put in 20 acres this year, and I have men clearing up to the extent of 100 acres for agriculture.  
 3809. To grow grain or hay? For grain, if I can get a season to grow it; for hay, and have wheat also.  
 3810. Generally speaking, are the holdings suitable for mixed farming? The plain country cannot be beaten in Australia for grazing, and the timbered country cannot be beaten in Australia for agriculture.  
 3811. Does the country lend itself, when subdivided, to both agricultural and pastoral purposes? Every station I see in the district is suitable for both purposes. There is timbered country, and there is plain country, and they are suitable for agriculture and grazing.  
 3812. So that if the leases which will fall in shortly are subdivided into smaller holdings, you think the district will lend itself to small holdings or closer settlement? I am quite certain that the district is suitable for closer settlement—2,560 acres in each block. It will be the making of Coonamble.  
 3813. I suppose you are quite satisfied with your prospects? Quite so.  
 3814. Generally speaking, are the people prosperous in this district? Very prosperous, indeed, in good seasons; but this season has been bad all through the Colony. In a good season they are all prosperous. They all have money, in Coonamble any way; it is a prosperous place.  
 3815. No persons are throwing up their holdings and clearing out because they cannot make a living on them? None that I am aware of; they all seem to be doing well.  
 3816. You consider there is a good future before the district if they get the means of carrying their produce to market? I am quite certain there is a good future before the district if carriage is made easier. I have done a lot of carriage myself from Dubbo and different places. 3817.

3817. If, instead of horse teams, you get a railway, you believe the place will go ahead? I believe a railway is badly needed. M. Gilligan.
3818. Any chance of its paying? It must certainly pay; I cannot see why it cannot pay. I have been driving my own sheep on different occasions from here to Mudgee, Dubbo, Rylstone, Luie, and different places. The country is nearly all fenced off into lanes. The stock, when they leave here, must be picked fats, but when they get to Sydney they are only stores, as the result of travelling through lanes. In the course of a few years I do not think people could drive their stock at all to market by road; they must use the railway. 3 July, 1899.
3819. You think that if they desired to dodge the railway in a good season they could not do so? No; because they will be in lanes very shortly all the way; at present they are half the time in lanes.
3820. *Mr. Shepherd.*] Have you farmed anything but wheat? Not up country, but down country I farmed all kinds of grain. I have farmed here only for hay.
3821. You have not tried to grow oats? In one year only, and then only an acre; it did not come to perfection.
3822. Is it generally a failure in the district? No; it is so late in a bad season, it stands the weather.
3823. Have you tried any millets, sorghum, or planter's friend? No.
3824. All your farming, I suppose, is for home consumption? Yes.
3825. What has been your average crop per acre? I have not had very good crops; but I have cultivated a farm for Mr. Keogh, at Warrina. I have cut over 4 tons of hay and oats to the acre. I have not done so on my own farm.
3826. Is your land all cleared? No; some of it is plain. I have enough cleared country now to make the farm paddock larger.

TUESDAY, 4 JULY, 1899.

[The Committee met at the Council Chambers, Coonamble, at 10:30 a.m.]

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.	WILLIAM THOMAS DICK, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

William Pedley, cordial-manufacturer, Coonamble, sworn, and examined:—

3827. *Chairman.*] What are you? I am a cordial-manufacturer in Coonamble. I have lived here for seven years. W. Pedley.
3828. Do you consider it is a progressive district? Yes. 4 July, 1899.
3829. I understand that you have done a little farming as well? I started farming this year. I had a trial on a small area three years previously.
3830. Have you tried the effect of irrigation? Yes; I fenced in half an acre of black ground. I put in barley and lucerne, and I cut it six times that year. I then put in some planter's friend or sorghum. I let some of it grow to see how it would grow, and it grew about 9 feet high. It has been growing ever since, and it continues to grow well.
3831. Was that grown on the black soil? Yes; in the town.
3832. Which is supposed to be unfit for agriculture? The land was sold to me as no good. It is low ground; it is in a swampy place.
3833. Did you keep any account of the cost of irrigating and cultivating? No; I was using the bore water.
3834. Would it pay to grow grapes here, and use the bore water for irrigation? I am positive that it would. That half acre saved me £1 a week all the summer.
3835. What you mean is, that otherwise you would have had to purchase fodder to the extent of £1 a week all the summer? Yes.
3836. Have you any idea what it cost you;—it is quite possible that it might have paid you better to buy? It cost me absolutely nothing but the price of the hose, the seed, and the putting in in the first onset. I could not tell you the quantity of water I used, as I had no meter. I put on the water as I thought it was required. I just gave it a good watering about once a week.
3837. Have you tried other farming in the district? I have put in trees round the edge of the crop, and they seem to thrive well.
3838. Are you quite satisfied that agriculture will pay here? Yes; I think, as a rule, they have sufficient rain, provided that they fallow the land.
3839. With a railway to enable you to get rid of your surplus products, you think it will pay? Yes.
3840. Are you prepared to increase your cultivation area if a railway is constructed? Yes, I have increased it so far; but, as it happens, I am hemmed in with all private property. I have increased, and I am still trying to increase, the area.
3841. In your opinion, which connection would best suit the wants of this district? To the best of my belief, the Dubbo line.
3842. Why? Because we should have more markets by that connection, and would be more in touch with the railway system of the Colony. We could get more easily to all the other districts *via* Dubbo than we could *via* Mudgee. By the connection with the Western line at Dubbo we could get to Bourke, Orange, and Parkes, and from Blayney we could get across to Harden or Melbourne; whereas by the connection with Mudgee we should have to go to Wallerawang and then go straight back to Orange, Parkes, and Bourke.
3843. *Mr. Dick.*] Do you know that if you had to send all your produce to Sydney *via* Dubbo you would have 34 miles more trainage than you would have if it were sent *via* Mudgee? I reckon that by catching these branch lines a good many of the fellows would never want to go to Sydney; they would get better prices on one side or the other as a rule, and have the Sydney market to fall back on to if the prices elsewhere were not sufficiently good.
3844. Are you prepared to say that it would be better for all time if you want to send anything to Sydney to

W. Pedley.  
4 July, 1899.

to pay the 34 miles extra trainage? It would be better for me to get the Dubbo connection, because the other markets it would give me counterbalance that extra trainage to Sydney. It would give me more markets than the other would.

3845. You do not look to Sydney as your sole market? No, not if you sell to the best advantage.

3846. Have you any other statement to make? As far as I know, the town is kept back greatly without railway communication. There is other business here that cannot go on for the want of a railway. For instance, there is all the machinery lying in the town for establishing a creamery. For five years I have had lying here everything but the separator; but through not having an outlet it is too venturesome to establish a creamery. I reckon that if that industry were started it would be a big benefit to the people of the district. As a rule, about here the milk is either given to the calves or half of it is thrown away. There are not many pigs to feed with the milk.

3847. Are there any other industries kept back from the want of railway communication? I reckon there are vineyards kept back, and also the fruit industry. I am going to put down a vineyard and start an orchard with the expectation of getting railway communication.

3848. We may gather from your statements that if railway communication is given from Coonamble there will be a general all-round advance in production? Yes.

3849. Has there been much increase in the population here since you came? There has been a big increase in population; also a good growth in the town.

3850. That increase, you think, will be much greater if you get the railway? Yes.

3851. *Mr. Shepherd.*] What kind of gardening are you engaged in? I have a general assortment—principally lemons, oranges, and grapes, which seem to thrive well here.

3852. From what I have seen here the citrus fruits seem to do better than the stone-fruits;—is that so? As far as I know of them, they seem to get along pretty well. I have seen as good stone-fruit here as I have seen in any part of the Colony.

3853. What is the extent of your orchard? I am trying to make it up to 10 acres—that is, both vineyard and orchard. I am only starting this year.

3854. You are thinking of starting a nursery, I believe? No; I have not got that far advanced yet.

3855. Have you an idea of the area of each class of fruit you have in the 10 acres? I am only starting to put in this season—5 acres for fruit, and 5 acres as a vineyard. The man who was on the farm previously had a vineyard. It is hardly worth speaking about, as it has been neglected.

3856. Do you find any difficulty in getting water to water your holding? No; I am right on the bank of the river. I am going to put on an engine and irrigate.

3857. I hear that they bring butter here from Sydney, is that the case? I believe it is at present.

3858. Do you not think that is a curious thing for a district which is considered such a splendid agricultural district? Under the circumstances I do not. They do not fetch it as a rule, but it has been very dry of late, and the dairies sooner than knock the cattle about to get a drop of milk are saving them.

3859. Is there any cheese manufactured here? Not that I am aware of.

3860. Is there any attempt to grow artificial grass—cocksfoot or rye grass? I could not say.

3861. What is the extent of your holding altogether? 145½ acres.

3862. Do you run any sheep? No; I keep a few cattle.

3863. How do you find them answer? I bought some recently very poor and very cheap. They have only been there three months at the outside, and they are rolling fat on it now.

3864. Have you knocked about much in the country? A good deal.

3865. By and by, when there is a large increase in the cultivation here, you will have to go beyond Dubbo for a market? Yes.

3866. You will have to look to Sydney for a market for surplus products? Yes.

3867. Although a line *via* Mudgee is much shorter to that place than a line *via* Dubbo, still you prefer the Dubbo connection? Yes; with the Mudgee connection we should have to depend on the Sydney market absolutely; we should not have a chance to get to the other markets.

3868. Has there been any attempt to grow lucerne here? I have grown some. I cut six crops off it last year.

3869. What is the average per acre for each crop or for the year? I could not form any idea of the weight. I had one horse to feed at the time, and I cut it for the horse as it was required, and I could not keep it down.

3870. *Mr. Trickett.*] What is the character of the soil you have been irrigating? Black soil.

3871. Do you look upon the black soil as better than the red soil? I believe the red soil is a lot superior to the black soil.

3872. On the inferior black soil the results have been most satisfactory? Yes.

3873. I suppose it is much more expensive to work than the red soil? I do not think it is, because, as a rule, there is a lot of clearing to be done on the red soil, and the black soil generally is plain country.

3874. But when it is cleared black soil is more expensive to work than red soil? It is harder to work.

3875. Have you tried any of the red soil? Yes; I have 70 acres in this year.

3876. You have had no results from that yet? No; the crop is growing at The Ten-mile.

3877. Is the black soil of a clayey nature? It is very clayey. It all crumbles away when water gets on it. It is not clayey with water.

3878. Did you hear Mr. Thomas' evidence yesterday about the irrigation? No.

3879. Do you think that irrigation on a large scale would be practicable here for settlers with bore water? If they had the water, yes.

3880. We have been told in other parts of the country that this clayey black soil is not very good for irrigation purposes, because it cakes on the top;—is that the case? No; it cakes generally outside on the run with the rains, and getting trodden down; but the black soil, as a rule, as it dries, cracks and opens, and gets loose again.

3881. And the water gets into it? Yes. My opinion of the black soil is that if you get sufficient water to keep it in its proper order, it is as good a soil as can be got. It is of a clayey nature, but when the water comes on it, it separates like flour.

3882. Have you heard that bore water contains any ingredients which are bad for agriculture or crops? No.

3883. Not too much salt to do any injury? No; the only thing that is bad in it is if you do not get enough of it.

3884. As far as your experience of the using of this water has gone, it has been entirely successful? Yes.

Clement

Clement Dillon, Crown Lands Agent, Dubbo, sworn, and examined:—

3885. *Chairman.*] Have you prepared a statement showing how the land is held? I have not prepared any statement. I am prepared to give a little additional information to what I gave at the last inquiry, as to the area which has been taken up since, and showing that there is a demand for any land to be thrown open.

C. Dillon,  
4 July, 1899.

3886. Will you be good enough to give that information? I have a return of the areas taken up under conditional purchase, conditional lease, and settlement leases last year. There were 25 conditional purchases, embracing an area of 10,607½ acres; 21 conditional leases, embracing an area of 13,664¼ acres; and 14 settlement leases, embracing an area of 51,386½ acres. There is a big area taken up under annual lease, but that does not induce settlement. The areas that I have given would induce settlement. On the 14th April last there were three settlement leases made available on Avoca—Mr. Connell's run. For sixty-three blocks 134 applications were lodged. Of course, each application did not represent an individual; there were about fifty-five applicants for the three pieces. Then, on the 1st June of this year, there were 2,100 acres thrown on Geanmoney for conditional purchase and conditional lease.

3887. In what direction is it situated? It is about 14 or 15 miles out of the town towards Warrie. I think the railway from Dubbo would go through it.

3888. Were those lands eagerly sought after? There were sixty-eight applications, and the money lodged amounted to £5,967 9s. On next Thursday there will be two blocks thrown open for settlement lease on Terambone—one containing 2,398 acres, and the other 2,510 acres. I should say there will be over fifty applications for those two blocks, which are situated about 35 miles from Coonamble.

3889. Do you know whether most of these applicants are already holders of land in the district? Some of them were; there are a good many strangers. I have inquiries from different parts of the country and from Victoria as to lands becoming available. I have had one or two inquiries from Queensland.

3890. Does that complete the addition you wish to make to your previous evidence? No. On the 10th of August there will be four blocks thrown open for settlement lease on Nebea holding. This is the land which adjoins Mr. McAlary's holding. I have the plans here if the Committee would like to see them.

3891. Will you give us the particulars of one block? The first block contains 2,553¼ acres; the capital value is £3,191 11s. 3d.; and the annual rental will be £39 18s. They give a description in the *Gazette* of the character of land, soil, and water supply for each block.

3892. Would you describe it generally as good agricultural or pastoral land? All good pastoral land. They do not describe it as suitable for agriculture at all in this description, which reads as follows:—“Level country throughout; partly rich black soil, hard red loam and sandy red soil chiefly to the north-east: about 2,000 acres of open forest country, interspersed with plains, is timbered with myall, rose-wood, box, willow, berrigan, yarran, leopardwood, belar, and gum; and about 750 acres of thick forest, timbered with pine, oak, box, rosewood, belar, and willow; all sound pastoral land.”

3893. Although it is described as pastoral land, yet, from that description, a portion of it would be fit for agriculture? Yes. There will be a great number of applicants for that block.

3894. Your district embraces the country within a radius of 40 miles from Dubbo? Yes.

3895. Will you now give some information as to the settlement previous to the period with which you have just dealt? Up to March, 1898, there were 1,465 conditional purchases in this land district representing an area of 445,363 acres, and 765 conditional leases with an area of 715,942 acres. There were thirty-two settlement leases with an area of 89,149 acres, thirty-five annual leases representing 35,065 acres, and eleven homestead selections representing 413 acres. These latter lands were suburban areas about the townships of Gilgandra and Gulargambone. In addition, there were the lands embraced in improvement purchases, auction purchases, volunteer land orders, special purchases, and special leases. The area of these lands would amount to some thousands of acres, but we have no record in the local office of the exact figures. Besides these, are the leasehold and resumed areas of pastoral holdings. There is a *Gazette* notice showing the pastoral leases. It does not give the area, but the majority of the leases fall in on the 10th July, 1900. There will then be a good deal of land available for settlement lease and other applications.

3896. Has there been any noticeable change from pastoral pursuits to agricultural pursuits since you have been here? I think so. I know there are some small areas which have been bought in round the town and put to use for agricultural purposes, and in several places out of town areas have been put into agriculture—for instance, at Warrina. On Nebea Mr. Whitney has put in an area for agriculture. Up at the Ten-mile Mr. Pedley bought land which he has put under cultivation. I do not know the area of this selection.

3897. Do you think they are bettering their position by going in more for agriculture? I should certainly say so.

3898. Is the district sound financially, do you know? I believe so.

3899. Are there many transfers by way of mortgage? There are a good number of them, and there are also a good many absolute sales. I think they will be about equal.

3900. Are the purchasers new men to the district? Some of them are; I cannot say there are a great number of them.

3901. I suppose the new men are showing the older men that the land can be put to a better purpose, and that that accounts for the increase in agriculture? That is so. I know there has been a demand by new men for areas adjoining leaseholds with a chance of increasing the area.

3902. Have you anything further to add? No; only that with a railway I suppose there would be double the number of applicants for land. The difficulty and expense of getting here prevent people from coming along.

3903. Do you know whether the people looked upon railway extension to Coonamble as hopeless, and that the land taken up lately has been taken up regardless of whether there will be a railway or not? I think the land which has been taken up lately has been taken up regardless of whether there will be a railway or not. I think that if half the land which is available in Coonamble were thrown open it would be pushed for whether a railway came or not.

3904. If a railway were constructed to Coonamble the greater portion of that land would be put under agriculture? I think a great part of it would be.

3905. That would create traffic for the railway? Yes.

- C. Dillon. 3906. *Mr. Trickett.*] What is the average upset price per acre of country land in this district? Twenty-five shillings an acre at auction, and generally for settlement leases that is the upset price put on the land.
- 4 July, 1899. 3907. What money is paid yearly through the Crown Lands office here, independently of rents from pastoral holdings? There is a proportion paid here and a proportion paid direct to the Treasury. For the four years I have been here the average paid to this office and to the Treasury for conditional purchase lands and other lands, excepting pastoral leases, has been about £40,000 a year.
3908. Have there been any applications under the recent Act in this district for assistance to settlers? Only four, to my knowledge—only four came to the office and got forms. The application is made direct to the Secretary, Advances to Settlers Board, Sydney. Of course, others may have got application forms elsewhere.
3909. Are not the applications referred to you for inquiry? No.
3910. Are you aware whether any have been made? I only know of four.
3911. Since you gave evidence here in March, 1898, have the prices for town and suburban lots increased or decreased? They have increased.
3912. Can you state the average acreage held by the smaller settlers in the district? From my recollection of the books I should say the majority of them hold the full area of 2,560 acres.
3913. Have you ever heard any expressions of opinion amongst these farmers and settlers as to whether 2,560 acres is an area on which a man can make a fair living? Yes; I think the majority of them are satisfied that they can make a fair living off that area.
3914. That is, a fair living to begin with, and they look to go on increasing their holdings if they can? Yes.
3915. Is there a tendency with the settlers here to increase their holdings? They would all like to increase their holdings if they possibly could.
3916. What I mean is, they do not go backwards—they do not disappear from the district? No; there have not been many disappearances.
3917. Is the general opinion that you hear through the district that wheat-growing would pay them better than running sheep if they had means of getting to market? I think the smaller holders would go in more for agriculture than they do now.
3918. Is that the opinion which the people have generally expressed to you in your trips round the district? Yes.

Robert Crawford, contractor, Coonamble, sworn, and examined:—

- R. Crawford. 3919. *Chairman.*] You are a farmer? No; Government contractor in the district. I have been farming
- 4 July, 1899. in Bathurst.
3920. *Mr. Watson.*] Were you sufficiently long at farming to be able to give an opinion upon the suitability of soil for agriculture? I think so. I had thirty years' experience in Bathurst.
3921. You feel competent, therefore, to give an opinion in regard to agricultural land? I think I can give an opinion. I have been in the district eight years.
3922. Have you been fairly over the district within a reasonable distance of the town? Within a long distance—to Dubbo, to Warren, and out all round the district for miles, and also Mudgee way.
3923. You have a pretty extensive acquaintance with the district? I am acquainted with nearly the whole of the district—a good way in some parts, and not so far in other parts.
3924. How do you regard the land generally round Coonamble from an agricultural standpoint? As good as ever I looked at. In fact, I have seen some of the best land here that I have ever seen, and that is the scrub land.
3925. Do you think it is superior to plain country? I am sure it is for agricultural purposes.
3926. Do you think it will be possible to do anything with black soil for agriculture? In fair seasons it is very good.
3927. Do you think the probability of getting a return is sufficiently great to encourage a man to gamble on the chance of a fair season in spite of these broad plains? I think so; I have seen very good crops on the black plains. I have seen Mr. Donoghue, of Bourbah, get a splendid crop. I brought a sample of wheat to Coonamble—the mayor and several persons here saw it—as good as I ever saw, from Mr. Hourigan's, at Bullagreen.
3928. With ordinary seasons, in how many years out of ten may a man reasonably expect to get a crop on black soil? I should say in six years out of ten.
3929. Judging by your experience of the rainfall in the past, you think you can get a wheat crop in six years out of ten? I think so.
3930. In the other four years do you think a man can get a sufficient crop of hay to pay his expenses? I do not think he will get very much; if a drought sets in you get very little. I have seen very much more drought here than I have seen in Bathurst.
3931. Do you think it would be a sufficient return—that is, little more than a crop on the average in every two years—to cultivate black soil without irrigation? I think it would.
3932. Is the return so great, when you do get a crop, that you can afford to lose a crop occasionally? I think so. There are splendid crops grown here.
3933. What do you think a wheat crop would go in a good season? I should think it would go easily from 30 to 40 bushels from what I have seen. I have seen crops cut for hay here which would go 40 bushels. I would consider it would go 40 bushels.
3934. It is a very big crop? It is.
3935. That is about 1 ton of wheat without counting the straw? Yes; at Mr. Laracey's, 8 miles from here, I have seen a crop which we considered would give 35 bushels, and at Mr. Tracey's I have seen the same sort of crop.
3936. Assuming that a man got a return of 20 bushels to the acre every second year, do you think it would pay? It would hardly pay at the present price of wheat.
3937. What do you think of the timbered land in the district? I think it would take only a very small rainfall to grow crops in the timbered land.
3938. Is it expensive to clear as a rule? No; it is splendid land to clear.
3939. Assuming that it has been ringbarked for some time, and that the trees have died, what would it cost to clear that land fit for an ordinary plough? Fifteen shillings an acre. 3940.

3940. Would that apply to land on which budda scrub grows? Yes; I have seen it cleared at Narramine for 15s. an acre. R. Crawford.  
4 July, 1899.
3941. There is no budda there? No; it was heavier timber than that.
3942. You think that budda scrub could be cleared for 15s. if it were dead? I do.
3943. How many crops in ten years might a man reasonably expect to get on that timbered land? I should think on the timbered land it ought to average seven good crops out of ten.
3944. Roughly, you might say that there would be two crops out of three? Yes.
3945. Because the timbered land requires less rainfall? Yes.
3946. On an average, what crop do you think you might fairly expect to get in each of those seven years? From what I have seen it would run 25 bushels easily, I think.
3947. We may assume, then, that there is very little doubt in your mind about the prospects of cultivation as far as the timbered land is concerned? I have no doubt in the world.
3948. Do you know the country east of the Castlereagh, from Coonamble to Murrumbidgee? Yes.
3949. How would you describe that country? There it is a different sort of country—red, and black, and sandy.
3950. How would you describe that country generally—good, medium, or indifferent? I would call some of it very good, and some of it very bad.
3951. Were you here yesterday when Mr. Thomas gave some evidence? I was not.
3952. For the first 5 miles he said it is good country, river flats gradually changing into ridgy country with clay and ironstone gravel, which continues for about 20 miles, and from there to the foot of the Warrumbungles it is good agricultural country? That is correct.
3953. What would be the width of good country at the foot of the Warrumbungles going west? I should say 5 or 6 miles.
3954. In view of that description, which side of the river do you reckon it is best to bring the railway on? On the western side.
3955. You think the country on the west side is better than the country on the east side? I do. There are patches on the east side equal to, or perhaps better than, the land on the west side, but, taken as a whole, the west side has a lot of the best land.
3956. You think, therefore, that a line which followed the western bank of the river would serve a greater area of good country? I am positive that it would.
3957. Do you know the country between Gilgandra and Dubbo? I do.
3958. What is your general opinion of that country? There is some very good wheat land in that country. People say it is no good, but there is very good wheat land; all the red-box country there is good wheat land.
3959. What proportion do you think the agricultural country would bear to the whole—a fourth, a half, or three-fourths? I think it would be a third.
3960. You think there is a third of the country between Gilgandra and Dubbo which would be suitable for agriculture? Yes; I have seen splendid wheat grown in it. Last year I saw 18 bushels to the acre grown right in the ironbark country.
3961. Last year was not a specially favourable one? No; it was a bad year.
3962. And yet in the open ironbark country—country where ironbark grows with box, pine, and other trees—it averaged 18 bushels to the acre? Yes.
3963. With your knowledge of the country, which place would you say is the better starting-point for a railway to reach Coonamble? Dubbo.
3964. Although it would involve a little longer haulage to Sydney, yet you think Dubbo would be the proper starting-point? I do.
3965. You think the extra length of the line would be compensated for by other advantages? Yes.
3966. What advantages? We would get access to the markets in the whole of the western district.
3967. You think that advantage would be sufficient to counterbalance the extra cost? I do; it would more than counterbalance the extra cost.
3968. Do you think a line from Dubbo is more likely to pay than a line from any other point on the railway system? I do; there will be three times the passenger traffic and more. You see there are so many towns out that way—Bathurst, Orange, Dubbo, Wellington, Parkes, Forbes, Bourke, and Cobar—and it would lead to the whole of those towns. The Mudgee line would only lead to Coonabarabran, Gulgong, and Mudgee, and if you wanted to go to any of the towns on the Western line you would have to go to Wallerawang and turn back.
3969. You think the passenger traffic is worth considering? I am sure it is.
3970. You think the passenger traffic is worth considering as long as it does not unduly overshadow the other aspect—the carriage of freight? They would have the market there. They could not have any market there if the line went *via* Mudgee, because they would have to go down to Wallerawang and turn back to the west. With the Mudgee connection there would be only Sydney, and the whole of the western towns would have Sydney as well as this district would.
3971. You would have these western towns closed to you if the line went to Mudgee? Yes.
3972. Therefore, from all points you are in favour of the Dubbo connection? Yes. I would farm here myself only that there is no railway. As soon as a railway starts a mill will start. I am only waiting for the railway to start to begin farming myself.

William George Taylor, grazier, near Coonamble, sworn, and examined:—

3973. *Chairman.*] What are you? I am a grazier, living at Bimble, about 4 miles north-east from Coonamble.
3974. *Mr. Trickett.*] Will you give the particulars of your holding? You have my former evidence, and I unhesitatingly say that this is the best grazing district in New South Wales. W. G. Taylor.  
4 July, 1899.
3975. Basing your opinion upon a comparison with other districts that you know? Yes; with others that I know perfectly well. I am not speaking ignorantly; I am speaking from knowledge.
3976. What is the extent of your holding at present? About 60,000 acres. Last year I shored 67,000 sheep, and I sent between 1,100 and 1,200 bales of wool down to Sydney.
3977. That shows a very large carrying capacity for the country, does it not? I have about 33,000 or 34,000 acres of secured land, and the balance is Crown land.
3978. In a good season, what do you estimate the carrying capacity of the country to be? With a good season, if I have the sheep, I can shear 70,000 sheep without trouble. 3979.



- W. G. Taylor.  
4 July, 1899.
3979. That is over a sheep to the acre? Yes; I am giving myself away to you, probably.
3980. For the purpose of the information going to Parliament, will you tell us what other districts you compare this district with to show its superiority? Some portions of the Wellington district. It is quite as good as the Darling Downs, if we get the season.
3981. That is a big order? I said that before, and I say it most unhesitatingly now.
3982. You have been in the district for twenty-five years? Since the 21st May, 1874.
3983. Will you tell us some other parts of Australia with which this district will compare? I say, unhesitatingly, that this is the best pastoral country, with a decent season, I ever have known.
3984. How often do these good seasons occur out here? They occur just as frequently as I have seen them in Riverina. I was in Riverina since 1863.
3985. This last season has been very bad? Terrible—the worst ever I knew. I lost more sheep last year than ever I lost before.
3986. That does not make you want to leave the district? No. I will hang on yet a little while, if the Almighty spares me.
3987. With a few good seasons, you will soon pick up what you lost last season? Yes; I do not think the bank will foreclose, anyhow.
3988. Do you confine your operations to grazing only? I have done so. When Mr. Young, the late Minister for Works, was up here I, for the first season in this district, had 7 acres of wheat in. It was not very good at the start, but it was a remarkably good season, and it was a great surprise to everybody. It was inches and inches over the posts of an ordinary 6-wire fence. I am making things bad for myself, but good for the district.
3989. You had a most satisfactory crop off the area? It was a most satisfactory crop. I had no idea of cultivation. Farmers who came to cart away the wool said they believed it would go  $3\frac{1}{2}$  tons to the acre. That is the evidence I gave on a previous occasion, and I repeat it; I really believe it did.
3990. On what class of country was that grown? On what we call black soil. It is not exactly black soil; it might be called a mixture. It is one of those absorbent soils which requires any quantity of water.
3991. It is not that clayey black soil which you get in other parts of the country? No. It would stick to the wheels, but once it gets all right it is very nice indeed. It is wonderfully productive.
3992. Do you think that with better means of communication you would be induced to go in for wheat-growing? No. You have put me on a sort of pivot just now. To irrigate our soil would take such an awful lot of water; but when it is saturated from the heavens, or watered sufficiently from a bore, it can produce anything which ever the world wanted. To irrigate the soil you would have to carry buckets of water. It does not want much water for red soil.
3993. Last year when you were examined you said you would go in for wheat-growing? I said I would. I had only 7 acres in then, and I have 29 acres in now, and a very nice show it is getting. I am going in for a little more again.
3994. Would you go in for wheat-growing to assist to feed your flocks or to sell? I would do nothing of the kind. I would do it to keep my stock round the house all right—such as horses, cows, and, probably, a few favourite sheep. But to think of feeding the flock is a ridiculous thing; better skin them than feed them.
3995. You would not be likely to become a wheat farmer with a view to send your wheat to market? I would do that. I have said these last two years, amongst my private friends, that were I younger, I would go in for wheat-growing to a large extent, because wheat-growing can produce you 10s. an acre, and we cannot do that by growing wool.
3996. Having been in the district for so many years, what do you think of the country between Coonamble and Gilgandra? From Coonamble to Gulargambone or up to Curban, it is perfectly good for anything you require, either for pastoral purposes or for cultivation. Up to Gilgandra, it is perfectly fit for either of those two purposes. On the straight road from Gilgandra to Dubbo, by the coach route, it would grow wheat when cleared, but it would not last very long. I know the country on both sides of the road. I have been over it and over it again, and I say, within a mile, or 2 or 3 miles off the road, it is most excellent country for either purpose.
3997. Do you agree with the opinion that the land on the western side of the proposed line is the best? I do, unhesitatingly.
3998. Why? I call it the best land, because there is more of it, and because it is much easier engineering. On the eastern side it is exceptionally good, and it would only be a madman who would say anything else; but the engineering difficulties are so much greater on the eastern side than on the western side that I do not think we, at the present time, ought to attempt such a thing.
3999. How does your wool go to market? I let a contract to Permewan, Wright, & Co., and they took the wool by whichever route suited them. I had nothing to do with the matter. They took it on one occasion to Warren, because there was a little trouble with the carriers. The farmers and carriers up Dubbo way said they would not do it unless it was so and so, "Very well," we said, "we will bring carriers here and send it to Warren." A couple of years ago, I believe, the biggest part of the wool went to Warren; but last year all the wool which I had, and which was a very fair lot, went to Dubbo, and this year it is let again at the same rate, and, I presume, it will go to Dubbo. I send as a general rule a fair lot of wool and a fair lot of sheep, generally 18,000 or 20,000 a year when the seasons are fairly good. I can send far more if I get what is called a good season. Supposing a railway were here, I would send them direct to Dubbo by trucks, for the simple reason that we would land our sheep with what is called the sap in them. Although we might not really make so much by it as we would if we could land them decently by road, still the people who buy say "they come from so and so, and we know what they are." At a place like mine, and at places round the neighbourhood it is all the same. There they come in out of the paddocks to-day, and they are put into the trucks to-morrow; you cannot do very much better than that.
4000. That strikes one as very reasonable, but we often hear it said that if a line like this were constructed you would still drive your sheep to Dubbo with a good road? I cannot say what others would do, but I will tell you what I would do: I would take them out of the paddock, count them, and put them in the trucks.
4001. As a practical man wishing to get the best return from your stock, you certainly would not drive your sheep to Dubbo, but would truck them at the nearest possible place to get them most quickly to market? Certainly.
- 4002.

4002. What do you think of the Mudgee route? I must say the Mudgee country and all that is very, very good. I have been all over that country.

4003. What do you think of the line to Mudgee as a line, independently of cost? So far as the country is concerned, I do not think the Mudgee route is to be compared in the least with the Dubbo route. I know the distance is shorter, and all that sort of thing; but the engineering difficulties are so large that for the present generation it would never be good enough. The time will come, of course, when we shall have net-works of them.

W. G.  
Taylor.

4 July, 1899.

4004. May I take it that for the present time, looking at all phases of the question, you think the Dubbo route is the best route of the three? Most unhesitatingly, I say so.

4005. Do you endorse the opinion that the railway would be a very great advantage to the smaller holders of land for the purpose of getting their small shipments of stock to the Sydney market, where it is impossible to send them now? I do. Supposing this line were made, you would have hundreds of settlers where you have only twenty within 3 or 4 miles of the route.

4006. Is there any other statement you wish to make? I heard you ask a witness a question which I think he did not answer as nicely as he ought to have done. I have been here since 1874. The town has been built since that year. Two or three old houses which were tumbling down were bought by a speculator, and the town from here to the post-office has all been built in that time. On one occasion I, with others, waited upon the Minister for Works in Sydney with our Member, a very intelligent, good man, and he told the Minister he believed the population had in twenty years increased almost 50 per cent. It had increased 650 per cent. There is not a man in the room who is listening to me but must know for a positive fact that that is true, and I have given a very small estimate. It is easy for the Committee to find out whether I have made a false statement by going over the route.

Sidney Richard Skuthorpe, solicitor, Coonamble, sworn, and examined:—

4007. *Mr. Dick.*] Have you been living here long? I have been associated with the district since infancy, and I have been practising here for six years.

S. R.  
Skuthorpe.

4008. You have a pretty good knowledge of the surrounding district, I suppose? Yes. It has grown with me or I have grown with it. I can remember back as far as 1872.

4 July, 1899.

4009. We have been assured by a number of witnesses that a considerable amount of the land fronting this line and Coonamble is fit for agriculture? Yes.

4010. We were also told yesterday that there is a large local market for fodder and products;—is that the case? That is correct.

4011. If there is a large local market and a large area of land available for agriculture can you tell us why the local supply has never been equal to the local demand? Of course, during the last twelve or eighteen months the district has grown, and the demand has grown. The demand has been excessive during the last twelve months through the dry seasons, but previous to that I think the local supply was equal to the local demand, and as there are no means of access to outside markets there was no inducement for people to go in and produce more than was likely to be consumed locally.

4012. Previous to this last bad season the local supply was equal to the local demand? Practically.

4013. Is there a large amount of agriculture being carried on in the district? It has increased considerably during the last twelve months.

4014. Taking it all in all, is it not an exceedingly trifling amount compared with the area which is available for agriculture? It is comparatively trifling for the reason I have just stated—that until the drought set in here the local production was equal to the local consumption, and there was no inducement to people to produce more largely on account of not having access to outside markets.

4015. Can you tell us whether previous to the last eighteen months any large amount of fodder was brought into the district, say from Dubbo or other places? In dry seasons.

4016. Only in dry seasons? Only in dry seasons.

4017. Do you think the construction of this line would stimulate agricultural pursuits all along the route? I am sure it would. I know that not last season but the season before one farmer out on Tundaburine had a large supply of wheat which he sent to Dubbo. I do not know of my own knowledge, but I was informed that it was equal to any wheat which had been taken to the Dubbo mill for sale, and superior to a good deal of it.

4018. Can you give any information as to the number of seasons, say out of ten, in which you would get a paying crop in this district? In seven out of ten years, I consider.

4019. There are practically three routes which all terminate at Coonamble—one from Warren, one from Dubbo, and one from Mudgee;—which route do you think would best serve the district? The Dubbo route.

4020. Was that your opinion during the first inquiry? It was my opinion, although I did not express it then, because I was under the impression that I was morally bound, through being connected with the league here, not to favour any particular route. It was part of the league's platform that no particular route should be advocated. I consider that I am free now, because the Minister has adopted this line by referring it to the Committee; I consider that I am free to express an opinion as to which line I think the best.

4021. The answer to this question does not compromise you—"On which of the routes is the best country situated? There is less bad country on the Warren line than on either of the others, and less on the Dubbo line than on the Mudgee line"? I answered that question in that way because it was put directly to me.

4022. You do not think the fact that there is a larger percentage of good land along the Warren line would warrant you in advocating that line in preference to the Dubbo line? I think from other circumstances the Dubbo line is preferable.

4023. Do you think the carriers would be able to compete with the Commissioners for the wool traffic along this line? I do not think the carriers would. An odd carrier might at times take a load.

4024. Have you any idea of what the carriers do charge for carrying wool from Coonamble to Dubbo, and from the intervening districts to Dubbo? I should think from £2 to £2 10s. My people are in business at Gulargambone, and for the goods they get from Dubbo they pay from £2 to £2 10s.

4025.

- S. R. Skuthorpe.  
4 July, 1899.
4025. Do you observe on the map a triangular piece of land between the proposed extension from Warren—the red line indicating the proposed route from Dubbo to Coonamble and the Western railway? Yes.
4026. A great amount of that land, as far as wool production is concerned, is already supplied by the Warren extension, is it not? A good deal of it would go to Warren and a good deal to Narramine and Dubbo.
4027. A good deal of it is already supplied by the Warren extension? I think the trend of that traffic would be not towards Warren, but towards the Western line at those other stations.
4028. But taking Warren as the centre of a radius of about 40 miles all round, is it not a fact that that part is already supplied by the Warren extension? Within a radius of 20 miles.
4029. Is not 40 miles the usual distance for which a railway is supposed to serve the wool traffic? Within 20 miles, I should say.
4030. Then, with respect to the Western line, the country for 20 miles north of that line is already supplied, I suppose? More than 20 miles north at the present time.
4031. Do you alter your limit as to the Western line? No; for Warren. Probably within a radius of Warren the traffic would go to Warren. Outside of that limit the trend of traffic would be to the stations getting nearer to Sydney. For instance, Coonamble is nearer to Warren than it is to Dubbo, but still the bulk of the wool from here goes to Dubbo.
4032. Where does the wool from the intervening district, say half-way down from Coonamble to Warren, go? I believe the wool from about half-way goes to Warren.
4033. There is a fairly large area to the west of the proposed line already supplied with a railway, as far as wool is concerned? If this line were constructed, I consider that it would draw the wool from a greater distance than half-way between the two.
4034. Seeing that a considerable area of the country on the proposed Dubbo-Coonamble route is already supplied with railways, as far as wool production is concerned, does it not seem feasible that the extension from Mudgee to Coonamble would serve a larger area of country now unserved than a connection from Dubbo to Coonamble would? I do not think so, because that country which the line from Mudgee to Coonamble would pass through does not carry nearly so much stock. There is a large area of country there, as was pointed out to you yesterday by Mr. Thomas, which is practically unoccupied. He mentioned yesterday that he was not certain about the capital value of a lot of that land. He thought it was 12s., but I have looked up the *Gazette* notice, and there are about 10,000 acres of which 5s. is the capital value put upon it. Although there was a very extensive demand for land in this district, that land lay there from two to three years; in fact, one of those blocks was only applied for the other day.
4035. *Mr. Watson.*] What is the rental? One and a quarter per cent. on 5s.
4036. About three farthings an acre? Less.
4037. *Mr. Dick.*] In other words, you think the best extension is the one from Dubbo to Coonamble? Yes.
4038. *Chairman.*] Is there any other information you wish to add? Only my reasons for holding that opinion. If the line were extended from Mudgee the distance to Sydney would be shorter, and I think that is the one recommendation in its favour, as I said in my former evidence; but, as against that, I believe the actual travelling time would be less, because I understand that on the line from Mudgee to Wallerawang they travel very slowly. The cost of construction would be something like £80,000 more than the cost of constructing the Dubbo line.
4039. *Mr. Trickett.*] It would be £271,000 more? We would have that much more capital to pay interest on, and, as was pointed out yesterday, until a branch line is paying there is a local rate levied on goods transmitted by that line. I consider the Mudgee line would take considerably more time to become payable than the other line. The Dubbo line would give us access to the southern markets, to Melbourne, and to all the large towns on the Western line. My people have sent stock to towns on the Western line—to Dubbo, Orange, and Bathurst. By the Mudgee route they would be confined to the one market—Sydney. But by the Dubbo route they would have these large towns. They would have the possibility of a market, I consider, for any agricultural produce out in the western district, about Cobar and Bourke, and they would also have access to the Melbourne market. Wingadee is one of the few stations which carry any number of cattle in this district now. At the present time, and since I have been here, they have sent their fat cattle from here to Dubbo, and trucked from there to Melbourne. I consider it is only because Dubbo is the nearest station that they were sent there; that if there were a station here they would be trucked from here. With regard to the agricultural possibilities of the district, at Gulargambone farming has been carried on there on a small scale by my father for a number of years, principally for hay, but on one or two occasions the crop has been cut for grain, and over 40 bushels to the acre have been yielded. At the present time I am experimenting. I have about 8 acres under malting barley, and from having seen previous crops of barley growing, I consider it is likely, with a fair season, to yield a profitable crop. I do not know whether the Committee are aware that malting works have been established at Mittagong for malting barley. It was the establishment of these malting works which induced me to get the barley put in as an experiment at Gulargambone, to see if it could be produced.
4040. *Mr. Watson.*] Do you think the land is suitable for barley? In this past year I have seen small patches, which were merely sown for greenstuff; some of it had been left to go to seed, and the product of that was really superior to the seed I got to plant this year. It is New Zealand seed I have now.
4041. Was it superior as in quality or quantity? Quality. I could not say how much it yielded per acre; but the grain was very full and very perfect. It had a good colour.
4042. *Chairman.*] Is there anything else you wish to say? We have land at Gulargambone, and are prepared, if we had an extension and had a chance of getting access to outside markets, to put the bulk of that land under cultivation.
4043. Do you know whether the settlers along the route would offer any very great obstacle to the railway going through their land? I do not think so.
4044. In the shape of an exorbitant demand for compensation? I think not; the land is used for pastoral purposes now.
4045. *Mr. Watson.*] If a clause were put in stipulating that the land shall be given free outside the township allotments as has been done in the case of several lines recently, do you think they would respond to that? I hardly think that that would be a fair provision. In some cases, perhaps, it would be a small holder's land which it would pass through, and the benefit he would derive would be small in comparison with what would be expected from him.

4046. In some cases where it was done it was found that the large holders were sufficiently anxious to get the line to compensate the small holder themselves? I hardly think it would be a fair provision; but as far as these two lines are concerned, I consider that within the Coonamble district the resumptions would be as great on the Mudgee extensions as on the other. I do not think there would be any excessive claims made for resumptions.\*

S. R.  
Skuthorpe.  
4 July, 1899.

Richard Grove Francis, senior-sergeant of police, Coonamble, sworn, and examined:—

4047. *Chairman.*] You have charge of the collection of the agricultural statistics here? I have.
4048. How many holdings are there within your district? There are 148 holdings, with areas from 1 acre up to 311,254 acres.
4049. Will you define the district in which the information is collected? Starting at Tooloon, about 15 miles west from here, it is bounded by the following runs:—Talagar, Geanmoney, Warrana, Nebea, Terembone, Billeroy, Bullarora, Wingadee, Combogolong, Beanbah, Bundy, Nelgowrie, and Narraway. It is chiefly on these runs that the small holdings I spoke of are to be found.
4050. Within what radius? Tooloon, where I started from, would be 15 miles west. Nebea is about 14 miles north-north-east, Terembone is about 30 miles north-east, and Combogolong about 50 miles.
4051. Taking a centre, what would be the radius from that centre to the boundary of the district? It is about 60 miles from outside to outside, so that the radius will be about 30 miles.
4052. Will you describe, generally, the nature of the holdings? The majority of the country, I think, is almost unsurpassable as far as fattening country is concerned. There are some patches on which there are scrubs which would be good agricultural land. From what I have seen of it, and my experience of it, the land which is most condemned is most fertile as far as agriculture is concerned.
4053. Is a large proportion of the land of that description? A good proportion of it.
4054. Have you got the agricultural returns? The record for last year was about 600 acres within the radius I gave.
4055. Grown, I suppose, for their own use? For their own consumption.
4056. Has the district progressed much of late years? As far as the small holdings are concerned, it has.
4057. What were the principal crops? Wheat, and in some places oats; but wheat is the principal crop for hay.
4058. I suppose you very often come in contact with the settlers about here? Yes.
4059. And you have confidential talks with them occasionally to ascertain their ideas generally? Yes.
4060. Do they give you any idea as to whether they are prosperous or otherwise? So far as I know, I think the small holders are prosperous. I cannot say as to the larger selectors.
4061. Have any persons been starved out of the district? No.
4062. They are all fairly well satisfied with their prospects? Yes.
4063. Have they told you in conversation their intentions in the future in the event of a railway being constructed? No.
4064. Have you any idea whether they will go out of sheep into wheat? Yes; I have heard some say they would convert a part of their holdings into wheat.
4065. That means, I presume, that there will be more men employed? I think so.
4066. *Mr. Watson.*] Do you reckon that this is a good fattening country? Yes.
4067. Do you have a quick growth of grass sometimes, and therefore a lot of grass? The growth sometimes is wonderful; it is very rapid.
4068. In that case it would be an advantage to a man to get stock quickly to market so that he might have a chance of putting on other sheep and taking advantage of the grass while it was at its best? Decidedly.
4069. Do you think the rapidity of the growth of grass and the possibility of fattening is more permanent a feature here than in any other district? More so than in any other district I know of.
4070. You think that feature is one which should commend itself with regard to railway construction? I do.
4071. *Chairman.*] Have you any other information to furnish which would enable the Committee to arrive at a proper determination? I do not think so.

R. G. Francis.  
4 July, 1899.

Jonathan Davey Young Button, solicitor, Coonamble, sworn, and examined:—

4072. *Chairman.*] You are secretary to a Coonamble flour-milling company now about to be formed? I am.
4073. When was the movement started? At the end of 1897.
4074. It has not resulted in anything just yet? It has resulted in a meeting. Those who interested themselves sent out a circular letter to each landholder in the district within a radius of 40 miles, asking him whether he would be likely to go in extensively for wheat-growing in the event of a milling company being floated, and we met with a very liberal response, quite good enough to assure us that there would be sufficient wheat grown to make the company a payable one on the lines which were suggested. I hand in a copy of the circular letter and a summary of the replies received from these landholders:—

J. D. Y.  
Button.  
4 July, 1899.

[Copy circular sent to each landholder within 40 miles of Coonamble—393 sent—141 favourable replies received, 2 unfavourable.]

Sir,

Coonamble, 4 October, 1898.

At a large meeting of residents held at the Council Chambers, Coonamble, it was decided to take into consideration the formation of a flour-milling company at Coonamble, and a committee was elected for the purpose of collecting information to lay before an adjourned meeting.

Would you kindly state whether, in the event of a mill being established, you will be likely to grow wheat, and what area you might put under cultivation; also what quantity of flour you consume per annum.

The above information is required to place before the adjourned meeting of those interested in the movement.

In the event of the matter being proceeded with, a prospectus will be forwarded to you in due course.

We are, &c.,

T. D. BERTRAM,  
Chairman of Provisional Committee.

J. D. Y. BUTTON,

Hon. Sec. pro. tem.

EXTRACT

\* NOTE (on revision) :—I consider the proposed railway, if constructed, would be largely availed of for the carriage of fat stock, as the stock routes from Coonamble to Dubbo, Mudgee, and Warren were, except in wet seasons, very badly supplied with water.

J. D. Y.  
Button.

EXTRACT from Report of Provisional Committee *re* Coonamble Flour-Milling Company, after replies were received to the annexed circular of October, 1898.

4 July, 1899.

RESPECTING the replies to hand *re* circulars—141 favourable replies were received, stating areas then under cultivation or about to be cultivated this year (*i.e.* 1898), two unfavourable replies were received; twenty-six stated that they had a total area of 3,011 acres already prepared for seed and cultivated, and were prepared to increase their total areas to 7,018 acres. The other persons who replied promised to cultivate areas from 50 acres to 400 acres; one 3,000 acres, if a flour-milling company were established in Coonamble.

It will be noted that about 250 failed to reply to the circular, and this result we attribute to the fact that the circulars were sent to landowners, whereas many lands are held under lease, and not occupied by the owners—many of the tenants cultivate. From the replies received we can only give you a small idea of the area that will be cultivated; and we would point out that we are in the middle of a severe drought.

We then issued a prospectus calling for shares up to a certain date. I received a number of applications, and was interviewed by a number of persons who offered to take shares, but requested the provisional committee to extend the date of closing the share list until the drought was considered to be over, as they intended to take shares, but in the face of the drought were not prepared so to do. The date originally decided upon for the closing of the list was the 1st June. Prior to that date the provisional committee met and decided to extend the date until the end of this year. There is no doubt, in my mind, that the company will be formed and that the shares will be over-subscribed.

4075. Would the construction of this railway help in any way? I should say so, most decidedly, as we would have a better and larger market for flour. Of course, in considering the formation of that company we only took into consideration an immediate market.

4076. Milling would be one of the added industries if a railway were constructed here? Yes.

4077. As a solicitor, you have acquired a good knowledge of the position of the settlers? I have been practising here for seven years, and I have had a very considerable insight into the position of almost every settler in the district. I consider that almost every one of our settlers is in a very sound and good position. It is a district which, I think, would hold its own with any district in the colonies; I thought that when I settled down here, and that opinion has been confirmed.

4078. Is there room for another lawyer? There are three here; I do not think there is room for another at present; with railway connection there might be.

4079. Is there anything else you wish to add? Yes; with regard to the probability of the railway being used for the transmission of stock. The bulk of the stock from here travel to Dubbo, and with part of that particular route I am intimately acquainted. Except in wet seasons, there are long distances which have to be travelled there without a chance of the stock getting a drink of water. For instance, from here to Gulargambone, 28 miles, there is only a small supply of water just for a short time after rain; and from Gulargambone to Gilgandra there is another stretch. Of course, as you have seen here, the river which was originally supplying the place has pretty well silted up, and there is no supply there. I think stock-owners would use the railway in preference to the stock routes, for the reason that the stock routes are almost devoid of water except for a short time after rain.

4080. So that you think there is very little probability of the pastoralists driving their stock to Dubbo, in preference to trucking them here? Yes.

Thomas William Medley, Inspector of Stock, Coonamble, sworn, and further examined:—

T. W. Medley.

4 July, 1899.

4081. *Mr. Watson.*] You are aware of the number of stock which go through this district towards the market from the outlying districts generally? Yes.

4082. Whence do they come usually? From Queensland way, right out to the border.

4083. A great lot come from Queensland through here? Yes; stores.

4084. Assuming a railway to be constructed as far as Coonamble, from how far north, north-east, and north-west do you think fat stock would be drawn towards the railway station at Coonamble;—would it be 30, 40, or 50 miles? More than 40 or 50 miles, I should think. Some may go *via* Narrabri, but a great many come in this way.

4085. From how far back do you think the fat stock would come—from half-way to Walgett? Fully.

4086. And taking a line between Walgett and Coonamble, and then crossing by another line half-way between those two points, how far east and west do you think that line would extend as covering the influence of the Coonamble terminus for the gathering in of fat stock? I should think from 45 to 50 miles.

4087. So that you have a triangular piece of country, with its apex resting on Coonamble, and with a width of 40 or 50 miles at its base? I should think it would be 80 miles at the base, that is 40 miles on each side of the line.

Rev. John Alfred Cooper, Coonamble, sworn, and examined:—

Rev. J. A.  
Cooper.

4 July, 1899.

4088. *Chairman.*] You desire to make a statement to the Committee? Yes. Within 36 miles of Coonamble, and over 50 miles from Warren, there is a township called Quambone, which is not shown on this map. Quambone Station was recently purchased by the Cooper's Dip Company with a view to experimenting. It has been thought that their advent will give an impetus to the trade of the township. Within the last two years this township has grown to its present size. Oranges have been grown at Quambone, and purchased, because of their excellent quality, by Sydney firms. I purchased a piece of land there two years ago, and half an acre fetched £11. I have heard an expression of opinion in regard to this part of the country being useful to pastoralists about Bourke and other places in the event of our having a successful season and of their suffering from a drought. It could offer them runs for their starving stock. With regard to speed,—I should imagine, having formerly had experience in railway matters, that we could reach Sydney *via* Dubbo just as quickly as, if not more quickly, than we could *via* Mudgee, notwithstanding that the distance *via* Mudgee is shorter, and for this reason—that the gradients are not so steep, and we form a junction with the trunk line at a shorter distance than we should *via* Mudgee; and, as I understand, the Mudgee-Wallerawang line is only a branch line. It has also been thought that, with a view to make the line as national as possible, and, in view of Federation I may say, it

it would be a better thing to have connection with Cobar, with a possible extension of railway to Wilcannia and Broken Hill. It was asked by a Member of the Committee whether foreign grasses had been grown in this district. I have heard the Ryder Brothers, of Calga, say they have grown them successfully. The maintenance of the line from Mudgee to Coonamble would, I should imagine, be a much more expensive matter than the maintenance of a line over flat country from Dubbo to Coonamble.

Rev. J. A. Cooper.  
4 July, 1899.

4089. At what place were you stationed before you came here? I was at Cobar for twelve months, and I have been here eight years.

4090. Comparing this district with the other districts in which you have been, would you consider this a more or less prosperous district? I should consider it much more prosperous. Certainly I was in Cobar at a very bad time, when the mines were shut down and the rabbits were very numerous; but, as far as the seasons have gone, I can corroborate what one witness has said. The seasons here have been certainly no worse than they were when I was living in Bathurst, but better on the whole; and I have known that when in Bathurst they have been having a drought, and not a blade of grass, we have had a splendid season up here.

WEDNESDAY, 5 JULY, 1899.

[The Committee met at the "Tooraweena Hotel," Tooraweena, at 8 p.m.]

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Angus Nicholson, settlement lessee, near Tooraweena, sworn, and examined:—

4091. *Chairman.*] What are you? I hold a settlement lease of 4,500 acres on the Uargon Creek, which lies about 6 miles south-east. I am using the land principally for grazing.

A. Nicholson.

4092. What is its carrying capacity? Definitely I cannot state, but the manager of the station, previous to my taking up the land, told me he thought the ground would run, in an ordinary season, one sheep to the acre. From practical experience he is perhaps right.

5 July, 1899.

4093. I suppose you have not held the land very long? About three years.

4094. Will you describe the character of your holding—whether it is good agricultural or pastoral land? About one-third of my holding is fit for the plough after the necessary improvements are made. From my experience in Victoria, I think it would yield in a fairly good season or a general season between six and seven bags of wheat to the acre. It has been remarked to me by various neighbours that I hold very good land for that special purpose.

4095. Have you cultivated any land yourself? Only this year, and it is a very small area. I am now clearing the land.

4096. What have your neighbours done in that respect? My brother-in-law has lived in this district for eighteen or twenty years; his principal product has been lucerne, but the seasons are variable and do not suit it properly although in a good season it will grow lucerne. The ground is rather rich for wheat, but in the statement made by the Government Surveyor, the lease adjoining my holding was put down as lucerne flats, still this lessee is holding the same sort of land as my brother-in-law is.

4097. Is there much land similar to yours which is held under pastoral lease? Yes, more or less. All three lessees adjoining me could cut out of their holdings 1,000 acres each if it were necessary or if they felt disposed.

4098. What do you mean? Each of the three could cut out of his holding 1,000 acres for the purpose of agriculture or wheat-growing. Mr. Beames adjoins me on one side and my brother-in-law adjoins me on another side, and both of them have land running on both sides of me similar to mine. Another neighbour and my brother-in-law, I believe, could get more than 1,000 acres fit for agriculture. It runs unevenly. My holding has a flat running for a stretch without any hills and then it breaks into hills.

4099. You stated that each lessee, in your opinion, could cut 1,000 acres out of his holding which will be fit for agriculture, what proportion does that area represent to the holding? Mr. Beames' lease contains 4,000 acres and my brother-in-law's lease contains 2,600 acres, not mentioning his private land. Mr. Travers, I think, has 5,000 acres in his settlement lease—I do not mention Mr. Buckley's settlement lease, because his land is not suitable for wheat-growing. It is termed a lucerne flat, but I think it is much misrepresented. It would grow lucerne with good seasons. My brother-in-law has gone in a very great deal for lucerne. He has various stacks, but still he has been a good while accumulating them.

4100. I suppose the rainfall here is not sufficiently heavy? It is not sufficiently heavy and is not seasonable enough. I believe it would be good land for lucerne, but the difference between this place and Mudgee is vast as to rainfall. It is all or none apparently from what I have seen of the rainfall during the last six years.

4101. Are there very many large holdings about here? Five thousand acres is the largest holding. I think Mr. Travers' lease is the largest in the Yarragrinn holding.

4102. About 5,000 acres is the largest settlement lease? I think so.

4103. There are some pastoral leases falling in next year? Yes.

4104. Would there be any demand for that land if it were thrown open? A great demand over and above what the Government could grant.

4105. You think the demand would be greater than the supply? I do. I am almost positive that there is still a demand for land in the roughest part of this country, for the simple reason that there is no other land available but heavy scrub country.

4106. That is without reference to any railway question? Yes, without reference to anything at all.

4107. How far from Tooraweena is the surveyed line from Mudgee to Coonamble? I suppose you would touch it within 4½ or 5 miles to the west of this place.

4108. How far are the foothills of the Warrumbungles from Tooraweena? Three miles to the nearest point. From the railway line to the foothills of the ranges it is about 7 miles.

4109.

- A. Nicholson. 4109. Have you been across from Tooraweena to the Castlereagh at all—to Gilgandra? Yes.
- 5 July, 1899. 4110. Or to the country in between? To Mundooran and Coonabarabran and to Curban.
4111. On the river? No. I have been between Gulargambone and Gilgandra, and Curban lies between the two. From Tooraweena, *via* Bearbung, to Gilgandra is, I believe, as good for wheat-growing as any land. There are two strips of country between Tooraweena and Gulargambone of the same character, but it is more scrubby. This Bearbung country is light land—more box and budda.
4112. Suppose the country was improved, do you think it would be fit for agriculture too? I do; but I fancy from the look of the country the Bearbung country is the best of any.
4113. Is it between Gulargambone and Terrabile Creek? It runs down the Uargon Creek. It is south of a line from here to Gilgandra.
4114. You say that it is good country all down there? Following the road. I have never been through it. I have been to Gilgandra, and I thought it was splendid country for wheat. Although nobody from here seems to take it, I think there is land available there. By the Dillies it is splendid wheat country. The land surrounding the Dillies has been left because it is overgrown with scrub. Within the last three weeks two leases have been taken up in the mountains here, which land, to my thinking, is far inferior to the land down there. It is not so dense in the scrub, which is a consideration to a man when he is beginning. From an agricultural standpoint a railway is really not an object to settlers in this district, for they have no market for their produce. I have no intention, under present circumstances, of cultivating my land. I am going to make it carry as many sheep as possible; still I believe that cultivation is the more productive of the two if you can get rid of your produce.
4115. You think if a railway is constructed it will enable you to put your land, perhaps, to a more profitable use? Greatly.
4116. And with a sufficient area of land to carry a number of people to make the railway pay, do you think? I do, providing the land is cut up in proper areas to suit the various people who are looking for land. I believe it is being cut up into farmers' holdings. A small area is more suitable for a farmer than a large area. I think the most applications are for small holdings. I am a Victorian, and the largest holding in Victoria, when I left there, was 320 acres, the largest a man could select. It appears to me that men in Victoria can make a better living on their 320 acres than men can do over here on 1,000 or 2,000 acres. Still, from what I see of the land, it is richer and will stand more cropping than any Victorian land, except Gippsland; but along the Goulburn Valley and through by Echuca and Shepardtown the land has been cropped, and farmers, on their 320 acres, are in a position to come over here and buy land.
4117. Were they tenant farmers? They were Crown tenants. I have a brother-in-law there who, previous to my leaving the Colony, was offered £8 an acre for his land, and he would not sell. If wheat would pay him, I fancy it should pay us here.
4118. *Mr. Trickett.*] What about the rainfall? I believe it is a matter of seasons. From what we read rain is periodical: we have dry seasons and wet seasons. We have a continuation of from five to six or seven years' dry weather; we are having that now. Previous to six years ago my neighbour, Mr. Schumack, had so many potatoes to the acre that he would not go to the trouble of digging them. He would tell me to dig what I wanted. He used to tell me to dig the potatoes, and I could always dig to the extent of a quarter of a hundred weight.
4119. *Chairman.*] You told the Committee that men have done so well in Victoria that they were able to come over here and take up land for themselves;—how would you compare the seasons in the part of Victoria from which these men came with the seasons in this district—is the rainfall there better than it is here? It is more regular.
4120. Do you think the seasons there are as bad as you have here? There is one year I can remember. In that year, from January to March, I think, the ground was not wet with rain, and then it grew a good crop. Still, the season from then to the proper growing time might have been suitable for wheat.
4121. Generally speaking, are the seasons in Victoria better than they are in this district? I would not say they are. I have seen 16 bushels to the acre got off the same sort of land as I am now holding, and I have seen 28 bushels to the acre got.
4122. What would be a payable crop for this district? I think five bags, or 20 bushels, to the acre is a payable crop on an average. I fancy that if you take the good seasons with the bad ones this district will yield 20 bushels to the acre. At times it is exceedingly more than that.
4123. Do they get an average of 20 bushels to the acre from the district in Victoria from which you came? Yes, I believe they would get that.
4124. How far would it pay you to carry wheat to a railway? At the present time the only object for which I would carry wheat would be for the flour. I think the price of wheat is 3s. 6d., 4s., or 4s. 6d. in Coonabarabran, and you can take a load from here to Coonabarabran with five horses.
4125. How far do you think it would pay you to carry wheat from here to a railway? That would depend greatly upon the price in the market.
4126. When it is grown you have to do something with the wheat, and taking one season with another, what would you call a fair price, and how far would it pay you to cart your wheat to a railway station? I think to give a man anything like a profit for his trouble he would not have to exceed from 10 to 20 miles; I would say 20 miles—that is, on the lands which will be flat if the railway should happen to go along the route which is surveyed to suit this district.
4127. So that if a line were constructed you think there would be a probability of land on either side for 20 miles being cultivated for wheat? I think so.
4128. That you think would be the limit? I think it might extend further between Mudgee and Mundooran.
4129. Do you know the line at all which it is proposed to construct from Dubbo to Coonamble? I have not the slightest knowledge.
4130. Tooraweena is about 24 miles from the nearest point which that railway would touch;—supposing you had good roads to that railway, do you think you would be able to convey your farm produce there? From this district I do not. You must take into consideration the position of the market. If our market is to be Coonamble it is a very insignificant one, for, I believe, three loads of produce from this district glut Coonamble. You might sell the next day, and you might not.
4131. Coonamble is only a limited market? Yes. If we had to convey our loading from here to a railway

railway siding that distance away it would give us a very poor show to compete with Dubbo. If we had A. Nicholson, to supply anywhere near Mudgee, Dubbo could put us out of it properly. If we had to forward on to Walgett, the carriage from here to there would exceed the carriage on the railway from Dubbo to that station, I believe. From what I can hear, the principal farmers of the Dubbo district are within a very short radius of Dubbo railway station or other sidings convenient to them, which makes a great difference between us and those who are competing against us.

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4132. Mudgee, I suppose, would be your best market? Mudgee or Sydney, I think, is the best market for a product grown here—in fact, for all. All wool from this district goes to Mudgee. Dubbo is never thought of. Within the last two years there has been wheat sent to Dubbo for the simple reason that the road from here to Coonabarabran is so rough that a man with five horses cannot take what I have seen drawn by one horse in Victoria, and travel at the same time 24 miles a day. Victorians with one horse can draw twenty bags of wheat to a station 12 miles distant, and return the same day. On the point of population within a radius of 12 miles, there has been an increase of two to one during the last three years, for the simple reason, apparently, of Curban being thrown open for lease.

4133. From what I can gather you think the line from Dubbo to Coonamble would not be of much use to you? I do not.

4134. Suppose you had good roads, the same as you have in Victoria, what then? My object is to get rid of my produce. I would never think of growing wheat only with the run of this line from Mudgee to Coonamble. That is my view, unless things should alter greatly to what I expect. There is no doubt but that the wool I should grow would go to the railway, but I do not think it would be troubled with the grain. My brother-in-law, who is one of the oldest farmers here, made the remark to me only the other day, "When shall we get a market for wheat?"

4135. If he had a line constructed from Mudgee to Coonamble he would grow wheat? I fancy he would; I feel that I would.

4136. Is there any other information you would like to give? I think this Mudgee line would not only be an advantage to me individually, but would mean the addition of a good few townships within the vicinity of this district and further along the line. I believe that if the line is not constructed there never will be those places. I have been told that the Mudgee-Coonamble road is the oldest surveyed road, and as regards the opening up of country, I believe the Mudgee line will be more beneficial to New South Wales and to the interests of the Government than either of the other two lines.

4137. *Mr. Trickett.*] It would necessitate great extra cost? The cost at present might be a thing to be considered, but my point of consideration is the future. The expenditure will be laid down, and the Government will probably lay out a lot of money on whichever line it constructs. I have no hesitation in saying that this district, from Tooraweena to Coonamble or to Box Ridge, through back on to Mundooran, and into Mudgee, will never be properly opened up and worked as it should be, until there is a line running through there. The feeling of the public of this district is that, if this line does not come, the district will be shut out. We now have the Coonamble market more or less. This year is the first year I know of in which it has been touched by any other district.

4138. *Mr. Watson.*] Have you seen the land about Gilgandra? I cannot say that I have seen all the land; I have seen some of it.

4139. Do you think it is good land? The land close to Gilgandra is not equal to the land, I think, 8 or 10 miles on this side of Gilgandra—that is, on the eastern bank of the river. I think Mr. Johnson's place is on Uargon Creek. I think it is as good for wheat as any I have seen.

4140. Is this land about here, on which you and others are settled, as good as the land about Gilgandra North? Better than that close to Gilgandra. I do not say it is equal, taking it as a body, but from Bearbung down past Johnson's place for a few miles it is better. In my holding, for about a quarter of a mile, it is black-soil plain, and for a half a mile on the opposite side to my boundary fence it is all nice sandy land, not loose, but with a fair substance. It passes through my boundary into Mr. Beames'.

4141. You state that the land here is better than the land about Gilgandra, as far as you know? Yes.

4142. It has been stated in evidence by some of the farmers round Gilgandra that for some years past they have been carting wheat 48 miles to Dubbo, and making it pay;—I wish to know from you why, if they have worse land than you have here, and it pays them to cart wheat 48 miles, it would not pay you to cart wheat 48 miles with your better land? For the simple reason that the demand at Gilgandra for their flour is greater than our demand is here.

4143. How do you account for the fact, as stated by yourself, that it will not pay you to cart wheat from your superior land, 24 miles to a railway station, with a view to shipment to outer markets, while it has paid the people of Gilgandra, with poorer land, to cart wheat twice the distance to a railway, with a view to shipment to outer markets? From what I can see of it, it is their only living.

4144. They know how to farm;—do you think it would pay good farmers holding a reasonable area in this district, close to the foothills, to take wheat 24 miles by road to a railway station—that is, with the class of land and the rainfall you have here, and allowing that you have a decent road? I think that if Gilgandra men can make it pay at that distance at the same price, if that price stood at the same thing for us, we should do it with just as much ease as they can.

4145. Especially if you have only half the distance to cart? Yes.

4146. You think your land is sufficiently good to enable you to do that? I do.

4147. How far west from the foothills of the Warrumbungles—that is, towards the Castlereagh—does the good wheat-growing land extend—6, 10, or 15 miles? It breaks off. I have a patch; I suppose I can get 1,000 acres or more out of my holding. You cross the creek, and you get into my neighbour's place, where you meet with a different class of country.

4148. There is a strip of uniformly good country lying at the foot of the ranges? Yes.

4149. How wide is that strip, going west? It would exceed 10 miles.

4150. You would get good average land for 12 miles at least round towards Gilgandra;—after that there is a strip of poor land, is there not? You might not call it poor.

4151. How many miles does the ironstone gravelly country extend? From what I noticed when going to Gilgandra I think I got out of good country about 6 or 8 miles on this side of Gilgandra. How the river runs with that country, I do not know. From Tooraweena to Gilgandra, I believe you would get fair land until within about 6 miles of Gilgandra for wheat-growing—perhaps closer to that place—but I do not

say



- A. Nicholson. say you would get it in a body. From what I know of the country the land generally is not of the same nature all through.
- 5 July, 1899. 4152. You have not been to Curban? No.
4153. Near the Terrabile Creek some settlement leases have been open for some little time, and have not yet been taken up;—do you know that land between here and Terrabile Creek? No.
4154. *Mr. Trickett.*] Did I understand you to say that you do not believe in mixed farming—agriculture and sheep-farming combined? From my point of view it rests with the nature of the land you hold. It is not likely that I, having land, would let it lie idle. I believe if my holding of 4,500 acres was suitable for wheat-growing, and there was a market equal to the occasion, it would pay me, from what I know of wheat-growing, better to grow wheat than to grow wool in fair seasons.
4155. Therefore, I suppose you would continue your sheep-farming on the portion which is suitable for that purpose, and go in for agriculture on the other part? I believe I would go in for agriculture. I am not going to say definitely that I would.
4156. Suppose you had a railway to-morrow within a reasonable distance of your holding, would you gradually go in for wheat-growing on the portion which is suitable for that purpose, or would you go in on a large scale, looking upon it as a more profitable field of operations than for sheep-breeding, all over the run? I would go in for wheat-growing or dairy-farming. My own object is dairy-farming independent of a railway or not, but it would be more profitable to me or anyone else to take up that business if they could get places to send their produce to.
4157. You look upon sheep-growing as the least profitable of any use to which you can put your holding? I do not say it is the least profitable, for the reason that in one year it might pay me well with wheat, and another year I would be a long way out with wheat.
4158. That would be the same with the sheep? Yes.
4159. What was your object in coming here—was it to become a sheep-farmer? My first object was to be a blacksmith, and when I took up my land my sole object was sheep-farming and dairy-farming; that has been my object for years past.
4160. The land is well situated for sheep-grazing? Portions of it are well situated for that purpose.
4161. Some of the best, I suppose, in the Colony? I was told by the manager of the station that it was the best paddock on the station, and his opinion was based on the stock it carried from one year to another.
4162. You have black soil and red soil here;—do you, as a Victorian farmer, think that these soils are both suitable for wheat-growing? From my experience of wheat-growing, I do not.
4163. Which soil do you think is suitable? Classify the land. I think the land which is a little sandy is better for wheat-growing; taking the seasons one with another, I think it will be more successful than the heavier soil will be. In Victoria on the open plain, which is very stiff and heavy, if you get plenty of rain you might get 32 bushels to the acre; but if it should happen to be the other way, you might not take off a bushel to the acre.
4164. Therefore, the redder soil you think is the better of the two? That is my idea; but it is a matter of opinion, I believe. That is the land I intend to cultivate should I go in for wheat-growing.
4165. What is the capital value of the land you hold? £1 an acre.
4166. Have you made many improvements? I have ringbanked and fenced, and put in one tank and a well. I have cleared nearly 10 or 11 acres.
4167. Which you intend to plant? Yes, as soon as I can get it done.
4168. Have you any sheep on your holding? I should have about 1,900 now.
4169. I suppose you would increase the number as you prospered? Yes.
4170. It could carry a great deal more than that number? I expect the land to carry a sheep to the acre with the improvements.
4171. *Mr. Dick.*] You are a practical farmer, are you? As regards farming ground, it is little I have done; but I was with my brother-in-law for four years, and he made his living solely by farming.
4172. You understand something about wheat-farming, do you not? I do.
4173. You have had considerable experience among wheat-farmers? Yes.
4174. *Mr. Shepherd.*] You say you believe the line from Coonamble to Mudgee is the best of the three? I think so.
4175. Have you been along the line from Warren to Coonamble? No.
4176. Or along the line from Dubbo to Coonamble? Not right through.
4177. How do you come to the conclusion that the line from Mudgee to Coonamble is the best of the three? I base it on the experience of my past life in Victoria—that a trunk line extended has always proved more beneficial to the Colony than branch lines. I think that the Mudgee line extended would be our direct market to Sydney, and that if we sent our goods from here *via* Dubbo to Sydney there would be an expensive tariff or an extra rate charged which we could avoid if the line came past us here. There is a direct scope of country from here to Mudgee, and through to Coonamble, which would be opened out by the Mudgee line, but which would be left without railway communication if the other lines were run.
4178. You give this opinion, then, irrespective of the quality of land? I have no idea of what the other country is, only from what I have heard. I have been told that the country from Gilgandra to Dubbo is of a sandier nature, and from what I saw of the country from Tooraweena to Mudgee, I think the land, generally speaking, will grow a great amount of wheat.
4179. From Gilgandra to Dubbo you do not know anything about the country? No.
4180. And you have not been from Warren to Coonamble? No.

William Irvin, farmer, Tooraweena, sworn, and examined:—

- W. Irvin. 4181. *Mr. Dick.*] How long have you resided in the district? I was born here. I have been living on Tooraweena for twenty years.
- 5 July, 1899. 4182. Are you a grazier? I am a farmer. I have only a small holding. I have 1,800 acres now; but 640 acres is what I had until the last three months—I got 1,200 acres more.
4183. There are practically two rival routes to Coonamble, namely, one from Dubbo and the other from Mudgee? Yes.
4184. Do you know sufficient of the country along both routes to offer an opinion as to which is the better? I think so. I think the Mudgee line is the best line for agricultural purposes. The Dubbo line

W. Irvin:  
5 July, 1899.

line is not much for either grazing or agriculture to Gilgandra, but further down, for grazing purposes, it is good principally all the way; and for farming along the river, I should say for about a mile on each side, it is good.

4185. Where to? From Gilgandra to within about 15 miles of Coonamble—that is, with the exception of places which would not be fit.

4186. Would you say this—that the great body of the land to be served by the Dubbo-Coonamble railway is fit for agriculture? It is more fit for pastoral purposes I should think.

4187. How would you describe the character of the land from Tooraweena to Coonamble;—is the bulk of that land fit for agricultural purposes or pastoral purposes? For about 20 miles from Tooraweena to Coonamble it is all good for agriculture and for grazing too; and from that down there are only places which might be fit for agriculture, but it is all fit for grazing. There are what we call the red plains, which are good for growing wheat. The red plain grows wheat very well in a fair season, but the black plain will not grow wheat in any season. For about 20 miles from here towards Coonamble it is really good for anything; it would grow anything.

4188. Would you call it first-class agricultural land? Yes.

4189. For the first 20 miles from here, along the Mudgee-Coonamble line, you say it is good agricultural country;—how far to the west of the mountains does the tract of good land extend on an average? I should say fully 20 miles.

4190. Then, taking the country from Tooraweena to Mundooran, how would you describe that land? It is principally all good farming land, and very good grazing land too in places.

4191. And thence on to Mudgee, what is the character of the land? On towards Mudgee it is somewhat hilly in places, but it is fairly good country all through.

4192. Are we right in supposing that you describe the tract of land to be served by a line from Mudgee to Coonamble as being, from Mudgee up to 20 miles past Tooraweena in the direction of Coonamble, good agricultural land? Just so.

4193. *Mr. Trickett.*] Have you farmed your land for many years? For the last fifteen or sixteen years. Taking one year with another I averaged about 16 bushels of wheat to the acre. We have had as high as 40 bushels sometimes, we have had 20 bushels, 25 bushels, and down, I suppose, as low as 12 bushels. We have had from 16 to 20 bushels to the acre on an average.

4194. What have you done with your produce? I have sold it in Coonamble and Coonabarabran.

4195. In the local markets? Yes.

4196. Anywhere else? No; I have taken no wheat anywhere else, because we consume a bit with the carriers.

4197. Have you confined yourself to farming? I have some sheep. I have not farmed except a small area; there is no market close at hand, and I could not very well depend on the farming altogether.

4198. Has the district increased as a farming district? It has increased greatly everywhere within the last four or five years.

4199. I suppose the only way for the district to increase largely would be to provide the means of getting their produce to the metropolitan market? That is the only way. If there were means to get the produce to the general markets, I believe there would be thousands of acres under wheat, whereas now there are only a few hundred acres under wheat.

4200. Do you agree with Mr. Nicholson that the red soil is the most suitable for wheat-growing? For wheat-growing I believe it is the most suitable.

4201. What about the dark soil? On my farm I have red soil and dark soil. In the dark soil I have had a crop of corn for three years; it grows wheat very well, but it is rather strong for wheat when it is first ploughed. It grows corn and potatoes better than it grows wheat.

4202. Is it more difficult to till? No; it is about the same on my farm, but some of the farmers round here say it is more difficult.

4203. Would the same rainfall suit both classes of soil? Yes; I do not see that it makes any difference.

4204. Could a farmer rely upon getting a crop in two years out of three here? Yes, he could.

4205. Is that a fair average? That would be a fair average crop.

4206. Supposing you had a regular market, what do you think would be the lowest price you could afford to take for your wheat? I think it would pay to sell at 2s. on the ground. If a man grew in large quantities it would pay him to sell for less, at 1s. 6d., if there was a large demand.

4207. Is the wheat healthy which is grown here? Yes; there is very little rust or anything of that sort.

4208. *Mr. Watson.*] Do you know the country between Tooraweena and Curban? I know all the country; I have been across there.

4209. Do you know any settlement leases which have been open for some time between here and Curban? There is some country in the scrubs which has not been taken up.

4210. What sort of country is it? It is very scrubby country; it would be good country if it were rung and cleared.

4211. Supposing you were told that it is ridgy country containing clayey soil and ironbark gravel, would you think that was a fair description of it? No; I think it is a sandy flat country, though in parts you may meet with small hills.

4212. Do you know what timber is growing on that land which is not taken up? Forest oak and pine, and in some parts budda and ironbark. It is principally forest oak and pine.

4213. There is not much ironbark there? No; there is very little ironbark between here and Curban. There is a little not far out from Curban, but only in small strips.

4214. Do you know what capital value is placed on those settlement leases which are lying open there? No.

4215. We were told that it is 5s. an acre? That may be. Between Tooraweena and Gilgandra there is a strip of country which runs from Bearbung Creek on to opposite Curban. I suppose it is 15 miles long and 6 or 7 miles wide. Taking it all through it is very scrubby and bad country.

4216. How far away from the river at Curban does the good land extend? I should say a mile would be about the outside of it.

4217. Do you think the strip of good land on the eastern bank of the river is not a mile in extent? No, not about Curban.

4218. Then there is a strip of bad land, you say, 6 or 7 miles wide which is poor country? I should call it poor country. In places it is not poor; but taking it all through it is poor country. 4219.

- W. Irvin. 4219. And the balance coming on towards Tooraweena you say is good country? It is all fairly good. There are patches scrubby and bad, as there are everywhere; but, taking it all through, I would call it good country.
- 5 July, 1899. 4220. How far have you had to cart your wheat hitherto? Fifty miles to Coonabarabran, and 52 miles to Coonamble.
4221. What prices have you been averaging at those two points? We have been getting 3s., and we have got as high as 4s. 6d. and 5s.
4222. Did it pay you to take your wheat that distance and sell it at 3s.? Yes, I used to draw the wheat myself, and it paid me.
4223. Do you think it would pay you to cart wheat 24 miles on a good road and sell it at the general price which obtained in the open market? I think a man would make it pay; it would pay better than drawing it to Coonabarabran.
4224. You do not think 24 miles of carriage on a road would handicap you altogether out of the competition? No, not on a good road.
4225. With fair roads to the railway station you think that 24 miles road-carriage would not put people on either side out of the competition? I do not.
4226. That is, if the line were constructed from Mudgee to Coonamble, you think people who have good land about Curban, or thereabouts along the Castlereagh, could bring their produce to the railway? Certainly, I do.
4227. That is, with a good road? Yes.
4228. And, *vice versa*, the other way about? Yes, either way.
4229. Do you know the route which the surveyed line from Mudgee to Coonamble takes? I have seen the pegs, and been along a good part of the line; I know it pretty well.
4230. You know how the Warrumbungles generally run? Yes.
4231. Could you say how far, on an average, the surveyed line would be from the foot-hills of the Warrumbungles? It would average, I should say, fully 12 miles. Tooraweena is about the nearest point, and it is about 7 miles from here to the line.
4232. And the country round the foot-hills, speaking generally, is good? It is good round the foot-hills; it is about the best.

Henry Irvin, farmer, near Tooraweena, sworn, and examined:—

- II. Irvin. 4233. *Chairman.* What are you? I am a farmer, principally, residing within half a mile of Tooraweena. My holding consists of 650 acres, and I have been living here about fifteen years.
- 5 July, 1899. 4234. How much land have you under cultivation? About 58 acres. I have between 300 and 400 sheep.
4235. Can you make a living off that area of land? Yes, I make my living off it, principally.
4236. What is your market? Coonabarabran is the principal market for the wheat. We sell locally at times, and send it to Mudgee.
4237. Do you find it pays you fairly well? Yes.
4238. It would pay you better if you had only 24 miles to take it? Yes.
4239. What is the distance from this place to Coonamble? Fifty-two miles.
4240. I should imagine that, in wet weather, the roads are very bad? They are very bad, almost impassable with a heavy load, in wet weather.
4241. Are you acquainted with the country between Mudgee and Coonamble? Not very well.
4242. What portion of that country are you well acquainted with? From Tooraweena to Coonamble, or from Mundooran to Coonamble.
4243. Starting from Tooraweena, how would you describe that country? From here to Coonamble it is suitable for both grazing and agriculture.
4244. For what distance on either side of the railway would you consider the land to be good, say, for the first 10 miles? For 10 miles on each side of the line it is good for agriculture.
4245. What would the next 10 miles of country be like? It is good for either agriculture or grazing.
4246. And from that point, 20 miles from here, to Coonamble, how would you describe the country? It is all fair land. It cannot be beaten much for grazing purposes. I think it ought to be very fair for agriculture.
4247. To what extent do these plains go on either side of the surveyed line? They run on to the Castlereagh on the western side, and to the foot of the hills on the eastern side. The distance would be 10 miles on the western side, and between 20 and 30 miles on the eastern side.
4248. You think the whole of these plains are good for pastoral purposes? Yes.
4249. Do you ever find any difficulty in getting carriage for your produce, or do you take it yourself? I have to pay for carriage, as a rule.
4250. What rate do you pay from Tooraweena to Coonamble? I have not sent any produce from here to Coonamble. The rate is about 1s. per cwt. to Coonamble and 9d. a bushel to Coonabarabran. The rate for wool is about 3s. per cwt. to Mudgee.
4251. What effect do you think the opening of a railway would have upon the whole district;—would it encourage population? Certainly.
4252. Do you think it will have the effect of bringing a larger area under cultivation? It is certain to do that.
4253. Do you know if there is any demand here for pastoral or agricultural areas? There would be a demand if the land were available.
4254. Do you think a railway would really have the effect of increasing the population and enlarging the area under cultivation? Yes.
4255. Do you know the country between Tooraweena and Mudgee? Not very well.
4256. Do you know the country from Tooraweena to Cobborah? Fairly well.
4257. How would you describe that country? It is good country for grazing or agriculture. It is more scrubby than the land between here and Coonamble would be; it would not be hardly so suitable for grazing, but I think it is equal for cultivation.
4258. The same width of good land? Yes.
4259. Do you know what the country is like from Cobborah to Gulgong? From what I have heard I think it is about the same description of land.
- 4260.

4260. Did you hear what the other witnesses said? Yes.

4261. Do you generally corroborate what they say? Yes, pretty well. The land right from the line to Gulargambone and Curban is all suitable for cultivation. Right from the foot of the Warrumbungles the land is all suitable for agriculture. On the opposite side of the river it is black clayey soil, or else low sandhills.

4262. Have you any other information which you think we ought to have? I think not. Certainly this Mudgee-Coonamble line means less railway freight for any man who has to send produce to the Sydney market; it means less railway carriage by Mudgee than it does by Dubbo.

4263. That is, the distance is less? It is a great deal less.

4264. The cost of the Mudgee line is about £1,000 a mile more than the cost of the Dubbo line;—do you not think you would have to pay a higher rate on the Mudgee line than you would have to pay on the Dubbo line? I do not know. I could not say anything on that point.

4265. Generally speaking, your reason for preferring the Mudgee connection is that it is a shorter route to Sydney? Yes.

4266. And you think Sydney would be your only market for your surplus products? Yes; the only substantial market we could realise in.

4267. *Mr. Watson.*] Do you think it would be of any value to the farmers here to have a chance of sending their produce Werris Creek way, or by a short cut to the Southern line—for instance, to send fat stock towards Melbourne by the Blayney-Harden connection and the Southern line, or, on the other hand, towards the western market at Bourke; do you think they would occasionally take advantage of either of those markets in addition to the Sydney market if they had a connection with the Western Railway? I could not say whether they would or not. The question is, would it be a market they could rely on. No doubt they would take advantage of that market when they could get rid of their produce.

4268. Do you think the possibility of their reaching the other two markets occasionally would be any compensation to the people of this district for the extra 37 miles of railway carriage involved in going *via* Dubbo? Not much, I think.

4269. You do not think it would be a sufficiently large matter to weigh very much? No.

William Thomas Hitchen, hotelkeeper, Tooraweena, sworn, and examined:—

4270. *Chairman.*] You are a hotelkeeper, residing at Tooraweena? Yes; I have been residing in the district for about eighteen years.

4271. *Mr. Trickett.*] You are well acquainted, I understand, with the district right from Tooraweena to the Warren line? Yes.

4272. Starting first with the Mudgee line, what is the character of the country it passes through? I have been hawking with traps for a considerable number of years in the district. I was mostly stationed at Gilgandra, where my home was, so I know a good deal about the country. I think for about 15 miles on this side of Coonamble the country would be more suitable for grazing than agriculture; but from a point about 15 miles from Coonamble to Tooraweena, I think the whole of the country would be splendid for agriculture. Of course, there are small patches which would not be suitable; but, taking it as a whole, I think it would be very good for agriculture, from the mountains right on to the Castlereagh.

4273. It is largely composed of red soil? It is mostly red soil the whole of the way. In some places it is all of a red sandy nature. It is terribly timbered. The thickly-timbered country is mostly good for agricultural purposes, where it is not good for grazing, and the most of the country on the other side of the Castlereagh, for a considerable distance, is nearly all black soil, which will not grow crops up this part; it is only good for grazing. There are small strips down the bank of the Castlereagh, on the western side, which are very good, but beyond that it is mostly myall country—plain country—and would not be good for agriculture at all.

4274. You say black soil will not grow crops;—is that statement made from your own observations during the time you have been in the district? The crops in the black soil grow for a little while, and they seem to perish off with the least thing, but in the sandy country they all grow much better. In this district they have always done so. There are some very large holdings between Tooraweena and the Castlereagh; it is terribly scrubby, but it is splendid country for agricultural purposes. I can mention two big holders, between Tooraweena and the Castlereagh, who came from the Victorian side, and said if there was a market they would put land all through the country under agriculture; now they have no market.

4275. How would that strip of country be best served—by a railway from Mudgee to Coonamble? This line would be running right through about the centre of the country. It has nothing to serve on the other side of the Castlereagh, as far as agriculture goes.

4276. Will you describe the character of the country from Tooraweena to Cobborah? It is mostly all red, timbered country.

4277. Suitable for agriculture or grazing? For agriculture, mostly, if they had any way to get rid of their produce.

4278. You have had something to do with finding a market in Coonamble for the wheat of the farmers here, have you not? I opened a produce store in Coonamble this year.

4279. Was it the means of their being able to dispose of their wheat? It was.

4280. Were they able to cart their wheat 52 miles, and sell it profitably there? I bought at the door, and carted it down, or got teams to cart it down.

4281. Did you get a profit out of it? I got a reasonable profit out of it.

4282. Seeing that there is no mill at Coonamble, what did they do with the wheat there? They fed their horses on it during the dry season, as it was cheaper than corn.

4283. Have you thought out the question of how far it would pay a farmer to cart his wheat? I have heard selectors round about say that if there was a market or a train from Mudgee to Coonamble they would go in largely for wheat and other kinds of produce.

4284. With a view of sending their stuff to the central market? Certainly.

4285. Between the surveyed line from Mudgee and the mountains on the east, how would you describe that country? It is all principally red country.

4286. Is there a large extent of it? There is a good extent of it. We are just about the end of the mountains here. It crops off and goes towards the Coonabarabran district.

4287.

H. Irvin.

5 July, 1899.

W. T.  
Hitchen.

5 July, 1899.

W. T.  
Hitchen.  
5 July, 1899

4287. Do you agree with the last witness as to the extent of that country—that it is about 6 miles wide at this end, and increases to about 12 miles further down? At this end it is the extent of the country, and it widens out as it goes north.

4288. Is it all a good character of country? It is a splendid character of country. Some of the biggest crops ever grown in the district have been grown at the far end of these ranges—the biggest yield of wheat at all events. I believe Comber got 42 bushels to the acre last year at the far end. That is about 20 miles north of Tooraweena.

4289. You seem to speak rather disparagingly of the land between Gilgandra and Dubbo;—our observation, and also the evidence we have taken, is that agriculture is going on very considerably there, especially wheat-growing? It is about Gilgandra and the banks of the river, but not on the western side. On that side it is all myall plains which will not grow crops, but about the banks of the river it is certainly very good, and about Gilgandra. The myall plain starts about 8 miles below Gilgandra, and then it is a strip of myall country right through to Coonamble, and as far west as you like to go, which is not suitable for wheat; but from the Castlereagh to the Warrumbungles the whole of the land is very suitable for farming, at all events. It is only timbered country which wants clearing. It is mostly red loamy ground. There may be patches a little bit stony. There is not a hill between the whole lot.

4290. Do you come in contact with many people who want to take up land in this locality? Yes; there are a number of people waiting now for the Tundaburine holding and other holdings between here and Coonamble to be thrown open.

4291. And they will take that land up, railway or no railway? Yes.

4292. The difference will be that if there is no probability of a railway they will go in for sheep farming? They will have to.

4293. Otherwise, do they say they will go in for agriculture? There are people on the land now who would go in largely for agriculture if there was direct railway communication; otherwise they will not.

4294. Do these people, you think, understand that it would be a very expensive line from Mudgee to Coonamble, and that probably the rates of carriage would be rather higher than usual? They are quite well aware that it would be a more expensive line to construct, but they all say that it would be the most direct route to get their stuff away, and the cheapest line.

4295. But supposing there was a line from Coonamble to Dubbo they would not have so very far to convey their wheat, would they? No.

4296. Would not that help them a bit—if they had that line, with a good road to a railway station about 20 or 24 miles off? It would certainly help them.

4297. You think it would not be as much benefit as if they had it direct? Nothing like it.

4298. Supposing the question was to assume this shape—either to have no railway at all or to have a railway from Dubbo to Coonamble, do you think they would sooner say, "We will have no railway at all"? They would rather have a railway if it were to come out of Queensland, than have no railway at all.

4299. They do not care where it comes from as long as they get it? They want the most direct route they can get for themselves.

4300. Is this the idea—that if they cannot get the best route they will take the best they can get? That is mostly the way they all talk.

4301. Do you know anything of the country out in the direction of Coonabarabran? Pretty well.

4302. What is it like? From Tooraweena to Coonabarabran, to go direct, it is mostly very rough country.

4303. Starting from Mudgee, and then coming along this line, and going out in that direction, is it all rough country? Not by any means. The rough country does not extend towards Mudgee more than 10 miles south of Tooraweena.

4304. Taking a line from Mudgee up towards Coonabarabran, would that help the people about here? I do not think it would help the people up here.

4305. Coming a little in this direction, and following up the Yarragrinn Creek, and then going direct over towards Coonabarabran, would that do any good? If there was a line to come as far north as Yarragrinn, and then go towards Coonabarabran, it would benefit the people just here, but it would not benefit the people any further out.

4306. If the railway came to Mendooran, it is not very far from there to Coonabarabran? It would serve Coonabarabran well. It would serve both Mendooran and Coonabarabran. It would come through this district. It is not far to Gilgandra, and Gulargambone is only 30 miles from here, and it is coming pretty close to Baradine. The line would not be any more than 30 miles from Coonabarabran, coming direct from Mudgee here. That is all a farming district.

4307. *Mr. Dick.*] Do you think a line from Mudgee to Coonamble along the proposed route would serve stock-owners along the banks of the Castlereagh? I should think so, splendidly.

4308. I think you stated that the area of good agricultural country, about here at any rate, is practically bounded on the one side by the Warrumbungles, and on the other by the Castlereagh? Yes.

4309. With the exception of a strip from a mile to two miles wide on the west bank of the Castlereagh? That is right.

4310. You also stated, I think, that beyond that strip towards the west the land is not fit for agriculture? It is mostly myall country, which is not fit for agriculture.

4311. *Mr. Watson.*] You say a railway from Mudgee to Coonamble would benefit the people up to the Castlereagh splendidly? I think so.

4312. Supposing you reverse the position,—would a railway along the Castlereagh serve the people from this district? There would be no people on the other side, as far as agriculture is concerned. It is only on one side the agricultural land is.

4313. Would it serve the people on this side of the river? It would serve them to a certain extent.

4314. Would it serve them as well as they would be served by a line coming near here? This would serve them the best I should think. It is the most direct route. It would be shorter for haulage.

4315. Assuming that the people on the Castlereagh would be able to use a line coming past here, would it be possible that the reversed position would suit the people here? Not so well.

4316. Still they could take advantage of it? It would suit them to an extent; it would be better than none. The Mudgee line would be going right through the centre of an agricultural district. I think it would open up splendid land for agricultural purposes which otherwise would not be opened up.

4317. Is there any other statement you would like to make? No.

THURSDAY, 6 JULY, 1899.

[The Committee met at the "Mundooran Hotel," Mundooran, at 7:30 p.m.]

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Christopher Baldwin Manusu, storekeeper, Mundooran, sworn, and examined:—

4318. *Chairman.*] What are you? I am a storekeeper in Mundooran. I have been here for twenty-four years. C. B. Manusu.

4319. *Mr. Trickett.*] You know the district pretty well? Yes. 6 July, 1899.

4320. Do you know the surveyed line for a railway between Mundooran and Tooraweena? I know a good part of it—to within a few miles of Tooraweena.

4321. Starting at Tooraweena and coming this way, will you describe the country? The farthest I have been is down through Bearbung.

4322. You know the country starting about 9 miles on this side of Tooraweena? Yes.

4323. What description of country does the surveyed line pass through between there and East Breeelong? It consists mostly of ironbark, box, and apple-tree.

4324. Is that good country? In parts. On the flats it is really good agricultural country; but the other is not much for grazing purposes.

4325. Is the bulk of it suitable for agriculture, or only parts of it? Only parts of it.

4326. Is it red-soil country? The majority of it is red soil.

4327. Do you regard red soil as better than dark soil for agriculture? Far better.

4328. Does that extend for any distance on the west side of the line? It extends right through to Mundooran.

4329. We want you now to describe a patch on the other side of the line? On the eastern side it is different country altogether. It is myall, and is more suitable for grazing purposes. There are plenty of patches fit for agriculture; but more suitable for grazing.

4330. Is that strip of country mostly alienated? No; there are only about ten settlers on it.

4331. Is the other used for grazing purposes? Yes.

4332. What is about the average size of the selectors' holdings? I cannot tell you.

4333. Can you tell us if they are running sheep, or growing crops? Each selector does a little farming, and has a few sheep. They grow a little wool.

4334. As regards the growing properties of that soil, is it suitable? Yes; it is a good wheat country.

4335. Do you mean that most of that country is good wheat country? As I told you before, the greater part of it is rough country, but there is a lot which, no doubt, could be put under cultivation if they had any outlet.

4336. Is that country in big blocks, or is it scattered about in different parts? It is scattered about in patches.

4337. Going down towards Breeelong proper, is not there a large tract of very poor country? It is between the Castlereagh and the surveyed line. It is rather poor country; it is only suitable for timber.

4338. Coming on towards Mundooran, there is a considerable tract of country between the surveyed line and Wallumburrawang Creek;—what is the character of that country? Ironbark and apple-tree are the greatest features of it. Of course, there are plenty of good patches which are fit for agriculture. A man could get 100 or 200 acres here and there of really good agricultural country.

4339. But that is not as good as what you have recently been describing? No.

4340. What is the character of the soil in that ironbark and apple-tree country you refer to? The apple-tree country, when you get on to any of the creeks, is really good, rich, chocolate soil.

4341. *Mr. Watson.*] What sort of soil is it on the ridges? Spewy.

4342. *Mr. Trickett.*] Is it not stony? It is not very stony—in fact, it is rather free from stone in the ironbark ridges. It is a sort of spewy country.

4343. *Mr. Watson.*] A clayey soil? No; it is of a rather soft, spewy nature. It gets very boggy in wet weather.

4344. Whitish? It is a sort of grey.

4345. *Mr. Trickett.*] Would you describe that country, taking it as a whole, as good agricultural country, or as inferior country? The flats I would describe as good agricultural country, but the ironbark portion I would describe as inferior country.

4346. Which class of country preponderates in that portion you have just referred to—the ironbark inferior country, or the good agricultural country? There is more inferior certainly.

4347. I want you now to describe the character of the country between the railway line and the mountain side—that is, opposite the block which you have just described, on the western side, as being inferior. Starting from Wallumburrawang, and coming towards Yarragrin, a distance of 12 miles, and 15 miles east from the line, will you describe the character of the country? It is first-class country for grazing purposes. In many places it is good for agriculture—not large holdings, but tip-top. No doubt it is really good for grazing purposes.

4348. *Mr. Watson.*] I suppose it is on the creeks you will get the agricultural land? Yes; in many places you could get good patches here and there. You could get, perhaps, 100, 250, or 300 acres here and there.

4349. *Mr. Trickett.*] As regards the land which would not be used for agricultural purposes, can you tell us what its carrying capacity would be for sheep? I believe the majority of the land would carry a sheep to the acre.

4350. When it is ringbarked and improved? No; I believe the majority of it would carry a sheep to the acre now.

4351. In its natural state? Yes.

4352.

- C. B. Manus. 4352. *Mr. Watson.*] Is it improved at present ;—is a lot of it ringbarked ? Very little of it. Of course, a lot of the country included in the settlement leases has been ringbarked.
- 6 July, 1899. 4353. *Mr. Trickett.*] Starting from Yarragrin, and taking an easterly circuit towards the Castlereagh, where it bends to the north ;—at Cullabullo, what is the character of the country ? It is all good country.
4354. Going westerly again along the Castlereagh to Mundooran, what is the country like ? That is good country—as good as you can find in New South Wales for grazing purposes. The bulk of it is good for agricultural purposes.
4355. *Chairman.*] Thirty per cent. ? Twenty-five per cent. of that country is good for agriculture. If a man can depend on the season a greater part of that country is good for agriculture, because all the black country with good seasons will grow anything.
4356. *Mr. Watson.*] You want a very drooping season for black country ? Yes.
4357. *Chairman.*] How often do you get a season of that sort out here ? I am sorry to say very rarely.
4358. *Mr. Watson.*] You would not take up black country yourself for agriculture, as you would not get wet seasons frequently enough to make it of use ? No.
4359. *Mr. Trickett.*] You have described that outer circle of country ; is not the inner portion of that circle to a considerable extent bad country ; taking a line from Cullabullo and going towards Bourbeen there is a block of inferior country to the extent of about 6,000 acres ;—is any part of that block fit for agriculture, do you think ? Plenty of it if cleared. It is partly red and partly dark soil.
4360. You know the coach road from 12 miles this side of Tooraweena on to Mundooran ? Yes.
4361. Starting at the same point, and going along the coach road, we come across a great deal of ridgy, stony country, which would be utterly useless for agriculture, and is so covered with stones that it would be hardly fit for grazing ; is there much of that character of country away from the road ? There is not, because the road is generally picked out so as to travel on the stony country, and to avoid the black soil.
4362. Therefore, that country which the coach road travels through is not, in your opinion, to be taken in any way as a guide to the character of the country on either side ? No.
4363. Does that rough country extend far on either side of the coach road ? No, only in patches ; it runs in table-lands. Of course along the ridges on the table-land it is always stony. They generally traverse this part because it is stony ; it is better than travelling across black soil.
4364. Starting on the western side, will you describe the character of the country between Mundooran and Cobborah ? From Mundooran to Cobborah on the western side there is no doubt that the majority of that country is really good. For the first 11 miles on the western side the country is really good. Most of it is good open box country fit for agriculture or grazing.
4365. Does that extend to a good distance on the western side—10 or 15 miles ? No ; in a straight line about 8 miles.
4366. After that you get into a little bit of inferior country ? It is not as good as the country for the first 11 miles.
4367. On the eastern side, what is the country like ? You get some very good country for about 10 or 11 miles, and it has a width of about 6 miles.
4368. And then wide of that you get into inferior country ? No ; you get into some splendid country.
4369. I mean adjoining that strip of very good country, which you say is, six miles wide, do you not get into bad country ? A strip of rather poor country, but not very wide. Of course, once you get on to the Talbragar you get into some magnificent country.
4370. *Mr. Watson.*] That is towards Cobborah ? Up the Talbragar, from Cobborah, it is first-class country.
4371. *Mr. Trickett.*] Then going along through that distance of 11 miles into Cobborah, on both sides of the line is it good country ? On the western side it is fairly good ; but on the eastern side it is just medium, not too good.
4372. Will you just tell us the character of it ? It is mostly ironbark, pine, and apple-tree.
4373. Is much of this country likely to be thrown open soon, or is it mostly under long leases or alienated land ? I think it is likely to be thrown open. There are very few selectors on it, for the simple reason that they have no outlet for their produce that I can see.
4374. Is that the general feeling here—that people would go in for agriculture with a better outlet for their products ? Yes ; they have no outlet. You could buy hundreds of bushels of wheat round here for 1s. 6d. a bushel. I bought a lot the other day. The Mudgee price was 2s. 6d. ; you have to pay 2s. 3d. a cwt. to send to Mudgee, and it takes 2 bushels to make a cwt., so that the freight would be 1s. 1½d. a bushel. You can get wheat here for 2s. 6d. This man was offering his wheat for 2s. 6d. We started a flour-mill, and it was working for a couple of seasons ; I am part proprietor of it now. We could not do anything with the offal. We were selling bran and pollard for 30s. a ton. It would not pay a man to cart it from here to Mudgee, or any place where there was a consumption.
4375. How far have any persons who have grown wheat carted their stuff from Mundooran ? That which I sent away to Mudgee the other day was carted over 80 miles. It is 75 miles by road to Mudgee, and I had to bring it 5 miles up to Mundooran, and had to pay a carrier to cart it in.
4376. Was there any profit in it at the end of the journey ? No ; you could not expect much profit in it to sell at 2s. 6d.
4377. There was nothing in it at all ? No ; a man cannot afford to grow wheat and sell it for 1s. 3½d. a bushel.
4378. Have you ever heard the growers say how far it would suit them to cart wheat to a railway so as to have the advantage of getting to a central market ? No ; I have never heard them pass a remark ; but, I think, if a man is growing the wheat in this part of the country, and carts it about 30 or 40 miles, it is a fair thing.
4379. With a decent road, you think it would pay a man to cart his wheat 30 or 40 miles ? Yes. They all feel inclined to go in here for wheat-growing, but there is no outlet for it.
4380. You have been here many years ;—have you noticed a tendency for the population to increase by new settlers coming in ? Yes. When I came here twenty-four years ago there were only three houses in Mundooran—the hotel, the police barracks, and the post office or blacksmith's shop.
4381. The population has increased in the direction of sheep-farming ? Greatly.
4382. In small holdings ? Yes. Twenty-four years ago, I think, my father was very nearly the first selector on the Castlereagh.

4383. What is your rate of carriage for goods from Mundooran to Mudgee? At the present time from 2s. 3d. to 2s. 6d. a hundredweight. C.B. Manusu.
4384. Is that for a big load? It does not signify if you take 20 tons. 6 July, 1899.
4385. Is it a good sound road, on which teams can travel in all weathers? It is a tip-top road. In Mudgee you can get chaff from £2 5s. to £2 10s. Out here we have to pay £4 10s. and £5 a ton for it. A man from Tooraweena offered me £5 a ton to give him 30 cwt. I said, "No; but if you go in towards Cobborah you can get it." You could sell chaff in Coonamble and make a good thing out of it at £4 a ton if you had a railway, but I do not believe you could buy it there now for £9 or £10 a ton.
4386. For hay and chaff you think there would be a good outward trade in the direction of Coonamble and Warren? I have not the slightest doubt that if there had been a railway when we were working the flourmill and sawmill, we could have done a good thing with timber, bran, and pollard.
4387. All along the line the evidence has been that with a railway they will be able to grow wheat in galore and have their wheaten hay? Perhaps they may. There is no doubt that some of them can, but anywhere in a black soil country they cannot depend on the seasons. If they get a good season they can grow almost anything. Anywhere in the red soil, chocolate country, if they get a medium season they can grow a fair crop; but in the black soil country you can only depend on a good season.
4388. You consider that you have more of that useful chocolate soil about here than they have out Coonamble way? Certainly.
4389. *Chairman.*] Do you know what the country is like on the other side of the Castlereagh, between Dubbo and Gilgandra? It is about the most miserable starved hungry country that you could see between Dubbo and Gilgandra; it would hardly feed a bandicoot.
4390. How far would that country extend? I have travelled it on horseback, with a vehicle, and with stock. I have travelled along that line for several years, and I never could find anything for a beast to eat from Dubbo to Gilgandra. Five miles out from Dubbo it is all freehold property.
4391. Would that be along the stock route or along the road? Go as far as you like from Gilgandra out towards the Castlereagh you would not get anything to feed a bandicoot.
4392. Taking a line from Gilgandra to Dubbo, and then going west of the line, do you know the country? You get some very good country. When you get over to the Marthaguy you get very good country, but on this side it is bad.
4393. On the other side of the Coonamble road, going from Dubbo, it is pretty good country? Yes, Once you get a few miles off the road. Once you get over to the Marthaguy and the Merri Merri it is good.
4394. Do you know Branston, where Mr. Brown lives? Yes; it is fairly good country.
4395. *Mr. Trickett.*] I suppose you are aware that this Mudgee line would be a pretty expensive line to construct? Yes.
4396. It is pretty broken country which it traverses? On the last survey I think they got a very fair route from Mundooran to Coonamble. On the first survey they ran too far up into the Warrumbungles or the Dilly Dilly Mountains.
4397. The last survey has resulted in a much improved route? Yes; Mr. Marshall was the last man who surveyed the line. We directed them to go down from the Bearbung Creek, and go out through Bearbung, and they found a really good line that way, so they reported, I believe.
4398. *Mr. Shepherd.*] Outside these ridges you spoke of, is the good land comparatively level? It is not comparatively level, but it is good open country.
4399. What is the freight from Mundooran to Coonamble? It all depends upon the season. Sometimes if there is plenty of grass in Coonamble they will carry it from there to here almost for nothing, but as it is now you could hardly get them to go there for love or money.
4400. Do you never attempt to send wheat to market from here? They have to send it to either Mudgee or Coonabarabran, because there is no mill here. We had a mill working here, but it is a stone mill. If you had a roller mill here you would never get rid of the offal—flour, pollard, and bran.
4401. What is the general character of the country between Mundooran and Mudgee? Once you get on to the Talbragar, a distance of about 20 miles, there is some splendid agricultural country all the way through.
4402. What is the character of the country between Mundooran and the Talbragar? Going from here through Cobborah to Gulgong or Mudgee you see the worst part of the country; but going to Cobborah and round the Talbragar up to Redbank, and from there through Tallewang and Gulgong on to Mudgee, there is some splendid country; it is all first-class agricultural country.

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FRIDAY, 7 JULY, 1899.

[The Committee met at the "Commercial Hotel," Cobborah, at 2:30 p.m.]

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Howard Speight, sheep-overseer, near Coonamble, sworn, and examined:—

4403. *Chairman.*] What are you? I am a sheep-overseer, residing 30 miles north of Cooramble.
4404. Your occupation, I suppose, enables you to see a good deal of the country? Yes; I have seen most of the country here. H. Speight.  
7 July, 1899.
4405. Do you know the country between Dubbo and Coonamble? I do; but not well until I get to the other side of Gilgandra. The country between Gilgandra and Dubbo I do not know well except along the road.
4406. You know the country between Coonamble and Cobborah? I do.



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4407. Will you describe generally the nature of the country from Gilgandra to Coonamble, and then from Coonamble down on this surveyed line towards Tooraweena ;—which would you consider to be the better land? For agricultural purposes, from Coonamble to Tooraweena?
4408. And for pastoral purposes? I would say the land from Coonamble to Tooraweena is the better land for pastoral purposes.
4409. For agricultural purposes, how far on each side of this Mudgee line would you consider the land extended between Tooraweena and Coonamble—the 20-mile limit does not include all the good land? Practically speaking, the whole of the land to the east of the surveyed line between Tooraweena and Coonamble is good.
4410. I am asking you with reference to the suitability of the land for agricultural purposes? I would not include all the land from Tooraweena to Coonamble as good agricultural land.
4411. What proportion do you think would be good agricultural land within a 20-mile limit ;—have you been farming at all? No.
4412. You could not say how far it would pay a man to carry wheat to a railway? I know they carry wheat here 74 miles at 2s. 4d., and then they cleared 9d. out of it.
4413. What proportion would you consider suitable for wheat-growing on the eastern side of the surveyed line from Coonamble to Tooraweena? That is hard to estimate. I can give you clearer and better evidence as to the country from Tooraweena to Mudgee, because I have been over every acre of it.
4414. You could not say what proportion of the land is suitable for agriculture between Tooraweena and Coonamble? I could not. The work I have been at within the last seven or eight months has been strictly in this district.
4415. Can you describe the country from Mundooran to Mudgee? Yes.
4416. Will you kindly give the Committee your opinion as to that part of the country? It would be really hard to put down a hard and fast percentage.
4417. Approximately, what is it? I should say that at least two-thirds of the country is agricultural land between Mundooran and Mudgee on either side of the line.
4418. Do you know what area of Crown lands is untenanted at the present time? I could not swear to the whole of it. I do not think lately there has been very much Crown land untenanted. I think nearly all has been used for the last six or seven months.
4419. Are there many acres of Crown land? I get my figures from the proper place, and I should say that in the Cobborah district the proportion is about 49,000 acres of freehold land to 192,000 acres of Crown lands.
4420. The pastoral leases are about to fall in in this district? I think so.
4421. Do you think if these leasehold areas are thrown open they would be eagerly taken up? Yes.
4422. By a good class of settlers? Yes; by farming settlers.
4423. Would it be taken up by new comers, or by men who were adding to their holdings? As soon as ever people outside this district know what sort of district it is they will come here.
4424. The land which at one time in this district was considered unsuitable for agriculture has turned out to be the best, has it not? Yes.
4425. And you think there will be a great increase in population when the land is thrown open? I am sure there will if they are given some facilities. Give them a railway, and then an increase must come.
4426. Taking the pastoral country along this line of railway, what do you think is its carrying capacity? If that country is ringbarked, I believe it will carry a sheep to the acre.
4427. Have you any idea what the yield of wheat is? Last year it was 19 bushels to the acre; it has never gone below 15 bushels to the acre, I believe, except in one year when it was damaged by flood.
4428. Where is it principally grown ;—along the river flats? No.
4429. The yield of wheat, you say, has not been less than 15 bushels to the acre ;—there has been no absolute failure then? I believe there has been one failure, from what I can hear. I have seen the returns for the last seven or eight years, and there has been no failure.
4430. Will any of the country be suitable for dairying? Yes.
4431. Has it been tried? About Mudgee.
4432. Has it been tried out this way? They would have no market out this way.
4433. Before you get factories, you generally try and make a bit of butter for yourselves? They can make the butter for themselves; but there has been no inducement offered to them to make any quantity because they have no market.
4434. Going on towards Mudgee, will you describe the character of the country? The land, except on the ridges, is all good agricultural land. This is a peculiar country. You run along an ironbark ridge, and though it is all similar country within a mile of you, there is beautiful agricultural land.
4435. What proportion do the ridges bear to the rest of the country? I should say the proportion of land available for agriculture is nearly two-thirds of the acreage.
4436. What is the character of the country from Cobborah to Coonabarabran? The Caigan country is good country. I have seen this country when travelling from here to Coonabarabran looking for country.
4437. Will it compare favourably with the land on this side of the ranges? I should say it would.
4438. How far from each bank of the creeks does the good agricultural land extend ;—would the land to Coonabarabran via Binnaway compare favourably with the land you have just been describing between Mundooran and Cobborah? I think the Caigan land is better than the Mundooran land, that is at present; but that the Mundooran land is first-class agricultural land, of course after it is cleared and ready for the plough.
4439. How far east of Mundooran is the Caigan land? You come on to the Caigan Estate about 14 miles east from Mundooran, passing through good land the whole way after you get just the other side of Mundooran.
4440. Have you prepared a statement at all for the information of the Committee? Yes.
4441. Will you be good enough to give what information you possess with reference to this proposal? My opinion is that the better extension is from Mudgee to Coonamble, because this country here can feed the back country in such times as we have been having. We have been dragging stuff round from Mudgee to the back country. In the Mudgee district, the Cobborah district, and the districts the line runs through as far as Tooraweena, there has been a tendency to cultivate for a number of years, and three times as much land is cultivated now as was cultivated four or five years ago, and in face of the price

price of wheat this year, about 2s. 4d. a bushel on the average, they are increasing their areas. Because they know they can make it pay at 2s. 4d. a bushel they are increasing the acreage, so that they may earn a bigger income. They know the climate is sure; they have never missed their crops.

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4442. You say that 2s. 4d. a bushel will pay them? Two shillings and fourpence will give them a return of 9d.

4443. Delivered where? Delivered in either Gulgong or Mudgee.

4444. If they got 2s. 4d. in Mudgee it would pay them? It pays. I do not think it will pay a man to cultivate a small area, but they know the crops are sure, and they say, "If we make 9d. a bushel on 50 acres, and we put in five times the area, we will make five times as much as we got the year before."

4445. Is there anything further you wish to say? They are doing well in the face of these difficulties. Where it is an average carriage of from 50 to 60 miles all round, they can deliver to the Gulgong mill; but it amounts to the same thing. The difference in price is dictated between Gulgong and Mudgee, according to the rate of carriage. They practically have to cart their wheat 50 miles. They are increasing their acreage this year in the face of last season's prices. I come to the conclusion that it must be agricultural land of an extraordinary kind, and that they must get seasonable rain. They have tried wheat-growing for a period, and they find they have only had one failure, which was owing to heavy floods, and which reduced the average all round.

4446. Have you seen any of the black soil cultivated? I have seen more of the black soil cultivated in the flat country.

4447. I suppose there are two sorts of black-soil country? Yes.

4448. What is that plain country like for cultivation? As far as I know, in the plain black-soil country, if you get three out of five crops it is good.

4449. I suppose this season will be a very good wheat season? Exactly; you can grow a crop down here on black soil if you have seasonable rain and plenty of it. Even the rainfall every year may be good, but it may not come at the proper time, and the crops fail. Just when you require the rain it may not come, and the crops fail.

4450. Is there anything else you wish to say? I have been through the district, and I have met men who told me that given facilities and a market they would increase their acreage to an enormous extent, and these are men who at the present time probably have one-fourteenth of their agricultural land under cultivation. A man with 1,400 acres is probably cultivating 100 acres.

4451. Taking a holding of 75,000 acres under sheep, how many persons would it employ, averaging them through the year? I do not suppose they would employ a score of men all the year round, including shearing.

4452. They would not employ twenty men on a 75,000-acre block; suppose that block was cut up into farms, and you say it would average about two-thirds agricultural land, would it treble the population on the area? I am not a farmer, and that is a hard matter to get at.

4453. You could not say whether it would? I would not like to say.

4454. From your observations, do you think it would employ four times as many? From my observations it would employ three times as many, to judge from the number of men working on a farm and knowing the acreage of it.

4455. The construction of a railway would mean that you would fully treble the population? Yes; I should think it would, because on a property of 75,000 acres which is probably owned by one man the work is done from a central point. I have been running my average on the number of men required on a farm during certain times, but a farmer may have a farm of 200 acres which he and his sons may be able to cultivate, and they are not working on the farm the whole of their time. Given a property of 60,000 acres, if you cut that property up into 200-acre blocks it will give you a return of thirty blocks. A 50-acre farm per man employed is a good size average farm.

4456. Although the railway might not pay immediately, you think that by reason of the extra population and the extra amount of land put under cultivation, within a reasonable time it would pay? Yes; I am sure a railway would pay whichever way you took up, but I knew the cost of the line here is much greater than the cost of the Dubbo extension.

4457. From your knowledge of the country, you think there is sufficient good country to be developed to justify the construction of a railway? Yes.

4458. Do you know the cost of carriage from Coonamble to Mudgee? I sent stuff from Gulgong to Coonamble the other day, and it cost me £4 a ton to get it down. I dare say I could get it for £4 10s. from Mudgee.

4459. From Dubbo to Coonamble, what is it? On Tuesday there are two loads starting for me from Murrumbidgee, which is 4 miles on the other side of Dubbo. It is to be carried direct from Murrumbidgee, *via* Dubbo, for £4 a ton.

4460. The same class of goods? Some loading was chaff and the other corn. An objection taken to the loading of chaff in Dubbo made me raise it 10s., although I do not think I could get it much cheaper.

4461. *Mr. Watson.*] Do you think if the whole of the loading had been corn you would have got it done for 10s. a ton cheaper? I might have done so. I tried to get it done for £3 10s. They asked me £4, and that was their objection.

4462. *Chairman.*] Is the rate of carriage higher just now than it usually is? Yes.

4463. What is the average price? The average price from Mudgee to Coonamble I could not say; but the average price from Dubbo to Coonamble, in and out, is about £3 10s., I should say. It is not much higher taking into consideration the wool season when they get back-loading.

4464. *Mr. Watson.*] We have been told that it is from £2 to £2 10s., which I think is too low? I do, too.

4465. *Chairman.*] Have you anything further to say? No, except that the Cobborah district, the Gulgong district, and the Mudgee district have been carrying from 80,000 to 100,000 extra sheep from other districts during the drought.

Thomas Samuel Slack, senior-constable, Cobborah, sworn, and examined:—

4466. *Chairman.*] What are you? I am a senior-constable, stationed at Cobborah. I have been here fourteen years.

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4467. *Mr. Trickett.*] You are fairly well acquainted, I suppose, with the district between Mudgee and Coonamble, and also east and west of this place? No; I am only acquainted with the district from Gulgong to Mundooran.

4468.

- T. S. Slack. 4468. In the first place, will you describe the extent of the district in which you collect statistics? My district commences at Redbank, about 12 miles east from here, and runs by the range to Spicer's Creek, thence by that creek to the Talbragar River, and thence by that river up to Dunedoo.  
 7 July, 1899. 4469. How many miles does it comprise? It would be about 20 miles square.  
 4470. Will you be good enough to read the statistics you have prepared? The first return which I have prepared reads as follows:—

Year.	Freehold.	Crown lands.	Total area under cultivation.	Area under wheat for grain.	Total yield of wheat.
1895 .....	44,324	190,967	2,895	1,968	32,216
1896 .....	44,261	177,000	2,658	1,608	23,568
1897 .....	43,902	174,521	3,427	2,420	26,350
1898-9 .....	49,092	182,199	6,257	4,947	93,499

4471. According to these figures the district has been progressing during the past four years? Yes.  
 4472. Was it a very dry season here last year? It was a very dry season.  
 4473. Notwithstanding that, for the dry season you had an average return of about 19 bushels of wheat to the acre? Yes.  
 4474. What were the other crops that came within the return? That I could not say, as the books were sent down to the Government Statistician, and we only kept a return of what I have just stated.  
 4475. Without going into detail, could you tell us what other crops grow favourably in this district? Hay, potatoes, barley, maize, and grape-vine, fruits.  
 4476. Citrus fruits? No.  
 4477. Not much dairy-produce apparently in the district just now? I will give you the return for 1891, to show you its progressiveness in that respect:—In 1891 the district produced 8,974 lb. of butter, 600 lb. of cheese, 18,656 lb. of bacon and ham, 14,811 bushels of wheat, 5,472 bushels maize, 55 tons of potatoes, 56 gallons wine, 18 tons of grapes, £575 worth of fruit, and 100 tons of pumpkins.  
 4478. I suppose, during recent years, you have not had as good returns as those owing to the bad seasons? The produce has increased year by year.  
 4479. You have not got the figures for last year? Not for the dairy produce. Since then we have been supplied with a particular kind of book, which we have filled in and sent down to the Government Statistician.  
 4480. You have not given us the stock returns? I have not got the stock returns, but they can be procured in Sydney. I think last year—a dry season—the Cobborah district within the area I mentioned kept 50,000 head of starving stock from different districts besides its own stock.  
 4481. When you were examined at the previous inquiry, you stated that the area of Crown lands which would fall in in 1900 would be about 174,000 acres? Yes.  
 4482. Could you describe the character of the land that will be available for small settlers to take up? About two-thirds will be suitable for agriculture.  
 4483. Will that be in continuous blocks, or is it in patches all over that area of 174,000 acres? It will not be in continuous blocks; but of that big area two-thirds will be all suitable for agriculture.  
 4484. Is it red soil or dark soil? A vast amount of it is all red, chocolate-coloured soil.  
 4485. Being the best kind of soil for agricultural purposes? Yes. The millers anywhere will prefer wheat grown on the Talbragar to any other wheat.  
 4486. We have heard it stated that black soil is not suitable for wheat-growing—that it is too strong and too difficult to till; is that so? I could not say, because I am not a practical farmer; but the red soil is the wheat country.  
 4487. Is a large amount of that two-thirds area red soil? Yes; a very large amount, as you will see on your way to Gulgong.  
 4488. How do the farmers get on for water for their farms? A great number of them have rivers and creeks, dams and wells.  
 4489. In good seasons they have a fair rainfall, have they not? Yes.  
 4490. Coming at the right time? Yes. In the season which we had last year throughout the Colony, it grew 19 bushels to the acre.  
 4491. Your estimate that a third of the Crown lands which will be thrown open is not fit for agriculture—what kind of country is it—utterly worthless? No; some of it is very good grazing country. Of course, the tops of the ridges carry splendid timber—in fact, between Gulgong and beyond Mundooran there is as much ironbark for sleepers and bridges as will make a railway from Mudgee to the Barwon. They got all their timber there for the sleepers and bridges on the Mudgee line, and also for the greater portion of the Dubbo-Bourke line.  
 4492. Judging by past experience, would that good land be taken up by settlers when it was thrown open? Yes; as fast as it is available it is taken up.  
 4493. Is any of that good land you speak of what we passed over this morning between Mundooran and Cobborah? Beyond what is termed the Gap here. Between the ironbark range, which runs down to Mundooran, and Mundooran, there is some very good agricultural land.  
 4494. We did not see the best of it in coming over the road? No.  
 4495. From what we observed, and what we have been told, between Cobborah and Mundooran there is a range of country which is not particularly good;—when you get on to Mundooran you get into first-class country, do you not? From some distance on this side of Mundooran, 8 or 10 miles, you have good country all the way into Mundooran.  
 4496. What is the population in your district? On the 1st January, 1899, when the census was taken, it was 1,100.  
 4497. Has it been increased from year to year by new arrivals? Yes; the greater portion of the increase has been caused by gold-miners. Within 12 miles of Cobborah there are gold-fields.  
 4498. Last year the population was increased by gold-miners coming to Stringybark? Yes.  
 4499. Is it alluvial gold? Yes; but now, of course, they are commencing reefing operations.  
 4500. Is it looked upon as a pretty permanent field? It will be.

4501. About how many people are there now? At the present time I do not suppose there is more than a population of between 200 and 300. They are hampered for want of water for washing purposes.
4502. Of the three railway routes, which, in your opinion, would be the best? In my opinion, as a commercial undertaking, it would pay far better, and it would be much better, if the railway were to go from Mudgee to Coonamble. It would open up a greater extent of agricultural country.
4503. The Warren-Coonamble line, 63 miles, is estimated to cost £150,000; the Dubbo-Coonamble line, 93 miles, is estimated to cost £207,000; and the Mudgee-Coonamble line, 147 miles, is estimated to cost £479,000, being about £270,000 more than the cost of the Dubbo line, and about £320,000 more than the cost of the Warren line. Had you considered these figures when you said that you thought the Mudgee connection would be the best connection? I have no hesitation in saying that, as a commercial undertaking, on the extra cost it would pay for all future time better from Mudgee than from Dubbo. Again looking at it as a commercial undertaking, if you take the railway from Dubbo, you are saddling the Coonamble people with a burden of £25,000 a year for all time for extra haulage; whereas the increased traffic which will be brought to the Railway Commissioners would in the future more than recoup them for the extra expenditure it would take for the greater distance. A line from Dubbo to Werris Creek is, of course, one of the lines in the future. That line comes within 12 miles of Cobborah; it follows the Boomley Creek, and then it runs to Mundooran. It leaves Cobborah about 12 miles to the right. Say the line is made from Mudgee to Coonamble; the Dubbo-Werris Creek line, instead of going by Boomley Creek, can go on to Cobborah and branch in to the Mudgee-Coonamble line. There are 10 or 12 miles of level country from the junction of Boomley Creek on to Cobborah. It would utilise this line as far as Mundooran; it could branch off then to Werris Creek. It would save the construction of a line over rough country from Boomley Creek to Mundooran.
- 4503-4. Your views on that point are that, although the Warren-Coonamble line might be a shorter line to construct at the present moment, the Mudgee-Coonamble line would split up the country better, and in the end would be a line of greater general use, and return a better revenue to the State? Yes.

T. S. Slack.  
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Joseph Lewis Falconer, drover, sworn, and examined:—

4505. *Mr. Watson.*] Have you a general knowledge of the country traversed by the proposed line from Mudgee to Coonamble, and if so, how far does your knowledge extend over the present surveyed line? I am acquainted with the line through travelling with stock along both sides of it. I have a knowledge of the line from Mudgee right away to Coonamble.
4506. Taking the line in sections, how would you describe the country from Coonamble down to where the first break in the country occurs? The black-soil country would be about 44 miles from Coonamble?
4507. Do you regard the country from Coonamble down to that point as suitable for agriculture? Yes.
4508. Have you had any experience in agriculture? Not a great deal.
4509. What makes you think it is suitable for agriculture? Because it is beautiful looking soil. It is not the real heavy black soil; it is more of a red soil than black soil.
4510. Is it lighter in texture and colour than the usual black soil? Yes; a great deal of it is mixed with sand.
4511. You think it would be fairly suitable for agriculture? Yes.
4512. Coming on from that point towards Tooraweena, will you describe the country? On both sides of the line to Tooraweena it is fit for agricultural purposes.
4513. Is that heavily timbered? It is not heavily timbered. On the other side of Tooraweena for about 14 miles towards Coonamble, it is fairly heavily timbered in places, and from Tenandra to Coonamble, 31 miles, you are getting into nice plain country.
4514. Coming down from Tooraweena to Mundooran, will you describe that country? It is hilly country, and good agricultural land.
4515. All through? Not all through—in parts.
4516. In what proportion do you think? About 55 per cent.
4517. A little over one-half of that country will be agricultural land? Yes; on either side of the line.
4518. Does that half which you think is fit for agriculture consist mostly of creek flats, or is it rising country in some cases? A great deal of creek flats; a little rising country of course—box country.
4519. On both sides? Yes; the line does go through ironbark country in places. It is not a continuation of box country in places.
4520. You allow for that in your estimate? Yes.
4521. You think one-half of the land traversed by that line will be fairly fit for agriculture? Yes.
4522. Coming from Mundooran to Cobborah, will you describe first the country on the east side, out towards Dunedoo and Coonabarabran way? The country is very good towards Coonabarabran; from Mundooran to Caigan is splendid country either for agriculture or pastoral purposes. That is a lighter soil than is on the other side of Tenandra.
4523. Leaving the flats on the Castlereagh and coming towards Cobborah, and still keeping to the east, what is the country like there? It is good country for agriculture off the railway line—you would not come that way. It is going through good country till you rise the gap coming to Cobborah.
4524. That is till you cross the dividing range between the Castlereagh and the Talbragar? Yes.
4525. Except for that portion it is good country? Yes; on either side.
4526. Would that description apply equally to the western side? Yes.
4527. In what way do you account for a portion of land about the Four-mile Creek holding being unoccupied by selectors although it is open for selection? It is on account of the dry season that it is unoccupied.
4528. Is it rough or broken country? It is broken country.
4529. That country has been open ever since 1884? I think it has.
4530. So that it would not be one dry season which would prevent that country from being selected? It runs into a lot of ironbark country. It is a bit sandy there, I think.
4531. You would not class that as good country? No.
4532. Your estimate of good country is irrespective of the area, tinted brown on the map, about Four-mile Creek? Yes.

J. L.  
Falconer.  
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4533. There is some more land on the western side of the line, almost directly south—about 3 to 5 miles of country, marked Richardson, and comprising about 60,000 acres—which also is untenanted;—can you describe what that area is like? I do not know really what the whole of it would be like. There is a good portion of box-flats heavily timbered.

4534. Which ought to be fit for agriculture if cleared? It is heavily timbered, and would be fit for settlement if cleared.

4535. Do you think there are any portions of these unoccupied lands which with railway communication would be settled upon? Yes.

4536. You have been through them largely? I have been through the biggest portion of that land—that is, south-west of Mendooran.

4537. Do you think that with railway communication it is fit for settlement? If cleared and ringbarked it would be.

4538. Is there anything else you would like to add in regard to the desirability of constructing a line from Dubbo to Coonamble, or from Mudgee to Coonamble, and comparing the two lines? Only that the country on this present line from Mudgee to Coonamble, nearly all the way through, would be very good country for agricultural purposes on either side in big areas, but not a continuation of good country. You would be going through a good deal of ironbark country, but on either side there are beautiful flats.

4539. What would the extent of these flats be in one place;—could you get 100 acres, 200 acres, or 300 acres? In places you would get 500 acres and 600 acres—that is, from Mendooran to Yarragrin—and, of course, further on, on either side of the line, the areas of good country would be much larger on both sides. When you get past Wallumburrawang the country on both sides of the line is improved—you would get larger areas of flat land.

4540. You have described the land fairly well from Coonamble down to Cobborah;—can you now describe the land between Cobborah and Mudgee, from the agricultural standpoint? Yes.

4541. What proportion of that land do you think would be fit for agriculture? Fully 60 per cent.

4542. Within how many miles of the railway on either side—10, 15, or 20 miles? Within about 8 miles.

4543. There is a general range of hills and mountains—broken country—starting up on the Coonamble side of Tooraweena, at the head of the Warrunbungles, and that extends, roughly speaking, north-west and south-east along the eastern side of the Mudgee-Coonamble line? It does.

4544. How far on an average would the foothills of that range be from the railway line? On an average it would be about 10 miles.

4545. You think there would be an average of 10 miles of good country between the railway line and the foothills? Fairly good.

4546. The country you have been describing is partly fit for agriculture and partly good grazing land? Yes. There would be places in which it would be very stony.

4547. Still you think there would be an average of 10 miles of fair country between the railway and the foot of the mountains? Yes.

4548. *Mr. Dick.*] Have your travels brought you over the west side of the Castlereagh towards Coonamble, or from Gilgandra to Coonamble on the west side? Yes.

4549. Do you know that country pretty well? Just along the south-west bank of the Castlereagh.

4550. Do you know the country for some distance away from the river—say 5 miles? Yes.

4551. How would you describe the patch of land for an average distance of 5 miles on the west bank of the Castlereagh from Gilgandra to Coonamble? It is fairly good country for agricultural or pastoral purposes.

William Latimer, farmer, Denison Town, sworn, and examined:—

W. Latimer. 4552. *Mr. Dick.*] Where do you reside? I reside at Denison Town, 18 miles east from Cobborah. I have been in the district for thirty years.

7 July, 1899. 4553. Will you in a general way give to the Committee the benefit of your experiences as an agriculturist during that period? Yes. I am a freeholder; my holding consists of close on 1,800 acres. A portion of the holding has a frontage to the Talbragar. The land is well adapted for agricultural purposes.

4554. How long have you been carrying on agriculture there? For the last twenty-five years, on and off. In some seasons I cultivated none; in other seasons I did cultivate.

4555. During the seasons you did cultivate, what was about your average yield? I have grown as low as 12 bushels, and as high as 40 bushels.

4556. What would your average yield be for the period? Fully 30 bushels.

4557. Taking Cobborah as the centre of a radius of about 18 miles, how much of that circle of land do you think would be good agricultural land? I consider there is fully 80 per cent. of it good agricultural land.

4558. On that 80 per cent. of the land, what yield do you think, year in and year out an agriculturist could get? Some of them get as low as 12 bushels, and as high as 40 bushels; I should say, an average yield would be from 20 to 25 bushels.

4559. Going east from your place towards Cobborah and then on towards the Dubbo line, does the land improve in quality? It is about the same.

4560. Right over to the proposed Dubbo-Coonamble line, what is it like? I am not acquainted with that country, I can only speak of the country from Mudgee to Cobborah.

4561. Taking that section of land from Cobborah down to Mudgee, you know the surveyed line? Yes.

4562. For how many miles on each side of the proposed route is there to be found good agricultural land east and west? About 20 miles on each side.

4563. And of that strip, going down to Mudgee, what percentage do you think is good agricultural land? I consider it is pretty nearly all agricultural land; but to be on the safe side I would say 85 per cent. I know that strip from personal experience, and from my long residence in the district. I have been a large storekeeper in the district for twenty-five years. I have been in the hotel business; I have been engaged in farming and pastoral pursuits as well. I am speaking from the general knowledge of a long residence in the district.

4564. Do you think the pursuit of agriculture has been handicapped in that district by the want of a railway? Very much, indeed.

4565. Could you hazard an opinion as to what increase the construction of a railway from Mudgee to Cobborah, and thence onwards, would bring about in agriculture? An enormous increase. Take my own case.

- case. This year I am cultivating about 50 acres, whereas if a railway came to Cobborah from Mudgee I would cultivate nothing under from 1,000 acres to 1,400 or 1,500 acres on my holding. W. Latimer.  
7 July, 1899.
4566. Are there many men in a similar position to yourself? A great number.
4567. How far, on an average, do you think it pays to carry wheat to a railway—that is, in order to give you a fair return? I consider, if a man has to carry his wheat over 25 miles he is very heavily handicapped, indeed.
4568. How far is it from Cobborah to Dubbo? Fifty miles.
4569. Is there any decent sort of road along there? It is a fair road.
4570. What is the distance from Cobborah to Mudgee? About the same distance, I believe.
4571. You think that 50 miles carriage is a serious handicap to the extension of agriculture in this district? Yes.
4572. What is the average rate of freight for wheat from Cobborah to Mudgee and from Cobborah to Dubbo? I cannot speak of the rate from Cobborah to Dubbo, but from Cobborah to Mudgee the average rate, I believe, is about 2s. 6d. per cwt.—£2 10s. per ton. My residence is 18 miles from here, and I do not know what Cobborah people do with their wheat. They sell some in Gulgong, and some, I believe, goes to Dubbo.
4573. Do you think the construction of the Dubbo-Coonamble railway would be of any assistance to the people in this district? None whatever.
4574. A previous witness stated that if a farmer got a net return of 9d. for his wheat it would pay him;—do you agree with that opinion? He would have to be content with it; we would sooner have a lot more.
4575. You think it would be a very poor and discouraging return after paying all expenses? Ninepence profit would be very fair.
4576. Have you had any experience in farming and other districts? None.
4577. Could you give a general opinion, based on your knowledge of the country between Cobborah and Mudgee, of the profit-paying aspect of a line, if constructed? From my experience as a resident of the district, I consider it would pay handsomely, that all available Crown lands would be taken up, and that farming would be carried on on a very large scale indeed, as the district is so suitable for agriculture.
4578. Is there anything else you would like to add? Nothing else.

Charles Stephen Hicks, senior-constable, Leadville, sworn, and examined:—

4579. *Chairman.*] What are you? I am a senior-constable stationed at Leadville, formerly Denison Town. It is up the Talbragar, about 21 miles from Cobborah. C. S. Hicks.  
7 July, 1899.
4580. *Mr. Shepherd.*] Have you any statistics for the district under your charge? Yes.
4581. Will you kindly read the statistics? I collect from the parishes of Talbragar, Wargundy, Rous, Meruthera, Bowman, Terraban, and part of Narragamba, in the county of Bligh. It is a small district. It extends 26 miles from east to west, and 24 or 25 miles from north to south. It is wholly in the Eastern Division. The returns collected in the month of January for the last two years were as follows:—

Year.	Total area under cultivation.	Area under Wheat.	Total Yield.	Average Yield.
	acres.	acres.	bushels.	bushels per acre.
1898 .....	1,480	789	14,322	18
1899 .....	2,307	1,476	21,602	14½

The area of land which ninety leaseholders hold is 75,091 acres of freehold land, and 49,607 acres of Crown land; nearly all that Crown land is under process of alienation. It is chiefly conditional lands, but under our heading it is entered as Crown lands.

4582. *Mr. Watson.*] Do you know what proportion of the Crown land is conditional leases? From 80 to 90 per cent. There are only three large estates in my district. With the exception of them, they are all selectors. I took the trouble the other day to collect the average rainfall, if it is of any use.
4583. Will you be good enough to give the rainfall? The average rainfall taken at Berriwa by Mr. E. J. Lowe for the last sixteen years, is 29 inches and a decimal.
4584. *Mr. Shepherd.*] Are these all the statistics you have prepared? Yes. In January, 1895, the total area under cultivation was only 862 acres.
4585. Has there been a gradual increase year by year? It has not been gradual; during the last two years I find it has been a jump. In 1893 there were only 789 acres under wheat, and last year there were 1,476 acres—almost double the acreage.
4586. What is the population? I estimate the population in my district at about 700.
4587. Is that a considerable increase on the returns for previous years? No; the population is about the same.
4588. Have you any returns of the number of sheep? No.
4589. Is there any other cultivation besides wheat going on? The farmers in the first year after they clear the land, usually put in corn, and in the following year they follow up with wheat.
4590. Do you know what is the return of maize per acre? In usual seasons it is from 25 to 30 bushels per acre.
4591. In travelling about among the farmers, do they seem contented with their prospects? They do not seem contented. The general wish of the farmers is to get railway communication.
4592. I mean, are they satisfied with their prospects—as far as the production of their land is concerned? Certainly.
4593. Are you of opinion that in the event of their getting railway communication they would largely increase their area under cultivation? I am positive that they would.
4594. Has there been any attempt to grow fruit in the district? No; the only fruit grown is simply for their own use. There would be no market if they grew fruit to sell.
4595. Where it has been attempted has it been pretty satisfactory? Certainly.

- C. S. Hicks. 4596. What description of fruits do they generally grow? Peaches, apples, and grapes, which grow splendidly. There is a place about 13 or 14 miles from Leadville, where English fruits grow well; and in the same gardens where gooseberries are growing I see oranges and lemons.
- 7 July, 1899. 4597. Have you much knowledge of the country outside your district? A fair knowledge. I have been in the district eighteen years.
4598. What is your opinion of the country generally between Cobborah and Coonamble? I know the whole country from Mudgee to Coonamble. I was stationed for six years at Mundooran. From Mudgee to Cobborah it is an agricultural country; from Mundooran to Tooraweena it is considered more a pastoral country; but about Tooraweena, again, there is lovely agricultural land, and also at Tundaburine, Gumin, Quambone, and Quondong. From there to Coonamble I take it to be good pastoral country.
4599. How far does that country extend on either side of the surveyed line? A good distance—into the Warrumbungles.
4600. How many miles, on an average, do you suppose it is? About 8 to 10 miles I should take to be the average on the eastern side of the line.
4601. On the western side is it more? It is fully that; it runs over to the Castlereagh River on the western side. The country west of the Castlereagh I do not know much of. I may state that my district does not include all the country which would be served by a railway from Mudgee to Coonamble. There is a strip of country east of my district and west of the Dividing Range, towards Cassilis, and the Cassilis police take those returns. The farmers outside my district, from that to the Dividing Range, now take their produce to and trade with Gulgong. These are not included in my returns.
4602. What distance would that be from the proposed railway? From Gulgong it would be from 24 to 28 miles.
4603. Is there any other information which you think would be of value to the Committee? I can think of none.

John McLean, grazier and farmer, Narran, sworn, and examined:—

- J. McLean. 4604. *Chairman.*] What are you? I am a grazier and farmer, residing at Narran, on the Talbragar, 12 miles west from Cobborah.
- 7 July, 1899. 4605. What is the size of your holding? At present I have 14,000 acres, and I cultivate about 400 acres, chiefly for wheat. It has averaged about 22½ bushels of wheat per acre for a period of ten years.
4606. Do you cut for hay? Sufficient for working the farm. I should say it went close upon 2 tons to the acre.
4607. Do you cultivate your land for anything besides wheat or hay? No. I may add that we cultivate sufficient potato land to serve the requirements of the place.
4608. Have you noticed the return of potatoes per acre? No. In some years they are not quite a success; in other years we get good crops.
4609. The remainder of your ground is under sheep? Grazing.
4610. How many sheep to the acre do you carry? Of course they vary. We sell and buy, and I can hardly form a correct opinion.
4611. Would a sheep to the acre cover it? About a sheep to 2 acres. I make it a practice not to stock too heavily.
4612. Is there much country similar to yours unoccupied? There is none unoccupied in that particular neighbourhood. There is a portion of unoccupied country, consisting of an ironbark range, which comes from Dubbo way, and follows the Talbragar on the northern side right through here.
4613. What extent of that ironbark country is there? I could not say correctly. I have not been over it all.
4614. Can you give the Committee a general idea of how far it extends, and also what you think it is good for—if it is good for anything? My experience has led me to the conclusion that even country which is inferior in good seasons equals the best country in bad seasons, owing to the fact that, by reason of its nature, it is carrying a scrub which is suitable for stock, and which does fairly well in a dry season. I could not describe such country as useless country by any means.
4615. A good deal of the country which you describe as ironbark country, I suppose, grows other timbers? It is intermixed with box, ironbark, and edible scrubs.
4616. Would you consider that heavily-timbered or mixed country fit for agriculture if cleared? No; the country on which ironbark grows in this part of the colony I would not consider suitable for agriculture.
4617. What percentage of occupied land in your neighbourhood is fit for agriculture? Taking the southern side of the Talbragar, the side I live on, I should consider about two-thirds.
4618. How far from the river on the south side does the good land extend? Just from where I live it extends, I might say, right to Wellington. It is not all suitable in continuation for agriculture, owing to box ridges, but they are sound grazing country. The country right through, however, is all good country.
4619. Have you a general knowledge of this district which would be served by a railway from Mudgee to Coonamble—say for 20 miles round Cobborah? I have a thorough knowledge of it.
4620. How would you describe that country? I would simply affirm my opinion that that which is suitable for agriculture could be relied upon for that purpose.
4621. That is, you would be quite safe in getting a return every year from your crop? Yes.
4622. Now, will you describe the other portion? Of the other portion, one-third is good grazing land—that is, on the southern side of the river. On the north side it is somewhat broken country. As I have just said, that range of ironbark country which, from near the proposed route from Coonamble, follows that stretch of country right through almost to here. There are two properties, known as Upper Boomley and Lower Boomley, adjacent to the Cobborah district, which is much better than that further west. There is good country on these two properties, suitable for agriculture.
4623. Does the Boomley Creek run through your holding? No; it runs through Lower Boomley.
4624. You have a good knowledge of the district all round Cobborah? Yes; I have been over that radius in and about Cobborah.
4625. You have been in the room most of the time when the other witnesses have been giving their evidence? Yes.
- 4626.

4626. Do you generally corroborate what they have stated? Of that portion of the evidence relating to the country lying north and north-west from Cobborah I cannot speak personally.

J. McLean.  
7 July, 1899.

4627. Do you generally corroborate their evidence relating to that which you have a knowledge of? I can fairly say that their evidence is good evidence. I think, if anything, they have under-estimated the extent of good country in general.

4628. Is there anything else you wish to state? I can only give my experience for a period of ten years—that is, since I came to live in this district. During that time the rainfall has been such as to give us an excellent yield every year. I examined my private register the other evening, and it shows an average rainfall of 27·4 inches from 1890 to 1898. During that time the rains have been fairly distributed over the year. The rains have been sufficient to germinate the seed, and there has been a sufficient rainfall at the time of the year to develop the wheat.

4629. The rains generally are seasonable, I suppose? Yes.

4630. You are quite satisfied with your prospects, I suppose? Perfectly satisfied—that is, if you could get reasonable communication.

4631. With reasonable communication your prospects would be ever so much better? Undoubtedly. It was told to me by old residents, when I came here ten years ago, that the only thing against us here in wheat-growing, is the distance they have to cart their wheat to market, which is, indeed, a very large item.

4632. *Mr. Watson.*] Have you found that to be so? I found it to be perfectly true. It is a great handicap, and it means extra capital wasted as it were, or extra capital required to compete with other wheat-growing centres. It only requires a railway within a reasonable distance of this district to make it one of the most fertile wheat-growing districts we have.

4633. *Chairman.*] We have taken 20 miles as being the distance which men might reasonably be expected to carry their wheat, and to make wheat-growing pay;—is that distance within the mark? Yes. I will show you the disadvantage which all of us have to bear with. Both myself and my partner have had to get a twelve-horse team for twelve weeks this season and last season to take our wheat to a railway station.

4634. Where did you go to? This year it went to Dubbo, because we could not find suitable storage at any other place. In the previous years it has gone to Gulgong and Mudgee chiefly.

4635. Do you sell in Dubbo, or send it away? Last season's crop is not sold yet. Most of our wheat has previously gone to Mudgee. We must make up our minds to cart our wheat to Mudgee in the future, owing to the fact that our local buyers will be fully supplied with wheat grown nearer to them than here. It will be a question of exporting for all of us here very shortly. It is a question of carting our wheat to the nearest railway which will convey it in the cheapest way possible to Sydney—and that is to Mudgee. I look upon Sydney port as our future distributing centre, whether we sell in Sydney or export.

4636. How much would you require to get at the barn for your wheat before you would begin to make a profit; in other words, what would be a paying price at the barn for your wheat, threshed and ready to put on the waggon? At 2s. it pays.

4637. Under that price it would not pay? I would not like to say that either.

4638. I suppose it depends upon whether it is a 40 bushels crop or a 20 bushels crop? Yes; and the quantity under crop.

4639. But you think 2s. a bushel would be remunerative? Yes; if I had a guarantee of 2s. a bushel for the next ten years, I would increase our area to its utmost limits. The prospect of the wheat acreage being increased is beyond doubt. There is evidence wherever I go that justifies anyone in saying so. I have sold £500 worth of machinery to five farmers to prepare for the coming harvest.

4640. Machinery which you were previously using, or machinery which you got new for them? One line of harvesting machinery, and that does not by any means represent the increase in general. It simply represents an item of increase within a few miles of my own homestead.

4641. *Mr. Watson.*] Assuming the line from Dubbo to Coonamble to be constructed, do you still think it would pay to make an extension of the Mudgee line from Cobborah, or through Cobborah further on;—do you think the area of country between Cobborah and Mudgee is sufficient in itself to help to carry the extension of the Mudgee line? I do.

4642. You still think there would be enough extra traffic coming to such a line as to justify its extension from Mudgee, even if it did not go to Coonamble? I consider that if the Dubbo-Coonamble line is built there are still sufficient resources in this district from Mudgee out here, or, perhaps, a little further, to justify the building of a line from Mudgee. I consider that it would contribute more revenue than would pay the interest on the cost of construction, and so forth, because the fertility of the district for a radius of 20 miles round here is very good indeed.

John Pattison Yeo, farmer, Elong Elong, sworn, and examined:—

4643. *Chairman.*] What are you? I am a farmer residing at Elong Elong, about 13 miles to the west of Cobborah.

J. P. Yeo.  
7 July, 1899.

4644. *Mr. Trickett.*] How long have you resided at Elong Elong? All my life.

4645. Are you still working with your father on his land? Yes.

4646. What is the extent of that farm? We have 300 acres under cultivation, and about 4,000 acres under sheep.

4647. What is the carrying capacity of the grazing land? A sheep to 2 acres.

4648. Is it highly improved land? No; to a great extent it is ringbarked. It carries a sheep to 2 acres in all seasons.

4649. To what crops is the agricultural land devoted? Wheat, corn, and potatoes.

4650. What is the result of the wheat crop? An average of about 20 bushels to the acre.

4651. Is it good corn land? Yes, very good.

4652. Do you grow the corn on red soil or dark soil? On both.

4653. Do you find that both soils are suitable for wheat growing? Yes.

4654. What do you do with your produce? We take it to Dubbo and also to Gulgong.

4655. Do you always get a market for it in those places? Yes.

4656. Do you find that it is a handicap to cart it that distance? A great handicap.

4657. Do you agree with the last witness that 2s. a bushel for your wheat on the farm would be a good paying price if you got that all through? Yes, if we were sure of getting that.

4658. Has your market always been either Gulgong or Mudgee? Yes.

4659. With a railway going further inland, do you think there would be any market for hay, wheat, or corn, up Coonamble way and beyond? Yes, a great lot.



- J. P. Yeo.  
7 July, 1899.
4660. Especially, I suppose, in a bad season? In a season like that which we have passed through.  
4661. If you could get it carried along in large quantities there would be a ready sale for it? Yes, a ready sale.  
4662. Have your crops been successful in two years out of three, or what? Taken as a whole they have all been successful.  
4663. They have never been a failure? They have never been a failure for the last forty years.  
4664. Even during the last two or three years you have had crops which would pay? Yes.  
4665. You know the country round pretty well? Yes; within 21 miles of Cobborah, I suppose.  
4666. What proportion of that country do you think would be suitable for cropping? About two-thirds.  
4667. You heard the evidence of the last witness? Yes.  
4668. He is a practical farmer, like yourself? Yes.  
4669. Do you agree with the evidence which he gave? Yes.  
4670. With better means of communication, would your father and yourself put more land under wheat? Yes, we would increase the area to an enormous extent.  
4671. Is it healthy country for growing wheat? Very healthy.  
4672. No rust or other thing to speak of? Nothing to speak of.  
4673. You are well satisfied, having lived here all your life, to go on farming with very fair prospects? Yes.

Alexander Douglas, grazier, Boomley, sworn, and examined:—

- A. Douglas.  
7 July, 1899.
4674. *Mr. Watson.*] You do not go in for growing wheat? Not very much. Last year I had about 40 acres, and the same this year.  
4675. Do you grow for your own use chiefly? We put 40 acres in principally to make a start in agriculture.  
4676. Were you satisfied with the experiment? Yes.  
4677. Will you be good enough to state your views on this question of railway communication? With regard to the country on the line from Dubbo to Coonamble, and on the line from Mudgee to Coonamble, my opinion is that the Mudgee line is the line which should be constructed. For the welfare of the colony at large the other line should be set aside absolutely. From Mudgee to Mundooran I consider it is a really good agricultural district. There are, certainly, portions of that country which are of a scrubby nature—ironbark hills and all that—but when you come to ride through the district you find the land equal, in my opinion, to anything in the Colony for producing wheat. We have this red soil—that is red clay—which is the best ground for producing wheat. On the other side they certainly have good agricultural land—you must admit that—but they have a wide strip of ironbark country between Gilgandra and Dubbo, which has to be passed through, and which to my mind is very poor producing land. I have been thinking, since I came here to-day, about the ironbark country between Narramine and Coonamble, and there is only a small strip at the junction of the Coolbaggie and the Macquarie, which is really good land. But the line would have to pass through the ironbark country. On either side, down as far as Burraway, it is all open ironbark country.  
4678. Is that all the information you can give us in regard to the two routes which we are considering? That is all the information I can give, unless it is in reference to the Werris Creek line.

George Paterson, farmer, near Cobborah, sworn, and examined:—

- G. Paterson.  
7 July, 1899.
4679. *Chairman.*] Having heard the evidence of Mr. Latimer on this subject would you endorse the remarks he made about the necessity for building this line? Yes.  
4680. Can you advance any further reasons, or give further information in support of that contention? There is one thing I found out here, after being a long resident, and that is that we farmers are greatly handicapped. If we grow hay, chaff, forage, or anything like that it is of no use to send it to Mudgee, because it is like taking coals to Newcastle to take it there. There is no market for the produce, and the local consumption is so small that, of course, we only grow what we require for ourselves. You are well aware that if the line were extended from Mudgee onwards we would have a market out back for any over supply we grew in here, which market we have not got at the present time.  
4681. Do you run any sheep on your holding? Only a few. I have only a small place—320 acres.  
4682. What would be the effect of a railway, as far as fat stock are concerned? That is what is urgently required.  
4683. How far have you to drive your sheep now to get them to a railway? 50 miles.  
4684. That takes all the fat off the sheep? It ruins the sheep, to a great extent, to take them that far.  
4685. Do you think there would be a considerable number of fat sheep shipped on the railway? There is no doubt about it.  
4686. Is this a good fattening district? Certainly.  
4687. Is it good for large cattle too? It is good country for growing large cattle as well as sheep.  
4688. You think the progress of the district has been kept back for years from the want of a railway? I am certain of that.  
4689. If a railway were constructed you think an immediate impetus would be given to the progress of the district? Yes. The valley of the Talbragar would attain a prominence which it has never reached yet.

James Nott, farmer, near Cobborah, sworn, and examined:—

- J. Nott.  
7 July, 1899.
4690. *Chairman.*] What are you? I am a farmer residing 7 miles east from Cobborah—between Cobborah and Dunadoo.  
4691. *Mr. Shepherd.*] What is the extent of your holding? 2,350 acres.  
4692. Is it all ringbarked? Yes.  
4693. How much land have you under cultivation? I have 130 acres of wheat in this year.  
4694. Only wheat? Only wheat now. I will put in corn by-and-bye, no doubt.  
4695. What has been the result of your labours in cultivation? I have been farming in this district for thirty-two years, and I reckon that I have got an average of 19 bushels to the acre every year since I have been here.  
4696. Will you state the highest yield and the lowest yield you have had? There were two total failures in the period of thirty-two years. The highest yield was 50 bushels, and it has never been under 12 or 13 bushels.  
4697. In a good season, I suppose you can always rely upon getting a good return? From 35 to 40 bushels in any fair season.  
4698. What does it cost you to clear your land? It has cost me as much as £4 an acre.  
4699. What description of timber is it growing? White box and yellow box. 4700.

4700. What is the distance you have to send your produce to market? From about 1869 to 1879 we used to always go to Dubbo. They used to give us 3d. and sometimes 6d. a bushel more than they gave for wheat which was grown in Dubbo, because it was of better quality.

J. Nott.  
7 July, 1899.

4701. What freight have you usually to pay? I paid as high as 1s. a bushel in those times, but now it is 6d. a bushel.

4702. Do you consider that a paying price? It is not altogether a paying price, because I think it is too far away from a market.

4703. Still you can live? We have to live.

4704. How many sheep do you run? I run about 1,200 sheep and a hundred head of large stock—horses and cattle.

4705. What quantity of wool do they produce? Last year I had £180 worth of wool from them.

4706. Has the land been just ringbarked and left, or have you cleaned it up? I have been cleaning it up for years and scrubbing it. It is all flat land.

4707. You have really given your land a good chance? Yes.

4708. Would you be inclined to largely increase your cultivation in the event of a railway being constructed here? Yes; I have no doubt I would increase at the rate of 100 acres a year for the next ten years on my holding.

4709. Do you think that that would be the idea of most of the farmers in this district? Yes.

4710. Do you think there is every probability of doing really well in the event of a railway coming? Yes; I think if the railway did come from Mudgee to Coonamble the population would be increased. The population between Mudgee and Coonamble is more than double the population between Dubbo and Coonamble. The Mudgee line would serve more than double the population which the Dubbo line would serve. From Cobborah to Leadville, taking 5 miles on each side of the Talbragar for a distance of 20 miles east, I reckon there would be 150 square miles of really good agricultural land.

\*George William New, farmer and grazier, Cobborah, makes the following statement:—

I AM a farmer and grazier, residing in this district continuously for the past thirty-five years. I have travelled the road between Mudgee and Coonamble for at least twenty years; also the road from Dubbo to Coonamble. I consider a line from Mudgee to Coonamble would pay well. I consider nearly two-thirds of the country within a radius of 20 miles of the proposed route from Mudgee to Coonamble to be fit for cultivation. Along the route from Dubbo to Coonamble there are large tracts of very inferior country, particularly between Dubbo and Gilgandra. The average rainfall is not nearly so great along the Dubbo route as that from Mudgee. I am certain that a line constructed from Mudgee to Cobborah would prove payable, as there is a very large tract of good country, suitable for wheat-growing, which would be put under cultivation, thus largely increasing the present traffic from Mudgee; such produce would never be sent over any line *via* Dubbo. The farmers and graziers are greatly handicapped by not having railway communication. Some of the farmers in this district are now obliged to cart their wheat 75 miles. The hope of getting the railway extension from Mudgee has induced farmers to nearly double their acreage since last season. There is a large tract of land lying between the Talbragar and Gulgong, averaging about 12 miles in width, which is first-class agricultural land, of which from 12,000 to 15,000 acres of Crown land will be open for settlement within the next twelve months. Last year I had 60 acres under cultivation; this year I have about 160 acres, and I expect to have about 600 acres next year.

G. W. New.  
7 July, 1899.

\*William Meers, farmer and grazier, Cobborah, makes the following statement:—

I LIVE 10 miles south-west from Cobborah. When I came to Sandy Creek six years ago there were 300 acres of land under cultivation. Last year there were 1,600; this year there are 2,000. Myself and my son own 1,800 acres of land, and there are 1,400 of this fit for cultivation. I have ten or twelve neighbours; there is quite 70 to 80 per cent. of their land fit for cultivation. I know the country between Mudgee and Cobborah; it is a farming district. I also know for 20 miles on each side of the proposed railway line from Mudgee to Cobborah; it is thickly populated with farmers and graziers; from Mundooran to Coonamble I do not know the country. I thoroughly believe a railway from Mudgee to Coonamble would pay. All we want is better facilities for taking our produce to market. If a railway from Mudgee to Coonamble were constructed, where there are 6,000 acres under cultivation now, in ten years there would be 40,000 acres. I believe a man can keep a family on 200 acres of good cultivation land with railway communication. One acre of good cultivation land is equal to 5 acres of grazing land. I know the country between Dubbo and Gilgandra; it is very scrubby, but good wheat land.

W. Meers.  
7 July, 1899.

\*Harry Albatross Patrick, grazier, Digilah, sworn, and examined:—

1792. *Mr. Hussall.*] Where do you reside? At Digilah, about 16 miles from here.

1793. What is the character of your holding;—is it leasehold area or selections? My brother and I in company hold a leasehold area, three occupation licenses and annual leases, and about 5,000 acres of freehold land, making an area, approximately, of nearly 60,000 acres.

H. A. Patrick.  
1 April, 1898.

1794. Is that country up on the Castlereagh River or near it? It commences within about 2½ miles of the Castlereagh River and extends across the Talbragar to within 16 miles of Gulgong.

1795. It is devoted principally, I suppose, to sheep-farming? Yes.

1796. Have you gone in for agriculture at all? Only for station use.

1797. You have heard the statements made by Sergeant Slack and Mr. Paterson with regard to the capabilities of the district? Yes.

1798. Can you endorse those statements from your own personal observation and knowledge? Yes, I agree with the statements generally, though not as to every item.

1799. Where do you differ? I think there is a greater area of valueless land included in the Crown lands than was stated.

1800. The sergeant said that out of 174,000 acres about 25,000 acres were valueless? There is a greater area of valueless land than 25,000 acres. At least one-fourth of the 174,000 acres would be valueless, except for the production of timber and minerals, the timber being principally ironbark and pine of excellent quality.

1801. Is the estimate of 60,000 acres of land suitable for agriculture a pretty fair estimate? No; I would not estimate the area at so much as that. I would reduce it to 40,000 acres. The balance of 80,000 acres would be fairly good grazing land, hilly—stony.

1802. But improved, would carry a fair number of stock? Yes.

1803. About a sheep to 3 acres? Yes, if improved by ringbarking.

1804.

\*NOTE.—Among the witnesses examined at Cobborah were Mr. G. W. New, farmer and grazier; Mr. W. Meers, farmer and grazier; Mr. H. A. Patrick, grazier; and Mr. J. Yeo, farmer and grazier,—but the shorthand notes of their evidence were lost by the shorthand writer. In consequence of this, they were asked to furnish a written statement of the information given by them when examined, and Mr. New and Mr. Meers complied. Mr. H. A. Patrick gave evidence in the Warren-Coonamble inquiry, and, in the absence of a statement from him, the evidence given by him in that inquiry, which is substantially the same as given by him at Cobborah, is republished.

- H. A. Patrick.  
1 April, 1898.
1804. With regard to the value of this country, the extent of which you put down at 40,000 acres, although it may be practically valueless for either agriculture or grazing, it might still be a valuable asset to the State, on account of the timber it contains, which would be a source of great revenue, and afford employment for labour? Decidedly so.
1805. In fact, it is one of the best ironbark forests in New South Wales? Yes.
1806. You know the country very well, say, from Dubbo, in the direction of Werris Creek? Yes; I know the country very well lying between Dubbo and Werris Creek. A line between those two points would traverse good country, following the valley of the Talbragar to Cobborah, and on to the Castlereagh River. Thence it would go through the ironbark belt, previously alluded to, on to Coonabarabran, through fair country, and from Coonabarabran, after leaving the Warrumbungle Ranges it would traverse the Liverpool Plains, with first-class country right through to Werris Creek.
1807. Would a line running through there be of any service to this district? It would be of some service, but it would entail a great deal more haulage. It would be a very expensive way of sending produce.
1808. A cross line of the character thus indicated would not, in your opinion, serve this district so well as a line running through from Mudgee to Coonamble? No; it would not benefit this part of the country nearly so much.
1809. Would it be of any benefit at all? I believe it would. It would open up the country and give more speedy means of communication north and south, but not direct with the metropolis, nor into the interior.
1810. How long have you known this district? About twenty-five years.
1811. Have you seen the growth of settlement in it? Yes.
1812. You can corroborate what has been previously said in that respect? Yes.
1813. That the land, when available, is greedily taken up? Yes; there is a great rush for the land as soon as it is thrown open. There are from twenty to sixty applications for every block.
1814. The principal pursuit of the people is grazing? Grazing, combined with agriculture,
1815. Do the people around here seem fairly prosperous? Yes; there are very few failures. They are not rich, but they all seem to get a fair living. The industrious settler seems to be fairly snug.
1816. I suppose your information with regard to the carriage paid for wool is practically the same as that given by previous witnesses? Yes.
1817. You send your wool to Mudgee? Yes; that being the nearest railway station.
1818. Is there a good road from your place to Mudgee? Yes; there is a very good road from Mudgee to within 6 miles of my station. In my opinion, some of the otherwise worthless country in the district bears minerals of various kinds, and some of it contains good deposits of coal. Prospecting operations have been carried on, with good indications of gold, silver, copper, and other minerals. There is a good coal deposit of 6 feet in the Buthow Creek near here, which I have just reason to believe is equal in quality to the best Newcastle coal. This should have the attention of the Government, as, in my opinion, it is a valuable treasure for the future of the Colony, being on Crown lands.

SATURDAY, 8 JULY, 1899.

[The Committee met at the Council Chambers, Gulgong, at 7.30 p.m.]

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Richard Rouse, grazier, near Gulgong, sworn, and examined:—

- R. Rouse.  
July, 1899.
4714. *Chairman.*] How long have you been in the district? All my life.
4715. Therefore you have a thorough knowledge of the district? Yes.
4716. You are in favour, I suppose, of the extension of the railway from Mudgee? Most certainly.
4717. Will you kindly state your reasons for favouring its extension? My reason for supporting the construction of a railway from Mudgee to Coonamble is simply this: that the district most certainly demands it. In days gone by when we had no railways at all, or no railway beyond Wallerawang, this district was a very vast and important one in consequence of the natural traffic which came from other districts to the north. The natural traffic from Walgett and Coonamble, the lower Castlereagh, and the upper part of the Namoi all came through the district of Mudgee. Since the railway has been carried away west, and north and north-west, our district has been, as it were, isolated. But, notwithstanding that fact, I claim, as one with a great deal of experience, that the country between Mudgee and Gulgong, the country between Gulgong and the Talbragar, and the country from there to Mundooran and on under the western slopes of the Warrumbungle Range is the best agricultural district in Australia, bar nothing. We, in this particular portion of the district, between Gulgong and Cobborah, possess the finest agricultural land I believe in Australia, and all we want is a railway from this place to open up and develop the resources of this particular spot. From my practical experience, as far as the settlement of the soil is concerned, there is no railway that can be constructed which will give a better return as regards traffic than the railway which is proposed from Mudgee to Coonamble. It opens up a vast amount of country—a country which is undeniably good. To my mind the thing cannot possibly be disputed. Let any unprejudiced individual travel over the country, and I do not think that anything could be said against the construction of a railway from Mudgee to Coonamble. The natural features of the country certainly dictate that we ought to have this railway. Naturally anyone will say that I am an interested individual. So I am, because I have lived in this district all my lifetime. All I possess is centred in this immediate district. I am prepared to aver, and I am positively certain when I make this statement, that there is no agricultural land in the whole of New South Wales better than this particular district through which a railway from Mudgee to Coonamble will pass. I know the country well from Gulgong to Cobborah, from Cobborah to Mundooran, from Mundooran to under the western slope of the Warrumbungles, and the country on either side of this particular line I am positively certain would be opened to settlement to such an extent that if the Government liked to dispose of the land all along the route the proceeds would pay for its construction. The natural track from the lower Castlereagh, Walgett, Coonamble, and the upper part of the Namoi to the Sydney market is through Mudgee; but since the western railway has been carried on, and the N. W. railway has been carried still further, the traffic has been diverted to either one side or the other, and we are simply left out in the cold. If a paternal Government intend to settle the lands of this country, and they are so great on closer settlement as they appear to be at the present time, there is no railway that can be constructed in New South Wales, which, in my opinion, will be a better paying line than a railway from Mudgee to Coonamble. I am quite prepared to answer any questions which the Committee may put to me.
4718. What is the principal use to which the land along that line is put now? A great deal of it is put to agricultural purposes. The only market we have is the Sydney market.
4719. You think if a railway is constructed it would stimulate agricultural pursuits? I am certain of it.

R. Rouse.  
 8 July, 1899.

4720. The people of this district, of course, will have to find a market other than New South Wales for their surplus;—do you think this district could successfully compete in the markets of the world? I am quite certain of it.

4721. Is the quality up to the requirements? The land in this district is the best wheat-growing land in New South Wales.

4722. There is a large amount of leasehold land falling in very shortly in this district? We are in what we call the settled districts, but as soon as you get half way between Gulgong and Cobborah, all leasehold land—that is, in the unsettled districts—is falling in, and I am sorry to say there is no earthly chance for pastoralists to get a renewal of lease, because the land is so good for agriculture. I speak as one who has an interest in the transaction. Even if the Government make any concessions with regard to the central lessees, I do not think they will make any concessions in this part of the world.

4723. You hold some of these leases? I do.

4724. You think the land is so good that the Government would not be justified in renewing your leases? Honestly, I do not, from the agricultural point of view.

4725. Suppose the Government decide to throw it all open, do you think it will be immediately taken up? Every bit of it. They will be tumbling over one another, the same as they do in all other parts of the country, to take it up. I am positive that they will. The other day one-half of a run which I held close here was taken away and thrown open for agricultural purposes, and, I suppose, there were about twenty applicants for every block.

4726. Recently? Yes; and every acre of land will be taken up along this line as fast as ever it is thrown open.

4727. Has it been taken up by agriculturists? No.

4728. Or for pastoral purposes on a small scale? No; for the two combined. The effect of all these dry seasons is simply to force people into agriculture, and that will be the end of the whole concern. On this country, which, in my early days, was thought not fit for agriculture, the amount of agricultural land, or land which is used for agriculture, is something extraordinary. When you get down on to the lower Castlereagh I do not consider that is good agricultural land. But from here, till you get over to Coonamble, I am positive that the whole lot of that country will be taken up in agricultural areas.

4729. I suppose you think the best thing a man can do is to go in for mixed farming? No doubt about it.

4730. What area do you think would be sufficient to allow a man to get a good living for himself and family, and something more than a living;—supposing the public estate was cut up, what do you think would be a fair area to allow one selector to take? For what you call mixed farming, I reckon that any man who got 3,000 acres of land would have a good holding; he might cultivate one-half of that area.

4731. Taking the district from Gulgong to Cobborah, what proportion of that land do you think would be suitable for agriculture, if it were cut up into 3,000-acre blocks? Seventy-five per cent. of it.

4732. Do you know whether any of the wheat grown in this district has found a market in other parts? We grow a tremendous lot of wheat in this district, and we have to do the best we can with it. We have a mill in the town. An immense amount of wheat is bought here, ground, and sent away to the best market the miller can find. A great deal of it, of course, goes towards Sydney, because we cannot get out west from here. If we had a direct railway out to Coonamble, and in that direction, nearly all the stuff we raise here would be sent outwards.

4733. If the land is pretty good right up to Coonamble, depend upon it they would have the pull on your people here inasmuch as they would be closer? We will chance all that. If each individual locality cannot live on its own it should not have a railway at all. Immediately round here this district can supply its own railway; Cobborah will do the same; Muntooran will do the same. We will chance all the rest of it outside.

4734. Finding an outside market, do you know whether any of the agriculturists are satisfied that their prospects will be good? I am certain that they are.

4735. So that if a railway were constructed you think this district would support it? I am positive of it.

4736. Do you know what the loss is already on the Mudgee extension? I believe it is a considerable loss.

4737. Do you think the extension of that railway west will in any way reduce that loss? I am certain that will cover it, because I say, without any fear of contradiction, we live in the best district in New South Wales, and have the best average rainfall. In my experience of over forty years, I have never known more than two failures of a crop in this district in all that time—in fact, only one failure since we have had Sir John Robertson's Land Act of 1862.

4738. Then we are to take it that it is your opinion that if the line is constructed to Coonamble you will convert the line from Wallerawang to Mudgee from a non-paying to a paying one? I am certain of it.

4739. Can you tell us what is the carrying capacity of this country for sheep? No; I am not sufficiently well up in the subject. This country here, as it is, will carry a sheep to the acre easily.

4740. In any season? I take the average season.

4741. It has been stated in evidence that if a railway is constructed the farmer, or the small sheep man, will truck his stock from the nearest railway station;—supposing the seasons are good, and there is plenty of grass along the route, do you think they will truck their stock? They would certainly truck their stock. No man can travel sheep along the road now.

4742. Why? Because of the state of the stock routes. Everywhere along the line everybody has sheep or cattle on the stock route; there is no grass. You cannot send any sheep down the line now from Mudgee to Sydney. In the best seasons you get you cannot send any down.

4743. Could they not bring them from farms out here to Mudgee? They bring them from farms and truck them at Mudgee.

4744. We are speaking of fats? Yes.

4745. Is it a fact that now the land has been taken up you have small lanes to drive them through, and, therefore, that would prevent them from being driven to a railway station? Yes.

4746. We have been informed that it would pay to travel a couple of thousand; but that now it cannot be done, because they have not got the width of land to feed over? There is no opportunity of driving stock now alongside a railway. In other days we used to send our stock from here to Sydney by the road, but all that thing has come to an end. There is no opportunity to drive stock now along the road, because there is no grass. All the land is taken up along the railway, and the consequence is that they must fly to the railway to send their stock to market. All the stock which we people in this district send to Flemington is all sent by rail. There is not a solitary sheep or beast sent in any other way.

4747. There can be no competition by the road against the railway, and the further the railway is put out the greater settlement and the less opportunity of sending stock by road? Yes.

4748.

- R. Rouse. 4748. Have you any other information to give? My idea is that the settlement of the country demands a railway from Mudgee to Coonamble. We are living in one of the best districts in New South Wales, and all we want is a market for our produce. We want a market out into the west, because, as an old resident, as an old Australian, it does not astonish me one bit that we have had all these seasons of drought. We have had them before. A great many of our people know nothing whatever of New South Wales; men who unfortunately legislate for the country know nothing whatever about the droughts which have occurred before, and this is only a repetition of what we have had in other days, and what we will have to have. What I have found myself is that good seasons never made this country. There is nothing in too much rain; there is no opportunity for industry, and the dry seasons we have had during the last two or three years will merely lead our people up to the idea that they will have to improve, to cultivate; that they will have to keep their stock from starving, because in this country there always has been, from the foundation of the settlement, either a tremendous amount of rain or any amount of drought—drought, as a rule, being in the ascendant. The only way to save this country is to put settlement on the land, and the settlement of the country must be brought about by the construction of railways through all the available agricultural country we have. This country from Mudgee to Coonamble, if it is fairly tested and looked upon dispassionately, simply demands a railway, and I am certain that it will be the best paying railway we have in New South Wales. That is all I have to say.
- 8 July, 1899. 4749. Have you had any experience of country through which railways have been constructed somewhat similar to this country? Yes; I have seen the country up in the north, and I know something of the country to the south, but I build my ideas on the fact that this place has the best average rainfall in New South Wales for a wheat-growing district, and that within the last forty years I have only known two years in which you might call the wheat crop here a failure. I think that is a very good record for a place. Our average rainfall is 26 inches. If we only get 12 or 14 inches from the beginning of winter to the beginning of summer our wheat crop is assured.
4750. We may take it as your opinion that if it was justifiable to construct some other lines which are supposed to pay, the construction of this railway is more justifiable? I am certain of it. All my life I have lived in this district. I have never known any loss of stock in the district worth talking about. While other parts of the Colony have suffered more or less, we have never suffered here anything to speak of. There have been bad seasons when the dams have been dry, but it is not worth talking about. In 1895, when there was a loss of about 15,000,000 sheep in the Colony, our loss here was nothing, and in 1897 it was the same thing. 1888 was the worst year we ever knew. When we had only a rainfall of 10½ inches in this district we lost no stock at all.
4751. *Mr. Dick.*] Do I understand you to say that it will be necessary to give a man 3,000 acres in this district in order to enable him to make a fair living by agriculture? No; for what you call mixed farming. I should say if a man had 640 acres of a good farm he would make a good living out of it.
4752. That is, with a railway? Yes; I am only talking about mixed farming.
4753. You mean that if a man had 640 acres of agricultural land, with a railway, he could make a good living off it? Yes; a first-rate living.
4754. *Mr. Watson.*] You stated that there are some leases which are likely to fall in shortly about the district;—do I understand that these leases are within the Central Division? Yes.
4755. When you said that a number of leases would shortly be open to settlement, and would be eagerly sought for if a railway were constructed, you were referring more particularly to land beyond Mundooran, towards Coonamble? Exactly.
4756. *Mr. Trickett.*] Did you write a letter to Mr. G. H. Cox, offering to give the land free for the railway if it passed through your property? I did, and also intimated that I had heard that Messrs. George and Richard Rouse would do the same thing. I can only speak for myself. Mr. Richard Rouse is here to speak for himself. I told Mr. Cox that if the railway was measured through any portion of my land on the way to Coonamble I would give the land.
4757. Does it go through any great length of your property? A good bit of it.
4758. How many miles altogether? I suppose about 3 miles.
4759. Do you think many of the landholders would do the same thing in this district? I think they will do so.

Richard Rouse, jun., grazier, near Gulgong, sworn, and examined:—

- R. Rouse, jun. 4760. *Chairman.*] What are you? I am a grazier, at Birigambil, about 5 or 6 miles north-west from Gulgong.
- 8 July, 1899. 4761. *Mr. Watson.*] You know the land from Mudgee to Gulgong, and generally along the route of the proposed railway from Mudgee to Coonamble? I do; I have travelled over most of it.
4762. Will you briefly describe the character of the country? I think the land in many instances is very suitable for agriculture; in all instances for grazing. I should estimate that fully a fourth would be thoroughly good agricultural land, and I think it would thoroughly repay the Colony to open up that country with a railway. I think the Mudgee railway will ever be a white elephant while it remains there. I think that if it was taken on to Coonamble there is every likelihood of its paying well. Large areas, I think, would be taken up for agriculture, more particularly for mixed farming.
4763. In your estimate of the proportion of the land which would be suitable for agriculture, would you include the usual distance which a railway is taken to serve on either side—20 miles? Yes; I am sure there would be fully a fourth within 20 miles of each side of the railway. I think it would open up the country in a very desirable way between the Northern railway and the North-western railway. That tract of country, probably 400 or 500 miles wide, would be cut about equally by the proposed line, and would be ample to feed such railway, I should think.
4764. Do you think the construction of the line through to Coonamble would have any great effect upon agricultural production in and around Gulgong? I think it will stimulate it very much. I think the whole of the land along the railway would be taken up readily.
4765. Speaking more particularly of the country round Gulgong, do you think the 18-miles haulage from Mudgee is any great disadvantage to people round Gulgong from an agricultural standpoint? Very much so. Carriage could not be got from here to Mudgee under about 10s. a ton, which must naturally be a great drawback. You have to compete against Mudgee and other districts along the line, and, of course, you cannot do so favourably when you are handicapped by carriage.
4766. Is it not a general assumption that people can afford to cart wheat on decent roads a distance not exceeding 20 miles to a railway station—that is, from either side of the line? Such has not been my experience.
- 4767.

4767. Do you think, then, the fact that they have to draw their wheat 18 miles to Mudgee is so serious a disadvantage to people round here, as to retard settlement? I am quite certain of it. R. Rouse, jun.  
8 July, 1899.
4768. The reason I asked that question was because I thought that perhaps the people round Gulgong were hopeful that with the construction of a light line right through, a market out west would be of some advantage to them? It would, on account of the frequent droughts out there. We could supply them with produce when they were probably unable to grow it for themselves.
4769. At Coonamble we were shown some land which seemed suitable for wheat-growing—that is, the timbered land on red soil; and we were informed that there was a very great quantity in addition to what we saw, which with a fair season would produce good wheat? I quite think so; but the rainfall is not to be relied on.
4770. You think that even if they did in an ordinary season produce a lot of wheat occasionally, when they had a drought your district would be able to supply the deficiency? I quite think so. On the Macquarie I have seen a crop of wheat looking quite well, and in a week it was almost cut off by the hot winds and dry times.
4771. Did they have any experience of that kind down there last year? I cannot say. We sold our station in that direction some few years ago, and I cannot speak of it now.
4772. What is the average yield of wheat in this district? I do not quite know the yield; but I should think it is from 15 to 20 bushels, taking one season with another.
4773. Have you done any farming yourself? Yes; I cannot say that I have ever had less than 20 bushels per acre, and up to 38 bushels.
4774. You have been growing wheat for some years? I have.
4775. In your evidence at the previous inquiry you stated that you thought at that time, only a year ago, of going in for the share-system of agriculture;—has there been any development in that direction since then? Not exactly close here; but we have done something of that kind at Cobborah, and we are doing the same thing this present season.
4776. You have not gained sufficient experience yet to offer an opinion as to how it works? No.
4777. Do you think that many of the large landholders, if a railway were carried through here, would go in for the share-system of agriculture? I think so. I think the better land would pay them better under agriculture than it would if used for pastoral purposes only.
4778. They would be naturally tempted to let land to people on some such system as that if offers were made? I think so. I am told by those who have tried that system, more particularly on the Southern line, that they have been very successful.
4779. Between Gulgong and Munderoran there is a good deal of hilly, ridgy country, heavily timbered;—is it capable of improvement to any extent, do you think? I think it would be very vastly improved by ringbarking and scrubbing, and that sort of thing. Some portions of it would be very suited for agriculture. I do not pretend to say that all portions would do for agriculture; but the gentle slopes would be suitable.
4780. Do you think that rougher country would be worth while improving, even for sheep-growing? I am quite satisfied that it would. I believe it could be improved to the extent of 50 per cent. by ringbarking and scrubbing.
4781. Out towards Munderoran, on the north-east side of the proposed line from Mudgee, there is a large tract of country, about Four-mile Creek, which, although open to cultivation, is untenanted? Some portion of it is very bad.
4782. Do you think that with the construction of a railway in that direction there would be a probability of that land being taken up? I do not, save perhaps for 5 or 6 miles along that line. I think it is too rough; but I think on this side of it, and beyond it, there would be ample scope for cultivation.
4783. Do you know the district from Gulgong to the nearest station on the Western railway, as the crow flies? I suppose Maryville would be about the closest point, and it is about 40 miles straight from here.
4784. It is generally held that the country for about 20 miles on either side of the railway is fairly within its influence;—do you think that if a line were constructed from Mudgee to Gulgong, and thence to Cobborah, there would be a sufficient tract of country between that line and the Western railway—to allow of each railway getting traffic sufficient to keep things going? I really do think so, because the Cudgebong Creek and Tallewang district between Gulgong and Cobborah is most suitable for agriculture. It would be very hard to find better land anywhere I think.
4785. Is Cobborah further from the Western railway than Gulgong? I should think Cobborah would be about 50 miles.
4786. If the country between Gulgong and the Western railway were sufficiently productive to give traffic to this projected line and the Western railway, that contention would apply even with greater force to the country between Cobborah and the nearest point on the Western railway? I think so. All up and down the Talbragar the land is very fertile, and I am quite sure it would give splendid yields of both wheat and maize.
4787. In view of the fact that it is estimated to cost nearly half a million to construct 150 miles of railway from Mudgee to Coonamble, do you think you know sufficient of the country to express an opinion as to whether it would probably pay? I know the country thoroughly well. I would not like to say that I am competent to judge as to its paying, but I believe it would. Large areas would be under cultivation and under mixed farming; both produce and stock would be sent by rail. The roads are nearly all fenced, and the travelling stock reserves—to my idea so imprudently allowed by the Government to be occupied by the different holders—are so completely eaten out that it is almost impossible to travel stock now.
4788. Is it not a fact that where they are not ostensibly occupied by anyone in particular they are eaten out just the same by adjoining holders? I am sorry to say so. Only a few days ago I represented Mudgee at a conference of delegates in which we advocated that caretakers be put on the travelling stock reserves, and a trifling charge made to travelling stock to cover such expenditure.
4789. But still you think that probably the stock-owners would send at any rate fat stock along the line? I think so. The stock would not suffer to the same extent going by rail, and it would be much quicker. Then, again, travelling a small quantity of stock becomes too costly if sent by road.
4790. There would be no probability of their sending store stock by rail? No, except in drought, when I think it would be taken advantage of.
4791. You think the line would probably pay if constructed right through to Coonamble? I do.
4792. Do you think that if it were constructed for only a portion of that distance—say as far as Munderoran—it would pay? It probably would, but the further it went the better I think it would pay.
4793. That is, tapping such a large and important district as Coonamble is? Yes; it would be a great help to it.

R. Rouse, jun. 4794. Do you know whether many of the landholders whose acquaintance you have would be willing to give their land free if the railway were taken through their holdings? I only know what Mr. George Henry Cox told me. He said he had consented to give the land; and I think he said Mr. Atkinson, who lives between Mudgee and here, Mr. Richard Rouse, of Guntawang, Mr. Ernest Bowman, and Mr. E. J. Lowe had also done so. On behalf of the executors of the late George Rouse I can promise you that they will do the same.

8 July, 1899.

4795. Where would these properties lie mainly? Between Mudgee and Cobborah.

4796. It is between those points, as you may notice by the map, that the greatest amount of private land is passed through by the projected line? Decidedly.

4797. From that on you get reserves, or other Crown land, nearly all the way? Yes.

4798. It would be only between Mudgee and Cobborah that private land would be to any great extent required? Yes. I do not think it would interfere with private land very much except there.

4799. You think there is a probability of the Government getting the private land free between those two points if the line is constructed? I think so, from what Mr. George Henry Cox told me.

Christopher Reid Young, storekeeper and miller, Gulgong, sworn, and examined:—

C. R. Young. 4800. *Mr. Trickett.*] You have been here about thirty years, and have been engaged in business all that time? Yes, since 1870.

8 July, 1899.

4801. When the former Committee was here you made a statement; will you make a statement now? In the first place, we have a railway made from Wallerawang to Mudgee. If it never was intended to make an extension from Mudgee, I do not know what the line from Wallerawang to Mudgee was built for. It would be put down, I think, as a very foolish transaction, because, when the railway arrives at Mudgee, taking into consideration the country it has come through from Wallerawang, it is only arriving at the beginning of good land. It reminds me of a man sinking, at great expense, a very deep shaft, providing a heavy water-pump and so forth, tunnelling out east, west, south, and north, and after, with a great deal of labour, striking gold, then leaving it for something else. Since the former Committee visited Gulgong we have not gone back at all. I endorse what I said then. I endorse everything the Messrs. Rouse said; it is of no use to go in for repetition. In this last season, when there was a drought all over the country, and great loss suffered, we had the greatest crop that ever we had in this district. It was a most prolific crop, going up to 40 bushels to the acre. The next best season we have had for wheat during the last thirty years to my knowledge was in a droughty year too. We had very little rain, but chanced to get that rain in three lots at the right time, and we had then a splendid crop of wheat. That was in a dry season.

4802. Is that a general rule in this district, that you do get rain at the right time? No, not always. It is always the rule that we get more rain generally than anywhere else about. We have a rainfall of 26 inches. In my time we have only missed getting it once. You are aware that it does not take very much rain to produce a good crop of wheat if you get the rain at the right time. There is no doubt that since last year the population is increasing here. In travelling round the district you can notice places getting fenced in, little houses getting built, and so forth, and the acreage put under cultivation increasing every year. I have nothing further to say to show the necessity for a railway.

4803. You stated at the previous inquiry that in March, 1890, you purchased 10,000 bushels of wheat, and that in 1898 you had purchased, up to April, 75,000 bushels? Yes.

4804. Has that number of bushels been exceeded this year? Over 100,000 bushels this year.

4805. Are you still buying wheat? Yes.

4806. Is the quality of the wheat good in this district? Splendid; it is extra good, indeed, this year.

4807. You have had opportunities of testing that at public shows, have you not;—did you not get a prize somewhere? I did for flour at the time I gave that evidence, showing that it is splendid. I have now in the mill an order for 20 tons of flour to go to London. In my previous evidence I said that a gentleman in Sydney had bought some flour from me, because of its dry quality, for sending to Fiji. Another gentleman has purchased 20 tons for London, to leave on the 17th of the month.

4808. Wheat is not subject to much rust in this district? No.

4809. If this wheat-growing is to continue in all parts of this red-soil country where people are advocating railway extension, you, as a large dealer in wheat, possibly have studied the question;—what is to become of all this wheat? The over-supply will have to merge into the world's wheat, and supply wherever there is a shortage. We cannot take that chance without railway communication. They have facilities for getting stuff out on the Western line; but others do not get into competition without a railway. I think those who spend their money outside here taking up land are justly entitled to railway communication.

4810. What do you pay the grower for the wheat? Two shillings and sixpence is the price we pay this season at the mill.

4811. What profit would that give the grower? It all depends upon the quality of the land he cultivates and the class of machinery he uses. You can farm at 2s. 6d. a bushel, and make lots of money if your farm is large enough, and at less than that.

4812. The evidence we had at Cobborah yesterday was that 2s. a bushel on the land right back for a certain distance would pay well in the case of large areas? I believe that.

4813. Would your price of 2s. 6d. a bushel for delivery at your mill give them 2s. a bushel at the present time? Hardly; it depends upon how far out you are.

4814. At Cobborah would it? Yes; about 2s.

4815. But with railway communication to here it would pay them better? Yes.

4816. Therefore you think their statement as to the 2s. a bushel is about a fair thing? It is fair. They would have the benefit then of competition; the freight would hardly cost anything then.

4817. You would have wheat-buyers at all these stations, and that would cause competition? We here, at 2s. 6d. a bushel, have always been in advance of Sydney. The bulk of the wheat comes from between Gulgong and the Talbragar. I have had considerable experience in shipping wheat to Sydney. It takes 6½d. a bushel to clear wheat from Gulgong to Sydney, and that includes commission and loss in weight, which is considerable sometimes; 2s. 6d. a bushel here would be equal to 3s. 0½d. in Sydney, so that we have been actually above the Sydney price.

4818. It also shows that, to get wheat now from Cobborah to Gulgong, a distance of 30 miles, it costs half as much as it costs to take wheat all the way to Sydney by train? Exactly.

4819. There is no doubt, I suppose, that with a railway through a country like this, the farmer would take his wheat to the nearest point at which he could strike the railway? Yes.

4820. It would be to his advantage in that way? Yes.

4821.

4821. There would be no fear of a man carting his wheat 20 or 30 miles, so as to save anything on the railway, because it would be enormously to his advantage to get his produce to the nearest station? Yes; the same as in Victoria. We would very likely be purchasers at all these stations. In Victoria wheat is purchased at all stations and sidings. In all probability, not only would wheat go to Sydney, but would be bought up along the line as it ripened, which makes it a certainty for farmers to bring it along the line. C. R. Young.  
8 July, 1899.
4822. What is the rate of freight between Gulgong and Mudgee? Ten shillings a ton; perhaps a little less for back freight coming out. For loading both ways it averages about 7s. 6d. a ton.
4823. Goods coming to Gulgong, and places along the line from Sydney, would, of course, always be shot down at their destination? Yes.
4824. Would there be any competition against the railway? I do not think so.
4825. Seeing that you have to pay 10s. and 7s. 6d. a ton for a distance of 17 miles, and that the railway freight would be so much less than that, according to current rates, they would employ the railway where possible? Most undoubtedly.
4826. That would apply to a certain extent; but how far on this side of Mudgee do you think the people would convey their goods to Mudgee station? They would go to the nearest siding.
4827. Mr. Harper, in his estimate of the traffic on the Dubbo-Coonamble line, reckons that people will cart their wheat and other goods to Dubbo station, a distance of 12 miles from the Coonamble direction;—do you think they would do the same? I think they would go about half-way, unless there was a better road, or some inducement to make them go a mile or two the other way.
4828. From your knowledge of the district, do you think this railway could expect to get any freight outwards towards Coonamble and beyond? Yes.
4829. In what shape? Station goods.
4830. Of course, the population would increase if the railway were taken out there? It would increase every year. In America they run railways straight out into new country, and population follows. Population would follow the breaking up of the land here.
4831. In a dry season out there would there be a considerable amount of freight in fodder? Of course.
4832. We have been told that it would be a very large item? A big item.
4833. Because you can always get crops here when they cannot get crops out there? Yes. Hay has gone this season from Mudgee all over the country. I think it has crossed on to the Southern line by way of Bathurst from Mudgee.
4834. As regards the mining industry in and about Gulgong, can you give the Committee some information? That fluctuates, of course. It is a little quieter than it was last year, although there is a little impetus now. There is a Government diamond drill here to test the deep leads; it is just commencing work now. From a business point of view, mining is always looked at as a good show—as something which would break out some day and astonish the Colony, although there is not outlet, no speculation.
4835. Has the population in the mining parts visibly increased or decreased during the last year or so? It is a little worse than it was twelve months ago, although the mining population is good. About two years ago there was a little boom, which lasted a bit. There was a nice mine which was worked, and which is still at work. There was a bit of a rush at Yambal and Tallewang. That made a boom about two years ago, which lasted for a while. The same population, or nearly so, is here.
4836. As far as you know, the mining population get a fair living? Yes.
4837. It is generally carried on by an individual or a small party? Yes; there are no large companies at present.
4838. Do you think any other industries are likely to spring up in this district in the shape of dairying? Of course, the railway would make an inducement. In reference to the mining, I may mention that we have two pioneers in the room to-night?
4839. Is there anything else you would like to add? No.

John Tuxford, Gulgong, sworn, and examined:—

4840. *Mr. Dick.*] Have you resided in the district long? Twenty-six years.
4841. You have a fair knowledge of the district to be served by the proposed line? Yes. J. Tuxford.  
8 July, 1899.
4842. Did you hear the evidence given by the previous witness? I did.
4843. Is there any other information you can give which will be of importance to the Committee in coming to a decision on these rival routes;—can you give anything in addition to your previous evidence? I do not think I can.
4844. Would you corroborate in the main all that has been said about this line? Yes.
4845. Would you corroborate the evidence about the prospects of the line proving profitable? I could not corroborate that, because I do not know. I have an idea that it would be profitable in the course of time.
4846. Would you endorse their statements about the character of the country and its capabilities? I can endorse their statements about the character of the Gulgong country, but not as to the country outside.
4847. There is a tract of country lying between Cobborah and Gulgong;—could you give the Committee a general description of that tract of country on both sides of the proposed railway? About Tallewang, and out that side, I could. I only know the country on the eastern side.
4848. Would you describe that country as land good for agriculture? Yes, right through.
4849. What percentage of it? I should say 50 per cent.—that is, for about 12 miles.
4850. At what distance from the line on that side does the agricultural land extend? That I could not say.
4851. Could you offer any opinion upon that? I should say 7 or 8 miles.
4852. Is there anything else you can tell the Committee? No; I have not been out that way. I have only been out Tallewang way.

George Steele, sergeant of police, Gulgong, sworn, and examined:—

4853. *Mr. Trickett.*] You were examined before a former Committee, and produced some statistics with reference to agricultural returns? Yes. G. Steele.  
8 July, 1899.
4854. How many holdings are there in your district? Within a radius of about 10 miles from Gulgong, perhaps a little further in one or two directions, and much less in others, there are about 286 holdings, containing about 75,620 of freehold land. In those holdings 7,128 acres were under cultivation this year, 4,982 acres being under wheat, and the rest principally under maize. The wheat yield was 77,586 bushels.



G. Steele. 4855. Have you prepared a table showing the area under wheat, and the yield for several years? Yes; it is as follows:—  
8 July, 1899.

TABLE showing the area under wheat, and the yield for the years 1895, 1896, 1897, and 1898, within a radius of about 12 miles from Gulgong.

Years.	Area under wheat for grain.	Yield.
1895 .....	1,740 acres .....	13,849 bushels.
1896 .....	3,044 ,, .....	34,000 ,,
1897 .....	3,525 ,, .....	52,875 ,,
1898 .....	4,982 ,, .....	77,586 ,,

4856. Has the yield of wheat per acre been steadily increasing? No; it fluctuates. The yield last year was very good.

4857. I notice from the return you have given that it averaged in 1895 about 8 bushels; in 1896, 11 bushels; and in 1897, 15 bushels;—this has been a better year for wheat, has it not? It has.

4858. Have you the returns in reference to the mining? Last year there were between 4,000 and 5,000 ounces of gold purchased locally; that is all alluvial gold, or pretty nearly so.

4859. Were the returns you gave at the previous inquiry calculated in a similar way? Yes.

4860. Then there has been a falling off in the amount of gold? Yes.

4861. How do you account for that? There are a few rushes—Helvetia, and Yamble, and Scrubby Gulley. There was gold won there previous to last year. There was a considerable falling off in those places during 1898. Still the number of miners do not appear to have decreased. This year up to date about 325 miners have applied at the office for miners' rights.

4862. The mining is not on the increase just now? What the amount of gold won this year is I have no idea. I have not made any inquiry at the banks or other places; but the number of men who have applied for miners' rights is more than the number of miners' rights issued up to this time last year.

4863. That would indicate that more men are engaged in mining? Decidedly.

4864. Getting back to agriculture—have you had opportunities of conversing with, and finding out the opinions of men who are engaged in wheat-growing? Yes.

4865. Are they satisfied with their prospects? They appear to be very well satisfied.

4866. There is a very great increase in the production, and also in the area of land under wheat? Yes.

4867. Have you any idea whether they would go more generally into wheat-growing if they had better means of communication with the markets? I decidedly think so.

4868. You think they are quite prepared to enter into competition in the world's market if they get a railway into their district? I should think so.

4869. Have you had any conversation with any of them with reference to that aspect? Yes; I have heard the farmers express the opinion that if they had railway communication they would certainly put in larger areas, under wheat principally.

4870. From your observation is that the general feeling in the district? Yes.

4871. Have you anything to add to the evidence you gave before the last Committee? No.

4872. Is the population generally increasing in your district? It is. The population within 10 miles is about 3,000.

4873. Do you verify the evidence which you gave before the former Committee? Yes.

Harold Dixon Voss, manager, Bank of New South Wales, Gulgong, sworn, and examined:—

H. D. Voss. 4874. *Mr. Dick.*] You are a bank manager? I am manager of the Bank of New South Wales here. I have lived in the district nearly seventeen years.

8 July, 1899. 4875. From your long association with the business people of this district, do you care to offer an opinion on its general stability and its progress? I have not the slightest hesitation in saying that I consider this is one of the soundest and most prosperous districts in the Colony.

4876. How far do your business operations take you out on the route of the proposed railway? Fifty miles—even more.

4877. Taking the farmers and selectors as a class, apart from the larger landholders, can you favour the Committee with an opinion as to their position during the period of your residence here? I consider, almost without exception, they have prospered and progressed very materially since I have been here.

4878. Can you say whether the cultivation and growing of wheat has materially added to their prosperity? Yes; I think that where there has been mixed farming, as a general rule, it has assisted them very materially.

4879. What do you think would be the effect of the construction of a railway from this district to Coonamble? I think it would increase the population wherever there is land to take up.

4880. You think there would be a great demand for any agricultural land which would be thrown open for settlement along the line? I am quite sure of that.

4881. Can you favour the Committee with some information concerning the mining industry in this district, and tell us what you think of its future? About two years ago there was a little boom in mining. They got a few large quantities; but I think even now there are quite as many miners working here, though they are getting smaller quantities.

4882. You think there is a likelihood of a considerable number of miners remaining in the district at work, even without these small booms? Yes, for many years. It is a thing you cannot tell much about; mining is up and down.

4883. Do you know the land between Gulgong and Cobborah, say, for 20 miles on each side of the proposed railway? I have been over a good deal of it pretty well on both sides.

4884. Will you describe the character of that country to the Committee? The Goodiman Ranges are poor, but on each side of the ranges the land is really good farming land. I heard a remark about a detour being made to the north-east of Cobborah. I think they lose sight of the fact that there is a very rich district on the south side of the Cobborah-road—I refer to the Goolma district. The Cobborah-road goes between Goolma and the Talbragar.

4885. How far is Goolma from Gulgong in a westerly direction? 20 miles; that is the best part of the district; it is all good along there.

4886. Would not the traffic from that district, no matter whether you made a detour or not, come to Gulgong? Not if they made the detour.

4887. Gulgong would not be shifted—the detour is further on from Gulgong? That may be possible; by the line going as originally proposed without the detour, you would be between the two good countries.

4888. You are speaking of the former proposal? Yes.

4889

4889. Do you think the former proposal would more equally split up the good country than the line now before the Committee? That is exactly what I mean. H. D. Voss.
4890. In other words, you think the railway should not proceed almost in a straight line from Gulgong towards Mundooran, but should make the detour to the west, as put before a former Committee? I do not think the proposed distance of the detour would affect it at all. I had no idea it was so small. 8 July, 1899.
4891. Can you give the Committee any further information concerning the district and its possibilities which may be of value to them? I do not think I can give much more than I have given before.

William Rudolph Bentzen, Manager, Australian Joint Stock Bank, Gulgong, sworn, and examined:—

4892. *Chairman.*] You heard the evidence given by Mr. Voss? Yes. W. R. Bentzen.
4893. Do you corroborate all he said? I do. 8 July, 1899.
4894. In addition to that evidence, have you anything to state? Mr. Bowman was in to-day, and he would have been here to-night, if he could have stayed. He told me that as soon as it was decided that the railway should come from Mudgee to Coonamble, he would at once call for tenders for preparing 1,000 acres, and put the land under wheat cultivation; also that Mr. Lowe would do the same thing.
4895. In what direction do these gentlemen live? Mr. G. M. Bowman is living north-west.
4896. Anywhere near the surveyed line? I think so. He lives at Wargundy, near Denison Town.
4897. Does Mr. Lowe live in the same direction? His property adjoins Mr. Bowman's. It is station property.
4898. I suppose you know the land sales which take place in the district? Yes.
4899. Do you know whether any persons are leaving the district, by reason of the fact that they cannot make a do of it? There are no such cases. The population is increasing, and people are coming here every day—every month you may say. They are only waiting for the lands to be thrown open here to be able to take up a holding and settle down. Of course the railway will do that.
4900. Generally speaking, the desire is to come, not to leave? Exactly.
4901. You look upon that as being a good sign? Exactly, from a banking point of view.
4902. Is there anything else you wish to add? No.

John Walter Travis, sheep-overseer, near Gulgong, sworn, and examined:—

4903. *Mr. Trickett.*] You are superintendent for Mr. Rouse? Yes. J. W. Travis.
4904. How many years have you been in the district? Thirty-five years in the Mudgee and Bogan districts. Dubbo, Bourke, and Coonamble, and all these places joined together used to be called the Bogan district. 8 July, 1899.
4905. Will you give us your opinion of this district as a sheep-growing country? It is all very good sheep country from Gulgong to Coonamble.
4906. Carrying, in an all round season, about how many sheep to the acre? From a sheep to a sheep and a half to the acre.
4907. You heard Mr. Rouse and the other witnesses give their evidence? I did.
4908. Do you endorse their evidence with regard to the suitability of the district for agriculture? I do.
4909. You think that a considerable portion of the country is suitable for agriculture? Fully one-fourth.
4910. Especially for wheat-growing? Yes.
4911. I suppose in your business you have travelled all over the country pretty well? Yes.
4912. How do you think a railway would benefit this district? I think it would benefit the district a great deal if there were a railway extended from Mudgee anywhere outwards. I think it would benefit the district of Mudgee.
4913. By introducing a closer population? By introducing a larger population to settle down. The country would be taken up, more agricultural land would be used, and stock would be taken to market.
4914. If a man got a picked bit of land, all suitable for agriculture, what area do you think he could do with? I think, for agricultural purposes, if he got a picked piece of land, he could make a good living on 300 acres.
4915. By cultivating the whole of that? Yes.
4916. That would be for an out-and-out farmer? Yes.
4917. Taking the bad land with the good land, how much of that do you think he would want, to go in for mixed farming? 500 acres.
4918. He could have a few sheep, and till how much of that land? He could till from 100 to 150 acres.
4919. And make a living on that area? Yes; and use the other as pasturage.
4920. You have noticed, I suppose, that the district has progressed largely in agriculture of late? Yes; ever since I have known it.
4921. You have heard the witnesses' statements as to the route of the line;—do you think it is well chosen? Yes. I think it is a very well chosen line from Mudgee to Gulgong, from Gulgong to Cobborah, from Cobborah to Mundooran, and from Mundooran to Coonamble. I think that is well chosen, as there is good country on both sides,—in some places for 50 miles, and in some places for only 20 miles.
4922. You could not suggest any better route between Gulgong, and (say) Mundooran, which is the difficult section of the line, which would avoid any large amount of expenditure in construction, as far as you know? No.
4923. It is all broken country? Yes.
4924. *Chairman.*] You stated just now that you thought 300 acres under wheat would be sufficient to enable a man to get a living? Yes.
4925. We want to settle people on the land with a view to do more than make a living;—could a man make more than a living on that area? That depends on a man's energy. If a man worked well, and he happened to be prosperous, he could.
4926. We all know that if a man does not work he will not get anything? If a man is energetic and works his ground—some men can work ground to much more advantage than others—he may make a little more than another; but I do not think any man will make a fortune on 300 acres. I think a man can make a good living on that area.
4927. Nothing beyond a good living? No; and that of course would be on picked country.

John Scully, miner, Gulgong, sworn, and examined:—

- J. Scully. 4928. *Mr. Watson.*] Have you been long in the district? Since 1870.  
 4929. Have you been engaged in mining all that time? Pretty well.  
 8 July, 1899. 4930. You ought to have a pretty fair idea of the mining possibilities of the district? I have a good opinion of the district.  
 4931. There has been a lot of gold produced here? Yes.  
 4932. Mostly alluvial? Yes; but there have been a few reefs.  
 4933. What have been the reefing prospects so far? Very little has been done to them. When they have gone down some way they have got poor. Want of sufficient capital to work the reefs has been the principal trouble.  
 4934. What would you call poor;—what was the width of the reefs which have been opened by various parties? Six inches, 4 inches, 18 inches, 2 feet.  
 4935. What was the yield of the 2-foot reef? 15 dwt. to 20 dwt. The Welcome Reef, I think, went 3 oz. to the ton on my machine at Reedy Creek.  
 4936. To what depth did they carry that gold? I think they carried on to about 150 feet, and they lost the run of it.  
 4937. The reef or the shoot of gold? In all probability the shoot of gold.  
 4938. Generally speaking, there has been no attempt on a large scale to test the reefing possibilities of the district? No. At the Royal George, about twenty-eight years ago, they had a twenty-head battery; and although I have seen an account that it went 2 oz. and 2 or 3 dwt. to the ton for 12 tons, the Royal George got into debt, and the bank sold the stores off. About three years ago I took it up and went on it, formed a syndicate, and a ten-head battery is on it.  
 4939. What is the size of the reef and what does it yield per ton? We had one crushing. We sent 9 tons 17 cwt. to Sydney; it went 1 oz. 4 dwt.; some of it went 1 oz. 11 dwt. per ton.  
 4940. You were so satisfied that you erected a battery? Yes; it is running now.  
 4941. What sort of reef are you on? It varies from 4 to 18 inches, 20 inches, and 24 inches in odd places; it branches in and out.  
 4942. Do you think your battery will be able to save an ounce per ton? In all probability it may.  
 4943. Have you had any crushing yet? We sent 3 tons to Sydney.  
 4944. Have you had any retorting of the amalgam to find out what is going through the battery? Yes.  
 4945. How much is that? I suppose it is about 14 dwt.  
 4946. You do not expect to get as much out of a battery as you would out of a better method of treatment in Sydney? We have as good a method on the Royal George as you have at Sydney.  
 4947. You must go through more than the ordinary battery treatment to get that? We take care of the tailings, and put them through a process as they do in Sydney.  
 4948. In the return you got from Sydney, which went, I think, 1 oz. 4 dwt., did you have included in that the result of the tailings? I do not think it was; but I am not sure.  
 4949. You have no recollection of the tailings having been assayed with a view to find what was left there? I do not think so.  
 4950. That is one instance of where a reef has been worked successfully within the district? Yes; and the Mines Department gave aid. Great credit is due to the Mines Department for granting aid. If they grant aid in many other places, and a little more capital comes in, there is no doubt that a number of reefs will be developed, and will pay.  
 4951. In what way was the aid granted? It was aid to sink.  
 4952. Did you get any aid for driving? No.  
 4953. What depth are you at now? 170 feet is the depth I have sunk in the shaft.  
 4954. You are stopping up above that level? Yes.  
 4955. Speaking generally, what do you think of the mining prospects of the district—good, bad, or indifferent? I am under the impression that it would be benefited by capital coming in.  
 4956. You think there will be an increase in the amount of mining? I do, if capital comes in; but you cannot do it without capital in many of these places.  
 4957. Do you think the prospects of the district are sufficient to encourage capital to come in? I do think so.  
 4958. You think there is a probability of a lot of mining shows being taken up? I do.  
 4959. Therefore, we may expect an increase, you think, in the mining population in the near future? I think so.  
 4960. Are there many men making a living in the alluvial diggings? I have had very little time for going about the district.  
 4961. Still I suppose that, like most old miners, you have a chat with other miners occasionally? It is very little time I have allowed myself the last few years for that. I have been engaged out there at the Royal George. My interests are centred in the Royal George, and I have not got much time to go about.  
 4962. Have you any idea of number of men making a living out of alluvial mining round the district? No; I have not given myself time to learn anything on the subject during the last three years.  
 4963. In any case, with regard to reefing, you think the prospects are sufficiently bright to warrant us in expecting a fairly large increase in population from that source? Yes, supposing the capital comes in to work them.  
 4964. You think it probable that capital will come in? I do think so. I had ten puddling machines and fifteen head of stampers going a few years back.

Charles Edward Hilton, auctioneer, Gulgong, sworn, and examined:—

- C. E. Hilton. 4965. *Mr. Watson.*] Have you any knowledge of the general condition of the mining industry in the district of Gulgong? I have had an experience of about twenty-six years.  
 8 July, 1899. 4966. You have taken an interest in mining all the time? Yes, up till last year.  
 4967. Did you, prior to that time, have an active connection with mining speculation or industry? Yes; I was an active miner. I have had thirteen years practical experience in this district.  
 4968. Will you kindly state your views as to the present position and prospects of alluvial mining in the district—first as to the area on which we may reasonably expect to maintain miners, and the number of men engaged in the district now, with a prospect of permanency? As far as the alluvial miners are concerned, I think the prospects of the district are really in the lodes. The main alluvial leads have been practically worked out. There have been some phenomenal patches in the last few years. They have not been very extensive. 4969.

4969. Are there many men now engaged in alluvial mining? About 400 or 500 round the district, as far as the number of miners' rights taken out is any criterion. C. E. Hilton.
4970. Are the alluvial miners working on new ground principally, or are they principally fossicking about old workings? You cannot exactly call it new ground; it may be feeders. That may lead to other leads being found, or feeders into the old leads which have been worked out. 8 July, 1899.
4971. Will you now give your views on the prospects of reefing in the district? The future of the district I think will be a very great one, to judge from my personal experience, and the knowledge I have of the country for about 30 miles round. The country in this district seems to be broken up for about 300 feet in depth, and the different strata of rock have all got, as it were, amalgamated by this large flow of basalt which has travelled through the country, and by other influences. The reefs have been exceptionally good in some cases. They go down for about 200 or 250 feet, as the case may be, and then they seem to break out in threads, and there is really no indication of a wall. What is really wanted is a vertical shaft to be put down about 600 or 700 feet to get into the permanent country; and there is every probability that the reefs exist there, because in the majority of cases where the reefs have been got there have been kinds of shoots, or throws up, or pipes of quartz. There are also saddle-reefs existing in the district. I was working one last year at Biriganbil Estate.
4972. Do you think the saddle-reefs would close together again at a lower depth? I have every surety of it as far as the country is concerned. The country is getting into a more permanent state as you get down.
4973. Your opinion, generally, is that the district is well worth prospecting from a reefing standpoint? Most decidedly.
4974. And with a probability of success? With every probability. I may say that there is a reef within 2 miles of where we sit. There are about 32 feet of mineralised crushing stuff, and no indications of walls. It has assayed from 5 dwt. up 28 ozs. to the ton.
4975. Where no walls are showing, is the gold-carrying formation in the way of veins distinct from the general formation? It is a true fissure lode. We have had Mr. Pitman up from Sydney, and other well-known experts. I am not interested in the mine. I have been down the mine on several occasions.
4976. You think it looks well? There is no doubt about that, because it has proved itself. It is already pegged out by a small syndicate, and they have been working it for the last two years. They have had an exemption from labour conditions for the last few months, on account of the water and other difficulties.
4977. Did they get a bulk return from it? No; it is a refractory ore.
4978. Have they sent any of the ore to either of the existing works for special treatment, with a view to finding out the best method of extracting gold from the minerals? They have sent samples to the Dapto works and to the Clyde works.
4979. Do you know what treatment would appear to be necessary as the result of having those samples treated—chlorination? Or the cyanide process. The ordinary battery process would be perfectly useless in obtaining the main portion of the gold.
4980. Do you think there is a probability of that mine being actively developed within a reasonable time? I have not the slightest doubt of it.
4981. Can you sum up, in a few words, the prospects for mining in the district, by lode or reefing? The future prospects are undoubtedly the reefs, and the mineralised reefs and lodes are very extensive and numerous throughout a radius of 20 miles. I could mention at least eight.
4982. You expect a considerable development in the mining industry shortly, with a corresponding increase in the population? Yes, on account of the railway coming.
4983. So that the haulage will be cheap for mineral ores? It would be an advantage to a mining industry if it were developed; it would be the making of the mining industry.
4984. *Chairman.*] You stated just now, that as far as sinking had been proceeded with, you got into a very disturbed district;—has there been no attempt made to get into well-settled country to prove the reef? No. They got some very phenomenal patches from the 100 to 200 feet level, and they have laboured under the impression that, by following on the same levels, they would get another patch or series of patches. The syndicates which have been formed have worked the capital out, and the shareholders have been disappointed.
4985. So that no attempt has been made to get into more settled country? No.

Edward McCulloch, Council-clerk, Gulgong, sworn, and examined:—

4986. *Mr. Trickett.*] Were you examined at the previous inquiry? I was examined before the former E. McCulloch.  
Committee, on the 2nd April, 1898, when I furnished certain statistics.
4987. The figures have increased since that date? Yes; I will forward to your secretary a complete 8 July, 1899.  
return. [*Vide Appendix.*]

MONDAY, 10 JULY, 1899.

[*The Committee met at the Council Chambers, Mudgee, at 10 a.m.*]

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD. |  
The Hon. WILLIAM JOSEPH TRICKETT. |

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Henry Crossing, commission agent, Mudgee, sworn, and examined:—

4988. *Chairman.*] What are you? I am a commission agent, and I have resided in Mudgee for the last H. Crossing.  
forty years.
4989. *Mr. Trickett.*] You know the country thoroughly, not only in the neighbourhood of Mudgee but 10 July, 1899.  
possibly right away from Mudgee to Coonamble? Yes; I have travelled all over that country. I used to travel a great deal some time ago, buying stock.
4990. Supposing a railway were constructed from Mudgee through Gulgong to Coonamble, what increased revenue do you think they could expect to get from the country between Mudgee and Gulgong, taking a radius of 10 or 15 miles on either side of the line? Between Mudgee and Gulgong there is a large extent of agricultural country. 4991.

- H. Crossing. 4991. What area between Mudgee and Gulgong, taking a radius of 15 miles on either side of the proposed railway line, is in your opinion suitable for the growth of cereals and other produce? I have not thought out that particular question.
- 10 July, 1899.
4992. Is there a very large quantity of such land? There is a large quantity.
4993. 20,000 acres, do you think? Speaking roughly, I think there may be from 15,000 to 20,000 acres.
4994. Of that area, how many acres do you think are under cultivation at present? About a third of the area I should think.
4995. About 5,000 acres? I am not prepared to speak very definitely about that.
4996. What is the chief cultivation in that area? Wheat, mostly.
4997. Is it successfully grown? Yes; some of the best wheat land about would be within that area.
4998. How many bushels to the acre would it average? From 20 to 30 bushels to the acre.
4999. Regular crops? Yes; I think they compare favourably with any districts.
5000. What has been the market for that wheat? Mudgee.
5001. Mudgee only? Mudgee and Gulgong now—there is a mill at Gulgong.
5002. Has the supply been enough for the demand in Mudgee and Gulgong? I think it has been more than enough.
5003. What has become of the surplus? A good deal of it has been forwarded to Sydney.
5004. Do you know whether it has been a profitable undertaking to send the wheat to Sydney? At times I think it has.
5005. As a commission agent, do you deal in the wheat business? No.
5006. Seeing that there are from 15,000 to 20,000 acres of land suitable for agriculture in the district I have named, and seeing that the supply is not much over the demand for Mudgee and Gulgong, can you, as an old resident, explain why, with a railway to its door, and this large area of agricultural land within easy access of the railway, agriculture has not been gone on with to a greater extent than it has? The butter industry has been more profitable even than wheat-growing. I think that has a great deal to do with it.
5007. The country is used more for dairying purposes than it is for wheat? Yes.
5008. We have to look at all phases of the question, and the evidence all along the line has been that wheat-growing would be gone in for most extensively, so that the question strikes us at once, when we see agricultural land all round a railway, why it has not been gone in for more, and the answer you give is that dairying has paid better? Yes.
5009. Do you think the dairying industry would continue? I think so. I see no reason to think otherwise.
5010. Has it developed much lately? It has developed considerably during the last few years.
5011. Is your opinion that dairying pays better than wheat-growing based upon what the farmers have told you? Yes. I have had a try at dairying myself.
5012. Supposing you had 300 or 400 acres of this rich land, which is suitable for wheat-growing, would you prefer to go in for dairying or wheat-growing? I would mix it, I think. I believe there is more money to be made out of dairying than wheat-growing, close to a factory.
5013. You have separators in Mudgee? Yes; we have a good factory here.
5014. You export the produce to Sydney? Yes.
5015. Is that found to be a profitable occupation to a farmer? Yes. All our dairy farmers here are in a good position—that is, all those who have anything like a fair place.
5016. Do you see any prospect of these two industries, wheat-growing and dairying, being indulged in to a considerably greater extent, within the area I have stated, in the near future? I think so. Of course it is of no use to produce milk if you are too far away from a factory or market. Factories require to be built in suitable positions.
5017. All the surplus produce on these farms, I suppose, is carted into the Mudgee railway station? Yes.
5018. Supposing a railway were constructed to Coonamble *via* Gulgong, from how far out of Mudgee would the farmers cart their produce to Mudgee station, in lieu of taking it to an intermediate station between Mudgee and Gulgong? I think 8 or 10 miles.
5019. So that if the Railway Commissioners allowed a limit of 12 miles, that would be a liberal one? Yes.
5020. You could not expect to get very much traffic to an intermediate station nearer than say 10 or 12 miles from Mudgee. I think that is somewhere about the distance.
5021. Are there any other industries likely to grow up within the area I have stated that would bring increased revenue to the railway,—that is besides mixed farming? I do not know of anything else, except a little mining.
- 5021½. Do you know the country between Gulgong and Cobborah? Yes.
5022. How would you describe that country, say for 15 miles on either side of the line? From Gulgong there is some very good country, and, of course, there is some not very good. When you get near the Talbragar it is nearly all good country; the Talbragar valley is splendid sand.
- 5022½. Is it a class of country which, instead of being largely used for running sheep, would be used for agriculture? A great deal would.
5023. Upon what do you base that opinion? From knowing the country and from using it. I have some there. I do not do much farming, but I know a lot of farms there.
- 5023½. Your observation has been that the agriculture has been increasing? Yes; all over this district.
5024. Taking the strip from Gulgong to Cobborah, could you state what proportion of the land on either side of the line for 15 miles is suitable for agriculture;—would it be one-third, two-thirds, or three-fourths? I should suggest keeping up above Cobborah considerably, keeping up to Dunadoo, as it would go through better country, and crossing from there to Caigan.
5025. How far to the north-east of Cobborah would that take the line? I should think 7, 8, or 10 miles.
5026. By going up there, do you think you would lose much revenue from the wheat-growing districts on the west side? I think very little, if any, because the land on the east side is far the best. The bulk of the better country lies to the right, and a great deal of good country lies away from Pine Ridge up the Coolah Creek to Coolah.
5027. Keeping to the north-east of Cobborah, you would continue that track to the north-east of Mundooran again? Yes,—about the same distance I should say roughly, coming in at Caigan.

5028. Where would you strike in again on the straight line to Cobborah? I do not think I would strike in until I got out beyond Tooraweena. The country from Mudgee to Dunadoo (a small township on the Talbragar), and thence to Caigan, and thence to Tundaburine, I know well. I have been through that country scores of times. I have been through all the routes under consideration. H. Crossing.  
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5029. By going that route would the cost of railway construction be cheaper or dearer, do you think, than by adhering to the line shown to the Commissioners? I do not think it should be more expensive. I do not know about getting through from Caigan to Tundaburine. There will be no difficulties between Mudgee and Caigan. I do not think there are any from Caigan to Tundaburine.
5030. We were told by a witness who came along the road with us from Cobborah that it would effect a very great saving;—do you agree with him that it is much easier country than the country on the other line? I think it is easy as far as Caigan.
5031. Then you come to hills? I do not know exactly the way. I have not been across from Caigan to the main line. I do not think there are any difficulties in the way; I do not know for certain.
5032. At any rate, you think it would not be more expensive than any other route? I think as far as Caigan it ought to be less expensive.
5033. To the east of Tooraweena we have these mountains;—do they not break up the country very much? Not very close to Toorawena. It is a bit hilly out there.
5034. Do they not interfere with the continuous area of good country there? A lot of the hilly country is splendid land.
5035. For what? It is mostly grazing; but a lot of it is suitable for cultivation. These black-soil hills are suitable for cultivation.
5036. On the other side of these hills is it good country? It is not quite so good on the other side; but this is first-class grazing country, and some very poor land.
5037. Do you think any traffic would be drawn from the other side of the hills to the railway? Yes.
5038. Would that diversion you speak of bring in much traffic from the tract of country leading up to Coonabarabran? Yes, it ought to bring in all that traffic.
5039. Between the proposed line and Coonabarabran is there not a large tract of good country suitable for agriculture? Yes; a large extent. Some of the best country in the district is about Weetalibah, and up that way.
5040. Then, from where you strike in again to the railway line, on to Coonamble, what are your views of that country? It is first-class country for agricultural purposes till you get down on the plains. I do not think the plains are so suitable for agriculture, although they are first-class grazing land. Up near the mountains they get a good rainfall, and it is good soil, suitable for growing anything. The Tundaburine country is first-class land.
5041. What do you say about the country on the western side of the line? It is not so good out that side, and hence my idea to keep so much to the right. Where you are not going through good country it is wise to keep as near to the good country as practicable.
5042. You know the coach road from Coonamble to Gulgong? Yes, by the Castlereagh.
5043. One coach road comes in by Tooraweena? Yes.
5044. Say from Tooraweena to Cobborah;—I suppose you would not give that as any indication of the character of the country you spoke of? No; in coming by the main road you see some to the west of it. The land on the western side of the Castlereagh from Cobborah to Gilgandra is bad.
5045. As a commission agent dealing in the sale of lands, have you during the last few years found that when agricultural lands have been offered for sale they have been largely availed of by the farming class? Yes; there is a very strong demand about Mudgee for suitable land for agriculture or dairying.
5046. Of what extent are the holdings about Mudgee? Principally a few hundred acres.
5047. Can a man with a family make a living on 300 or 400 acres? Yes, on less; if he can get good land, he can make a good living.
5048. By farming? By farming and dairying combined, as the two go so well together.
5049. Further out in the country to which you have been referring, from Gulgong to Tooraweena, what area do you think would be requisite for a man to go in for mixed farming? They would want larger areas out there; a great deal depends upon whether factories are built within reach. It is of no use to have a dairy unless you have a factory and a way to get your produce away.
5050. If this railway were extended inland from Mudgee, do you consider that there would be any other market for produce except the Sydney market? In times of drought the outside flat country has been a good market for forage. Coonamble itself has been a great market in years gone by, though not so much lately. They are cultivating more.
5051. Seeing that we have evidence that from the other side of Coonamble right down to Mudgee it is all good land for the growth of wheat and wheaten hay, and so on, I suppose you can hardly look for much of a market out that way? I do not think so, except in very odd times. I think the principal market will be Sydney, because under the Warrumbungles they should grow any amount of produce.
5052. As an old resident of Mudgee, do you regard this line from Mudgee to Coonamble as necessary in the interests of a small area in and round Mudgee for a short distance, or rather in the interests of the country out Coonamble way? In the interests of the country generally.
5053. Do you think that the bulk of the revenue for the railway would come from some distance out from Mudgee? Yes.
5054. Do you deal in stock? Yes.
5055. What would be the probabilities of increase in the stock traffic to the metropolis by railway? I think there ought to be a considerable increase. There is a great deal of stock fattened out on that route. They would all most likely go by rail, except in a very good season. Then some would travel by road this far.
5056. Is there much fat stock sent through Mudgee to Sydney from out that way? Yes; a good many. Sometimes they go into Luie and Rylstone.
5057. Since the Mudgee railway has been constructed, do you think a great many more stock have been sent from Mudgee direct to Sydney than were previously sent, or do they still continue to drive fat stock any distance on towards Rylstone? A good many go to Rylstone and Luie; but not one in a thousand, I think, goes by road right through to Homebush, as they used to do.
5058. The great argument for this branch line is that, directly it is constructed, all the stock that used to

- R. Crossing. to be driven will be trucked locally, and sent right away;—can you, as an old resident of Mudgee, knowing that stock used to be driven a long distance, say whether the tendency has been largely increased to put sheep right into the trucks at Mudgee since the line was opened? Certainly it has.
- 10 July, 1899. 5059. To a very large extent? Yes.
5060. You have no doubt about that? I am sure of it. I will not say at Mudgee exactly; I will say at Mudgee, Luie, and Rylstone.
5061. You see the drift of these questions? Yes.
5062. Whether the railway to Coonamble starts from Mudgee or any other place, do you think it will be better for graziers in all seasons to put their live stock right into the trucks, and save a portion of the journey than drive them along the road? Yes; most of them send small lots now. When they have a railway, they can send small lots, otherwise they could only send in large lots if they wanted them to travel any distance. The bulk are small holders, and it suits them to send a truck-load away instead of waiting until they get a hundred or two to send by road. It costs too much to send small lots any distance by road.
5063. Will you briefly give your opinion as to the merits of the three routes to Coonamble—First, what do you think of the Warren connection? I prefer that connection very much to the Dubbo connection.
5064. Why? Simply because it is a shorter line. It goes through country good for grazing purposes, but the objection to that is that it is a terribly flooded country. I have been through there when you have had to go 10 or 15 miles with the water 3 or 4 feet deep. That would not be very good country on which to construct a railway.
5065. It would be more expensive in the way of bridging? I think it would be very expensive to keep in order.
5066. What do you think of the route from Dubbo to Coonamble? It goes through nearly all poor country until it gets down to Gilgandra.
5067. When you get to Gilgandra, it does not matter much to the people there, whether it is the Mudgee connection or the Dubbo connection? I think the Mudgee connection would suit them better, because it would be a shorter and more direct route.
5068. Do I understand you to advocate the Mudgee line, because it tends to improve a somewhat non-paying line, because it goes through sounder country for railway construction, although more expensive, and because it taps more agricultural land? Yes; it opens up a great deal better country for agricultural purposes than either of the other two lines.
5069. *Mr. Dick.*] Do you view the various proposals to connect Mudgee with Coonamble without any business bias? Yes.
5070. Is it a fact that your business prospects will not be improved by the construction of a line from Mudgee to Coonamble? I certainly do not think they would.

James John Underwood, drover and cattle-buyer, near Mudgee, sworn, and examined:—

- J. J. Underwood. 5071. *Chairman.*] How long have you been in this district? Thirty or forty years.
- 10 July, 1899. 5072. Did you accompany the Railway Commissioners lately to explain this country to them? I did.
5073. Are you well acquainted with the whole of this district? Very well.
5074. Are you well acquainted with the whole of the country which would be served by a line from Warren to Coonamble, by a line from Dubbo to Coonamble, and by a line from Mudgee to Coonamble? Very well, indeed.
5075. Taking the line from Warren to Coonamble, how would you describe that country generally? There is a lot of good country, and there is a lot of bad country; but I think you will have to go through a lot of flooded country.
5076. Supposing the land was cut up into small farms with a view to closer settlement, would a railway serve that purpose? I do not think so.
5077. Could a man get a living off 1,000 acres along that line? I do not think so.
5078. Taking the line from Dubbo to Coonamble, are you well acquainted with the country which would be served on each side of the railway? I am well acquainted with it.
5079. How would you describe that country? That is bad country for agriculture and bad country too for grazing, for a certain distance.
5080. How far would the bad country extend from Dubbo? About 60 miles.
5081. What portion of that would be bad country? The whole of it would be bad for farming purposes, not for grazing.
5082. Taking a belt of country 40 miles wide—that is, 20 miles on each side of the proposed line—what is it like? It is all bad for that distance.
5083. From Gilgandra, how would you describe the country? It is better country close to the river. After you cross the river and come down on the eastern side, it is better country.
5084. And from there onwards, what is it like? It is good country then.
5085. Is it good for agriculture? It is good for agriculture till you get, I suppose, within 30 miles of Coonamble, and then it is suitable for pastoral purposes. I do not think it would grow crops down there, because of the dry seasons and hot climate.
5086. Now, taking the line from Coonamble to Mudgee, the Committee have inspected a good deal of the country between those two points. We came through Warrina, Wongy, Tundaburine, Tooraweena, Munderoran, and Cobborah, and from Cobborah some members of the Committee went towards Merrygoen and the others towards Redbank, meeting again at Tallewang from which place we came through Gulgong to Mudgee;—what would you say to that line as regards its prospects of settling people on the land? It is all good country for agriculture through there.
5087. When you took the Railway Commissioners round, was that the line you went along or did you travel a line more to the east? No; I took the Railway Commissioners from Mudgee to Gulgong, from Gulgong to Cobborah, from Cobborah to Munderoran, from Munderoran to Coonabarabran, from Coonabarabran back by Weetallibah—Mr. McMaster's and Mr. West's—into Coolah, and from Coolah *via* Leadville into Gulgong.

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Underwood.  
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5088. Which of those two routes would cut up most agricultural country? I suggested to Mr. Harper, if they were going to make the line more to the east of Cobborah, to run from Gulgong across what we call Barney's Range and down by Birrawa. That is going through all first-class agricultural country. It would be giving the Coolah people a far better chance. It would bring them close to the railway, because there is as good land as you can find under the sun at Coolah, and all up in that district. Then, going from Birrawa straight across within a short distance of Caigan, 7 or 8 miles to the east of Mundooran, it will take you through all first-class agricultural country, as good as you could find in Australia, I suppose. Going right through this country, you can come out at Tooraweena. It is not a difficult country to get through to Tooraweena. It is all box country with sloping ridges. There is only one hill to go through, and that is at a place called Wallumburrawang; there is a gap through there, but by going through there you are opening up some thousands of acres of pine land to the right but not much to the left.

5089. Instead of making Coonamble your objective how would you view a proposal to go to Coonabarabran;—would you pass through as much agricultural land if, instead of breaking away into the west to reach Coonamble, you went on towards Coonabarabran? It is not as good. You are going through a considerable lot of bad country until you get to a place called Gorah, belonging to Mr. Nash.

5090. You would keep away to the east until you got to Caigan, which is to the north of Binnaway? Yes.

5091. When you are at Caigan, how far are you from Coonabarabran? Thirty miles. After you get within 15 miles of Coonabarabran you have all bad country into Coonabarabran—bad country for anything—bad country out of Coonabarabran for a distance of 10 miles. It is all sandy country; it is no good.

5092. There is a belt of ironbark country, some of it being mixed a good deal with other timbers;—in your travels, have you seen any of that country cultivated? No.

5093. We have been told that a good deal of that country is good land for agriculture? I never saw any of it cultivated, but I think there is sufficient land out in that country without cultivating ironbark country, because there is any amount of box and apple-tree country—hundreds of railes of it—out that way.

5094. As a rule, the ironbark country is no good? But there is very little ironbark country from here out to Coonamble.

5095. Keeping the Western line, you get into ironbark country? You get into it by going that way.

5096. How far would the Warrumbungle Mountains be from the line you suggest? They are about 8 miles from Tundabrine.

5097. What would be the average distance of the broken country, or the range from the line? About 7 miles. That range runs in a very peculiar way. It runs from the back of Coonabarabran to Barmedman. All the country on the west of these ranges is good country. From the foot of the hills to the line it is all good country.

5098. Is it very good country for agriculture? Black and red heavy deep soil. People tell you there that they put in 100 acres of land, but that if they had a railway and an outlet for their produce they would put in thousands of acres. They have no show to get anything away from there. If they had a railway it would pay to cart.

5099. The settlers have informed you that if a railway were constructed out there they would increase their cultivation areas considerably? Wonderfully; because they seem to think it pays better than sheep-farming.

5100. Have you had any experience in agriculture? Not much; I have never farmed much.

5101. You could not give the Committee an idea as to the difference between the return from sheep-farming and the return from cultivation? No. I am no judge of agriculture, but I know that some of the finest land in Australia is out in that country, and not a small quantity of it, but a very large quantity. Once the railway went there there is not the slightest doubt but that the country would be populated and opened up.

5102. Have you any other information to give to the Committee? I think if you were to run the line away from the main railway through Gulgong, and come in up by Caigan, and across by Binnaway, you would save £100,000 in cuttings.

5103. Has the drift of stock been diverted from this district to Dubbo by reason of railway? I think not.

5104. Which was the main stock route in the olden times, before we had railway communication to Sydney? Generally from Coonamble *via* Mudgee or Rylstone. There are two stock routes—the Rylstone stock route and the Mudgee stock route. The main trunk line from all the Castlereagh country, and the Namoi country to Sydney was the Mudgee and Rylstone route. From the Gwydir country they used to come in by the Mulga.

5105. Has it been diverted to Dubbo to any extent by the construction of the railway? I think not.

5106. It still comes this way? A good deal of stock comes this way; but it would not come if you had a railway out there.

5107. *Mr. Shepherd.*] I think you said that you have never been engaged in farming? Not much.

5108. Have you had any practical knowledge of the cultivation of soil? A little. I know what wheat is when I see it, and I know what land is, and what it ought to produce.

5109. How did you gain your knowledge of the suitability of land for cultivation? I have had no experience; but I have been mixed up in farming a little, because I have a little farm just for my horses. I know what good land ought to do, and I know bad land.

5110. You consider yourself thoroughly competent to judge good pastoral land, and good agricultural land? I am one of the best judges of good land in Australia, because I have been brought up here in stock-rearing. If you want to rear a bullock you have to rear him on good land, otherwise you would not get a bullock.

5111. You unhesitatingly state that on the proposed line from Dubbo to Coonamble there are 60 miles of country useless for agriculture? Sixty miles of all sandy country.



Henry Crossing, commission agent, Mudgee, sworn, and further examined :—

- H. Crossing.  
10 July, 1899.
5112. *Mr. Trickett.*] I understand that you wish to correct a portion of the evidence which you gave here? Yes. I find that the country for 15 miles on each side of the proposed line between Gulgong and Mudgee gives an area of 380,000 acres. In my evidence I spoke of only 5,000 or 6,000 acres in that area being suitable for cultivation. I wish to withdraw that statement, and to say that I think 30,000 acres in that area, are suitable for cultivation.
5113. How much of that area is under cultivation? I should think about one-fourth or one-third.
5114. Do you still attribute the non-cultivation of the remaining three-fourths to the fact that the land is used for dairying purposes largely? It is used a good deal for grazing.
5115. *Mr. Watson!*] Do you say that 20 miles from a railway is too far from market? It is a good way to draw stuff. Grazing is more profitable at present on that land.
5116. *Mr. Trickett.*] The evidence is that it will pay men to cart their produce from 20 to 25 miles to a railway-station? It will pay sometimes. I do not think there is much in wheat-growing when it has to be carted 30 miles.
5117. Is much of the land between Mudgee and Gulgong Crown land? No, there is not a great deal of Crown land.
5118. Seeing that agriculture is advanced as one of the strongest reasons for the construction of a branch line to Coonamble, either from Mudgee or from Dubbo, could you give any explanation why, out of an area of 30,000 acres suitable for agriculture, and within 15 or 20 miles of Mudgee railway-station, a larger area than 7,500 acres is not used for wheat-growing? No, except that it is on account of a great deal of the land being used for dairying purposes. I have a good deal of land down here which I do not cultivate. Perhaps I do not make as good a use of it by grazing; but I can get a good return out of the land by grazing, and at much less expense and trouble.
5119. What would be the value of freehold land, say, 10 miles out from Mudgee? Close to Mudgee there is a good depth of black soil, which is worth from £25 to £30 an acre.
5120. Five miles out from Mudgee what is it worth? I think good soil is worth £10 or £12 an acre; but the ordinary good wheat soil is worth from £3 to £4 per acre.
5121. As you get out Cobborah way, I suppose the land gets much cheaper? Very much cheaper. Just along the Talbragar there is some very rich black soil, but it is not so suitable for cultivation as the black soil on the river flats here.

Eugene Daly, butcher and publican, Mudgee, sworn, and examined :—

- E. Daly.  
10 July, 1899.
5122. *Mr. Watson.*] Have you been a long while in the district? About forty-five years, I think.
5123. Have you had any experience of agricultural pursuits at all? I have.
5124. Have you been engaged in farming? Yes; I have a farm of 65 acres on the river.
5125. Has your experience been confined to the river flats? Yes.
5126. Have you a general knowledge of the value of land for agricultural purposes? Yes.
5127. Do you know the surveyed route of the railway from Mudgee to Cobborah? I do not know the surveyed route.
5128. Taking a belt of country 40 miles wide from Mudgee to Cobborah—that is, 20 miles from each side of the line;—what proportion of that country do you think would be fit for agriculture—a fourth, a fifth, a third, or a half? I would not like to say how much there is. I know there is a great deal of good agricultural land on both sides of the road.
5129. You would not care to hazard an opinion as to what proportion of the land included in that area would be fit for cultivation? No; but from my experience of it I think the larger portion of it would be.
5130. You think, then, that the flat land and the gentle slopes predominate? I do; there is no doubt about it.
5131. Would you go so far as to say that all the land except the broken country would be fit for cultivation? I do. What would not be fit for wheat and corn is splendid land for vineyards and orchards.
5132. Do you know the land from Cobborah to Munderoran and on towards Coonamble? I have been out that way time after time.
5133. What is your opinion of that land? From Cobborah out close to Munderoran it is very good land; but just before you get to Munderoran there is a bit of land which is not quite so good; it is good pastoral land, but not agricultural land. Within about 6 miles of Munderoran it gets bad.
5134. From Munderoran onwards what is it like? On the other side of Munderoran, again, there is a small piece of bad land following the main road.
5135. Have you been off the main road at all? On each side.
5136. Consequently you have some idea whether the main road is anything in the nature of a criterion as to the quality of the land generally in the locality? In some places it is; in others it is not, because the high hilly ground has been followed so as to get good roads.
5137. In most cases the road would be rather worse than the surrounding country? That is my opinion.
5138. Do you know the carrying capacity of the land which is now used as pastoral land out in that direction? I was never a pastoralist. I have heard that in some places it carries two sheep to the acre, and in some places one sheep to the acre.
5139. Between Cobborah and Munderoran, according to the reports we have from the Lands Department, there is on each side of the proposed line a considerable area of Crown land at present untenanted;—can you assign any cause for that land being not used? Only that the land was not good enough for the pastoralists to take up when they could get better land; and then again that it was not good enough for farmers, being too far away from a market. That is the only reason I can assign. If there were easy communication there is no doubt that every inch of it would be taken up.
5140. On the eastern side of that route from Mudgee, *via* Gulgong, Cobborah, and Munderoran, right on to Tooraweena, where the head of the Warrumbungles is—on the eastern side of that route there is a backbone of ridgy country some distance to the east? Yes.
5141. It is supposed to be the tail end of the Warrumbungles? No.
5142. There is a general range on the eastern side of the projected line, broken here and there by creeks? Yes; on this side of Caigan there is a stony range.
5143. Taking that range generally, what distance, on an average, do you think there would be between the foothills of the range and the route which we spoke of just now to Tooraweena? In some places very

very close to 5 or 6 miles; in other places 8 or 10 miles, and perhaps further in other cases. It is according to the run of the range. As the range comes in the good land is narrower, and as it widens out the good land is wider. E. Daly.  
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5144. Do you think it would be possible, by taking a route considerably further to the east, to avoid close proximity to this range;—would you get the other side of the range I spoke of by going further to the east? I do not think so. I think you would come in between the ranges and the measured route.

5145. You would accentuate what seems to me to be the sole objection to the present route, that you would get closer to the foothills, and consequently have only one side from which to draw traffic? You will have traffic from both sides, no matter which way you take up.

5146. Where you made the foothills you would only have a trafficable area according to your estimates, of from 7 to 10 miles on your eastern side? In some places you would have 20 or 30 miles.

5147. But taking an average? I could hardly give that. I was never over the line to examine it in that way. I know there is a great amount of splendid country on the Talbragar, east of Cobborah.

5148. When you pass beyond that you carry the general range of hills on your right, at a distance of some few miles? Yes.

5149. From that point, then, you would only have to draw traffic from, broadly speaking, the area of land between the railway line and the foothills on the east? Yes.

5150. After you leave the good country which is on the Talbragar, in going towards Mundooran you would carry the ranges on the eastern side of the proposed line;—how far would you be there from the foothills towards Mundooran? It is mostly ridgy all through there; but still there is a good scope of pastoral land.

5151. From Mundooran on to Tooraweena you carry the Warrumbungles on your right generally? Yes.

5152. Can you say what is the distance there between the line and the foothills of that range? After you pass Mundooran you get rid of the ridges pretty well.

5153. They are still on your eastern side going up? Yes.

5154. How far off are they? After you pass Mundooran you open on to plains, except occasional hills.

5155. Can you not see hills all the way between Mundooran and Tooraweena? Yes.

5156. How far off are they, do you think? I could not say.

5157. You have not been over that portion so frequently as to say how far off they are? I have been that way a good bit. I generally have kept to the road.

5158. Taking the line from Mudgee to Cobborah, it will run to some extent parallel with the existing Western railway? According to the map it is 50 miles pretty well.

5159. With a general width of between 40 and 50 miles between the two lines? Yes.

5160. Do you think that the land between this projected line as far as Cobborah and the Western railway to Dubbo is sufficiently good to give a fair amount of traffic to each? I do, because wheat from there now comes to Mudgee by teams, and also goes to the Western line.

5161. Do you think, with the construction of a line onwards, but in any case to Cobborah, there will be a sufficient extension of agricultural and other productions to give traffic to two lines where now there is only one practically? I believe there would, because they would be fed from both sides.

5162. In this case you have 40 miles of country between the two lines, and what I wish to ask is, whether you think it is sufficiently good land to, in all probability, guarantee sufficient traffic to keep both line going? In my opinion it will—abundance.

5163. Assuming the line to be constructed from Mudgee to Coonamble, do you think that it would draw traffic as far west as the Castlereagh River at Gilgandra and onwards? Yes.

5164. There is some good land on the Castlereagh about there, I understand? Yes.

5165. Do you think they would be reasonably served by the construction of a line from Mudgee to Coonamble? I think they would.

5166. You think they could take advantage of it without having too great cartage, as long as the roads were good? They are sure to take advantage of it.

5167. Supposing the line to be constructed from Dubbo to Coonamble along the Castlereagh, do you think it would serve the country eastward of it to the point where the Mudgee-Coonamble survey would intersect it? The best land is on the eastern side. I know that the land from Gilgandra to Dubbo is very bad, sandy rotten country.

5168. There is some cultivation going on there now, is there not? I do not know; I have not been out that way for a great many years. When I went along there you had a job to get along.

5169. You do think that if the line were constructed from Mudgee to Coonamble the people on the Castlereagh, north of Gilgandra, would be served by that line? Most certainly they would.

5170. It would be sufficiently near, with decent roads to the stations, to be of advantage to them? Most certainly.

5171. Taking a line from Cobborah across to Nevertire, on the Western railway, as the base of a triangle, and then taking as the other two sides of the triangle a line from Mudgee to Coonamble and a line from Dubbo to Coonamble, and assuming a railway to be constructed from Cobborah to Coonamble, do you think that the country in between is sufficiently good to necessitate the construction of another branch line with a view to serving that country, and if so, where do you think it should start from? I do not know sufficient about it to say. I follow the roads in my travels pretty well.

5172. You were conversant with the general drift of stock and other traffic before the Mudgee railway was constructed? Yes.

5173. Was the traffic for Coonamble, Walgett, and that district generally, mostly drawn through Mudgee? All through Mudgee.

5174. Was this the general highway for traffic? Yes; that is, what helped to make Mudgee a township. This was the great centre.

5175. Thence it went on to Sydney? Yes.

5176. As far as Mudgee is concerned, has there been any alteration as regards the disposition of traffic since the construction of that railway? A lot; since the Western line has been constructed cattle and sheep which used all to come this way are trucked at Dubbo, Narramine, and all along the line. They take the nearest trucking point. It is the same with agriculture.

5177. How far out do you think the influence of the Mudgee line would extend as regards attracting stock traffic or agricultural produce? Right away to Coonamble and Walgett. It is the shortest route, and they are sure to come that way.

5178. Notwithstanding the diversion you spoke of a few moments ago? Yes.

5179.

- E. Daly. 5179. It still comes to Mudgee? Yes.  
 10 July, 1899. 5180. Whence is that portion drawn which has been diverted to the Western Line? From Coonamble, and from the country lying in between Coonamble and Mudgee, and in some seasons the wool has gone from Tundaburine across to Dubbo.  
 5181. Would it be fair for me to assume that although a certain portion of the traffic from Coonamble and the country between Coonamble and Mudgee has been diverted to the Western Line, yet the greater quantity still comes through Mudgee;—is that what you wish to convey? Yes.  
 5182. Is it not a disadvantage to travel fat stock a great distance by road? A very great disadvantage.  
 5183. Consequently the temptation will be to those who have fat stock to make for the nearest point on the railway line, no matter if it meant a slightly increased carriage once the stock was trucked? Yes; but not at all times. In very good seasons they would travel.  
 5184. The enclosing of land is making it difficult to travel fat stock with any chance of keeping the condition on them? Yes; they make for the nearest railway station.  
 5185. That would account for some of the diversion of traffic you spoke of a little while ago? Yes.\*

James Loneragan, storekeeper, Mudgee, sworn, and examined:—

- J. Loneragan. 5186. *Chairman.*] What are you? I am a storekeeper, resident in Mudgee for seventeen years.  
 10 July, 1899. 5187. *Mr. Shepherd.*] As a storekeeper, I suppose you are engaged generally in purchasing produce, and all that kind of thing? Yes.  
 5188. What is the chief produce you purchase here? Wheat, corn, hay—all kinds of produce, except stock.  
 5189. How far from Mudgee, as a rule, are you supplied with these products? Seventy miles.  
 5190. In the direction chiefly of Coonamble, I suppose? We draw produce, chiefly wheat, from Mundooran, and round about the Mundooran district and Coolah, and from about the Coolah district. That is the extent of our operations. It is about 70 miles from Mudgee.  
 5191. What is the average yield of wheat per acre? Twenty bushels to the acre last year would be the correct average for the entire agricultural district, but previously the averages fell to as low as 10 bushels. The ordinary average would be about 16 or 17 bushels.  
 5192. You really had a larger average last year than usually? Yes; last year was above the average.  
 5193. What would be the yield of maize? The maize crop was practically a failure the last two or three years. In a good season the average crop would be about 50 or 60 bushels. I do not think it would average 20 bushels last year.  
 5194. And what is the yield of hay? I cannot speak so well of hay. Lucerne hay is what we deal in. We bought largely in lucerne hay this year. You understand that lucerne hay offers three, four, or five cuttings in the year, averaging about a ton per acre at each cutting.  
 5195. Are the agricultural holdings, as a rule, large in the various districts which supply you? No; they are generally small.  
 5196. About what extent are they? They run up to 300, 400, or 500 acres; in exceptional cases they are larger.  
 5197. Do you mean that they cultivate that, or is that their entire holding? Generally speaking, the farming is conducted about here by a small class of settlers. The large wheat-grower is not known in this district; he is scarcely in evidence yet. The large holders are just about beginning to cultivate large areas of wheat.  
 5198. About 70 miles, I suppose, is considered almost beyond a payable distance to cart? It is pretty well a prohibitive distance to pay for carting.  
 5199. About what distance from a railway do you consider would be a fair thing to farm successfully? Taking one season with another, wheat should be made to pay, and, as admitted by the farmers, is a payable enterprise 30 miles from a railway.  
 5200. What is about the usual price of wheat here? Last year it was up to 4s. 8d. a bushel here. This year the extreme price we have paid for wheat is 2s. 8d.  
 5201. Are you pretty well acquainted with the country between Mudgee and Coonamble? No; I cannot speak about the country except to Gulgong; I was never beyond Gulgong. I know nothing of the country between Mudgee and Coonamble, except from hearsay.  
 5202. You are not engaged in agricultural pursuits? Not at all.  
 5203. So that you are hardly prepared to give an opinion as to the quality of the country? I could not give an opinion at all.  
 5204. What is the agricultural population of Mudgee? I think about 10,000 or 11,000 in Mudgee proper, and about 7,000 or 8,000 in Gulgong.  
 5205. Do the farmers seem pretty well satisfied with their prospects? They are very well satisfied in this district with their prospects. The last few seasons have been fairly good; this district has been favoured.  
 5206. What effect do you think the opening of a railway to Coonamble would have on the farmers along the road? I think it would do them a lot of good. It would open up a splendid portion of country, so I am told. There are a number of farmers that I know pretty well through business. They speak very hopefully of a connection between Mudgee and Coonamble. They seem to think that if the country along the route between those points were opened up it would benefit their circumstances very much.  
 5207. Do you think it would induce a much larger area to be put under cultivation? I feel certain that it would. Personal friends tell me, and unhesitatingly state, that if they had railway facilities they would open up a large tract of good agricultural land, which they own, and which they are using just now for sheep-farming or stock-raising.  
 5208. In what part of the country are these holdings situated? I speak of the country from Cobborah out towards Tooraweena, chiefly. That is a portion of country with which we have a large business connection.

5209

\* NOTE (on revision):—All I wish to add is that the Mudgee line is the best in the interests of the whole Colony, and the most direct and the shortest line.

5209. All along the line we have been led to suppose that a very large additional area would be put under cultivation in the event of this railway being made; but you have already heard the question put and answered in reference to the area under cultivation in the immediate vicinity of the railway to Mudgee—that is, between Mudgee and Gulgong;—it would appear to be rather disappointing if we take that fact into consideration that there is so little land under cultivation, comparatively speaking, where the people have the advantages of a railway? That matter requires explanation. Mr. Crossing failed to go into that matter in the way in which, I think, he should have done from his knowledge of this district. Speaking personally, he could have stated that he is the owner of 20,000 or 30,000 acres of splendid land, every acre of which is possibly fit for the plough. This is an indication of the land which is held between Mudgee and Gulgong. It is all held by private people, who practically use it for sheep-farming, who have not devoted their attention to agriculture at all with the exception of a little on the river banks. The line goes through the Lowes' land, Cox's land, the Rouses' land, right on to Gulgong, and all this land is practically held for sheep-raising. So that Mr. Crossing was correct in stating that within a radius probably not more than 15,000 acres were used for agricultural settlement. Outside of probably 5 miles from the projected line, on either side, the farmers come in, and they have held their lands under the Land Act of 1861, so that Mr. Crossing was practically right in what he said.

J. Lonergan.  
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5210. Do the people, the farmers particularly, seem to be fairly well off? Yes; the farmers in this district are fairly well off.

5211. Is there any other industry besides those you mentioned which is likely to spring up on a railway line between Mudgee and Coonamble? You know when rich agricultural country is opened up it offers settlement for a large number of people, who are necessary to look after the interests of the farming population. I am perfectly sure it will keep a large population round about small towns, such as Cobborah and Mundooran and Merrygoen, which would grow in importance. To illustrate my meaning I would state that Mundooran, or a position somewhere about Mundooran, should offer settlement large enough to support a population in a very few years, if the line were run out, equal to the population of Mudgee, because it is the centre east and west of a large district. And to illustrate that point further I would make this statement: That the line must some day or other go out from Mudgee in the direction of Coonamble. If you construct a railway to Coonamble from Dubbo or Warren, you certainly will not meet the necessities of the people living between Gulgong and Coonamble, particularly on the eastern side of the projected line. It is necessary in the interests of the settlers, and in justice to settlers I take it, that that large important area of country shall be opened by a road, and there is no better means of opening it than by railway. It is well known that through that important district grass is growing on the road. There is no such thing as a macadamised road, except in places between Mudgee and Cobborah and Mundooran. Beyond that, of course, there is no such thing as constructed roads, so that the people have to do the best they can to get their stuff to market.

5212. Then, apart from all private considerations, you think in the interests of the country generally a line from Mudgee to Coonamble would serve the country better than a line from Dubbo to Coonamble? Certainly.

5213. Is there any further information which you can give? I, with other gentlemen in the town, am connected with the milling business. We have a fairly large concern going. We require a very large amount of wheat in the year. We require at least 60,000 sacks of wheat to keep the mill going. The utmost we have been able to get here—that is, at anything like a price which would enable us to compete and sell our flour in Sydney—up to the present has been about 32,000 or 33,000 sacks; so that practically we have not enough within 20,000 sacks of wheat to keep our mill going. I also wish the Committee to understand that we are only working half the day, so that our mill is idle twelve hours out of twenty-four. If we had a railway out to Cobborah it would give us enough wheat to keep this mill going, and we could make it pay, and in the interests of the district, besides making a profit out of it ourselves, it would be very advantageous. We have to get this wheat occasionally round by Wellington from a portion of the district. That would be a feeder to this Mudgee-Coonamble line—that is, Spicer's Creek. We have had several thousand sacks—as high as 20,000 last year—out of that district by road and by rail, round by Wellington, *via* Wallerawang, to Mudgee. We are placed at a considerable disadvantage in working this mill and making it pay, and I am only emphasising what is felt by the other millers in the district. Then, again, we have drawn wheat from Mundooran; but we have to pay the farmers in Mundooran a little more to attract that wheat here than we pay the farmers here, so that practically we are losing by our trading with districts so far away as Mundooran by road carriage. To cart this wheat by road costs 9d. a bushel; but for that distance it could be brought in for about 2d. a bushel by rail. There is another direction in which our district would receive a great benefit by opening up a connection with Coonamble. Coonamble is very much drier than Mudgee; the rainfall is not as heavy. In that very dry country they cannot grow hay except in a fairly moist season. This year we are sending chaff and hay out there, and if we could get cheap and speedy means of travelling, such as a railway would afford, we could send out larger quantities. It practically does not pay us to send forage by road out as far as Coonabarabran or Coonamble to feed starving stock. We have to pay £3 10s. a ton for the carriage of chaff; we are paying it now practically to Coonabarabran, and to between Coonabarabran and Coonamble, and we are sending out there large quantities of it. The growing of lucerne hay is a very important industry in this district, perhaps the next to wheat from an agricultural point of view. We are buyers, and we sent out of the district this year quite up to 2,000 tons. A great deal of that lucerne hay has gone to Bourke *via* Wallerawang. If the line were open to Coonamble we could send lucerne hay out into the Coonamble district. We have sent great quantities of it there. I know that stuff we have sent out of the Mudgee district as far as Nevertire has gone into the Coonamble district. Speaking from recollection, I think we must have sent along the line this year between 700 and 800 tons of lucerne hay alone.

5214. *Mr. Watson.*] This is an abnormal season, as far as the west is concerned, for fodder requirements? Yes; I have not seen the like of it since 1869 and 1870.

5215. Supposing the line to be constructed, it would be seldom that there would be anything like the demand for fodder in the west that there is this year? The demand may be a little every year; but certainly this has been an exceptional year, and the demand has been extraordinary.

5216. Assuming a line to be constructed from Dubbo to Coonamble, do you think it would pay to take another line from Mudgee to Cobborah, with a view to opening up the country between Mudgee and Cobborah

J. Loneragan. Cobborah and the country on the Talbragar east and west of Cobborah? It would benefit Mudgee probably better than if the line were constructed on to Coonamble. You mean if a line were sent on to Cobborah through Mudgee, and then connected with Wellington or Dubbo?

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5217. What I meant to ask was: Do you think a line would pay from Mudgee to Cobborah on its own? I think so; it would be just fringing the very good country I spoke of. I am led to believe that the country beyond Cobborah as far as Tooraweena, perhaps beyond Toeraweena, is magnificent for agriculture.

5218. From Mudgee railway station, what would be the average distance to these estates between Mudgee and Gulgong belonging to Messrs. Cox, Rouse, and Crossing—10 miles? The line will run pretty well right through the whole of them.

5219. Do you think that these gentlemen who, though within a comparatively short distance of railway communication, have not gone in for agriculture, would be induced, if a line were taken through there, to open their lands for agriculture? Mr. Richard Rouse, of Guntawang, from whom we have been buying wheat, told me last week that he could make the land pay very well if he had the advantage of railway communication.

5220. How far is he from the existing line? He has to cart 18 miles.

5221. He seems to think that he is almost too far away to make wheat-growing pay? It is only this last season that he has gone in for wheat-growing.

5222. Do you think the construction of a railway from Mudgee to Gulgong will ensure an additional area being put under crop on these large estates as compared with what is being done to-day? I have not the slightest doubt of it. It will pay better than anything else. It will pay a man better to go to the expense of clearing a large tract of country if he has the advantage of railway communication at his door, and it will certainly induce him to go in for wheat-growing sooner than if he had to cart the stuff 18 miles. Mr. Rouse has been sheep-farming and stock-raising all his life, and I take it that he would not care to go out of the ordinary method of making money, to get rid of his stock and go in for agriculture, unless he has great advantages over what are offered at present.

Thomas James Lovejoy, Council-clerk, Mudgee, sworn, and examined:—

T. J. Lovejoy. 5223. *Chairman.*] Have you prepared a statement for the information of the Committee? Yes.

10 July, 1899. 5224. Will you read the statement? The population of the town is about 2,700; the value of the rateable property is £280,946, and the area of the borough is a mile square.

John Henry Toose, commercial traveller, sworn, and examined:—

. H. Toose. 5225. *Mr. Dick.*] Do you desire to make a statement in reference to the construction of this railway? I do.

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5226. Will you kindly make that statement? I have been along the line from Dubbo to Coonamble and seen the country; also from Warren to Coonamble and from Coonamble under the Warrumbungle Mountains and round Gulargambone to Gilgandra. Speaking as a traveller, I should prefer the line to go *via* Mudgee to Coonamble, principally on account of its shorter distance,—from 30 to 40 miles as far as I can judge from the map, which means to a traveller from about an hour to an hour and a half extra time in the train. The line from Mudgee to Coonamble will divide the country between the Western railway and the northern railway. I suppose the objective is Walgett.

5227. No? I should say it will considerably relieve the Western line, and also to a certain extent the Northern line, both of which lines are, from our knowledge as commercial travellers, congested, and ultimately, or before very long, to make it safe for travelling, the Western line will have to be duplicated as far as Dubbo, whereas if this line goes from Mudgee to Coonamble it will obviate for some considerable time the duplicating of the Western line from Wallerawang to Dubbo. It will also cause the Wallerawang-Mudgee railway to be made to pay; hitherto it has been a loss to the country of about £30,000 per annum, according to the Commissioners' report. It will cause the stock, wool, &c., grown in Coonamble and round Coonamble to be more accessible to the Sydney market, at least two hours nearer to the Sydney market. It will open up country which is better than the country from Warren to Coonamble, or from Dubbo to Coonamble. The population, I should say, out from Mudgee to Coonamble is double that on the line from Dubbo to Coonamble. As a traveller—as an independent person with no interest to serve—I think the line from Mudgee to Coonamble will serve the country better, being a parallel line opening up better country and serving a population of two to one, than the projected line from Dubbo to Coonamble. I do not think there is anything further that I want to say. I have thought about the matter as I have been travelling through the country.

5228. You prefer the Mudgee line to either the Dubbo line or the Warren line? Yes.

5229. Do you know the country from Dubbo to Coonamble and the country from Warren to Coonamble? Yes, intimately. I have been all through it.

5230. You have a knowledge of the country traversed by the three different routes? Yes.

5231. You stated that this Mudgee line would serve a larger population than the Dubbo line? Yes.

5232. As you have been a long time on the roads, can you tell us from your observations whether the population has increased more rapidly along the Mudgee-Coonamble line than along the Dubbo-Coonamble line;—is there a greater ratio of increase on the Mudgee line than on the other? I should say the increase at present has been in favour of the Dubbo-Coonamble line, but mainly owing, I presume, to the country being opened up there; more selections have been thrown open along there, and greater impetus has been given to farming along that line than along the Mudgee line.

5233. *Mr. Watson.*] This is the longer-opened district? Yes; it seems to me all over the country old mining districts are very slow in going into agriculture.

5234. *Mr. Dick.*] In what way do you think this Mudgee line will relieve traffic on the Northern line? Certain wool will go into Coonamble, which at present goes on the Northern line. Wool within a distance of 30 miles will go to Coonamble instead of going to the Northern line.

5235. Is there ever any congestion of the wool traffic on the Northern line? We know that we get constant stoppages as travellers; we are often half an hour, or a quarter of an hour, sometimes two hours late.

5236. I think you said that the shorter distance means saving an hour to the commercial travellers? An hour at the very least.

5237.

5237. Would they travel as fast along this line from Mudgee as they would on the main line? It would give this line an accelerated service. J. H. Toose.
5238. *Mr. Watson.*] You say that out under the Warrumbungles it is excellent land—from the foothills for some miles towards the west? Yes. 10 July, 1899.
5239. Do you think the good land near the Warrumbungles would be within a reasonable distance for cartage to a line from Dubbo to Coonamble? No doubt it would; but it would be a big tax upon them; it would hardly pay unless it was to supply back country in time of drought, because they have a better rainfall along the Warrumbungles than along the Coonamble line, or along the Castlereagh.
5240. Do you think they would require to get the better prices to be able to take advantage of a line going along the Castlereagh than they would if served by a line running from Mudgee? Undoubtedly.

Denis Barry Acton, stonemason, Mudgee, sworn, and examined:—

5241. *Mr. Dick.*] I believe you have a practical acquaintance with the mineral resources of this district? Yes; not so much the minerals as the stone. D. B. Acton.
5242. Will you kindly give us the benefit of your experience in that particular line? Recently, close to Mudgee we have tapped a slate quarry. We have sent samples of that slate to the Public Works Department; it has been tested there, and declared to be equal to the best Welsh imported slate. I have some rough specimens of the slate here, which I shall be pleased to show the Members of the Committee. 10 July, 1899.
5243. How far is the slate quarry away? It is 12 miles west from Mudgee. Close round the town we have material of all kinds necessary for the construction of a railway that can be very cheaply got—stone of all kinds and marble. We have marble mountains here almost equal to the famous Carrara marble mountains, that is in quantity for the production of the very best class of lime. It is a pure marble lime. I believe it is the best lime in New South Wales; in fact, it is the best lime I have ever seen except the famous Irish lime which may be better.
5244. At what price can you supply that lime to the Sydney market? We can sell it here in Mudgee at 6d. a bushel—about 17s. 6d. a ton.
5245. How much does it cost, with carriage and other expenses, in Sydney? I do not know the rate of carriage between Mudgee and Sydney.
5246. Do you think there is any prospect of opening up a large industry in the way of lime-making? If the quarry were taken in hand by practical men, I have no doubt but that a large industry could be established here in making lime. Unfortunately in the past the quarries have been in incompetent hands.
5247. What is the Sydney price for good lime now? About 26s. a ton. We have a superior lime in the bulk. Our lime is lighter than the Sydney lime.
5248. Is marble to be found in this quarry suitable for ornamental purposes? No; I do not think it would ever be of much value for that purpose.
5249. Have you anything else in the way of stone deposits? Along the road, as far as 25 miles on the other side of Gulgong, the material for the construction of a railway is very good and very handy. There is some beautiful stone out on the other side of Gulgong, and the material for brickmaking in Mudgee, and in Gulgong, and out on the other side of Gulgong, is of the very best description. About 14 miles from Gulgong—I suppose it will be about 6 or 7 miles from the projected railway—I believe there exists a great bed of coal. I speak from my experience of a quarry of freestone. The freestone there is identical in color, quantity, and quality with the freestone at Waratah, in Newcastle district, and between the beds of the freestone, even on the surface, we find light seams of coal. In the country I came from, in Ayrshire, in Scotland, exactly the same conditions exist on the top of the coal. Everything appears to be identical with the great beds of coal I have seen elsewhere. I think a very valuable bed of coal will be found on Crown land just out on the other side of Gulgong.

Hon. George Henry Cox, M.L.C., sworn, and further examined:—

5250. *Chairman.*] You desire to make a statement to the Committee? Since I was examined by the Committee some weeks ago, I have been in communication with the various gentlemen through whose properties the proposed line from Mudgee to Coonamble will pass. I think I have already stated that two or three of them will give the land free. I put in a letter to that effect from Mr. Richard Rouse, from Mr. Atkinson, and also, I think, from Mr. Lowe. The two Rouses, of Biriganbil, will also give their land free. But one of the largest owners of land (Mr. J. L. Brown), is near Tundaburine and Caigan. I understand from Mr. Brown that the line will run for about 10 miles through his property. He is prepared to give the land for a line, 3 chains wide through his property; but for any land beyond that width he will expect to be paid. Three chains, I think, is the usual width for a line, except where there are stations and sidings. I have been endeavouring also to get the land through the smaller holdings beyond, but I am not in a position to state what the owners of the land there will do. Not knowing exactly the route which the proposed railway will take it is somewhat difficult to get this information, because I think it will be found, in the event of this line being projected, probably a new survey will be required; and I fancy they will keep a little more to the east than does the line laid down in the chart. It will get into very much better country; it will get more towards the Warrumbungle Mountains where the country is particularly good, and it will not increase the distance perhaps more than 4 or 5 miles. Hon.  
G. H. Cox.  
10 July, 1899.
5251. *Mr. Trickett.*] Would it be less expensive to construct it there? I think it would be less expensive because it is nearer the head of the creek; the creeks would be smaller to cross.
5252. *Mr. Watson.*] The greater portion of the land which it would be necessary to resume or have given to the Government lies between Mudgee and Cobborah, I think? Yes.
5253. Beyond that I fancy either Crown lands or railway reserves will be almost solely used? Till you get to the Castlereagh, when you get into this land I speak of belonging to Mr. Brown. He has a very large estate of many thousand acres.
5254. According to the map furnished by the Lands Department, it would appear that after you leave Cobborah the surveyed route follows either Crown lands or railway reserves, with the exception of a very few miles? It is so.

WEDNESDAY,

WEDNESDAY, 12 JULY, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

John Spencer Brunton, President, Sydney, Chamber of Commerce, sworn, and examined:—

J. S. Brunton. 5255. *Mr. Trickett.*] You are President of the Chamber of Commerce? Yes.

5256. You are also the proprietor of the large flour-milling works known as Brunton's Mills? Yes.

12 July, 1899. 5257. You have some information prepared, I understand, as to the railway rates between Dubbo and Coonamble and Sydney? Yes. I understand from the message I received that I was to give evidence as to the probable effect upon settlement of a line from Dubbo to Coonamble. So far as rates are concerned, I do not know whether, if the proposed railway were constructed, there would be local or special rates, such as exist on the line from Jerilderie to Berrigan, and upon other new lines. The rate from Dubbo to Sydney—a distance of 279 miles—would be 12s. 4d. per ton, the equivalent of 4d. a bushel; and upon a line from Coonamble to Dubbo—a distance of 93 miles—the same rate would be 7s. 10d. per ton, or 2½d. per bushel,—that would give a total of 6½d. per bushel to Sydney, or 20s. 2d. per ton. It must be borne in mind in connection with the grain rates that when you get over 300 miles the extra rate for about 100 miles would not exceed about 1s. a ton. I have so far dwelt with the maximum rate; but assuming that the Commissioners fixed a local rate of only 2s. 6d. from Coonamble to Dubbo, that would bring the charge down to 5d. per bushel, or 15s. 7d. per ton; that would be the through up-journey rate. But if the rate were fixed as the through rates which now exist from Hay, Corowa, or Wagga, it would come to only 4¾d. per bushel, or 14s. 10d. per ton.

5258. What are the conditions which would make the rate 6½d. per bushel from Coonamble to Sydney? The existing rate from Dubbo to Sydney is 4d., and a similar rate on the new line would run the charge up to 6½d. I may say that I have no interest in the district at all; but I know that, as a miller, I would sooner give a penny a bushel more for wheat grown west of Wellington than for wheat grown in Riverina. That is accounted for by the virgin soil in which the wheat is grown, by the quality of the wheat—which, of course, depends upon favourable seasons—produced by virgin soil, compared with the rather worn soils of Albury and Wagga, where the wheat for the past few years has been a failure as far as quality is concerned. I know the western wheat-growing districts as far as Narromine, and I know that there has been a large increase of the area under wheat. We have been buying all the wheat we could this last year from the district between Wellington and Narromine. I received 25,000 bags of wheat this year, and I should think the whole range of country from Dubbo to Coonabarabran would be good wheat-growing country. I know the Mudgee line also to some extent; but I do not think the wheat grown there would be likely to be of as good quality as the wheat grown further west. It would correspond more to the northern wheat. The junction at Dubbo would put the wheat-growers upon the proposed line in touch with a very important market at Bourke. In bad seasons, particularly, it would be a splendid market for fodder, bran, and such produce. As showing what we think of the district, we recommended two men who were in our employ for many years to put all their money into a mill at Wellington, which they bought a few months ago. As to the price of wheat, I might mention that in 1895 it was lower than it had been for 100 years, and yet the farmers managed to grow profitably at 2s. a bushel. Although the price was low, they had rather a fortunate season. Notwithstanding the low price, there were pastoralists in Riverina, Mr. MacFarlane of Barooga, and Messrs. Horsfall and Carrington, and others who were farming on the halves system, who had fair return. Since then the market in Australia has been influenced by local conditions. Owing to the failure of crop, the price of wheat went subsequently up to the price of import value, namely, 4s. 9d. or 4s. 10d. a bushel. A rise of nearly 100 per cent. was brought about through the beginning of the run of bad seasons, which began in 1895 as far as wheat-cultivation is concerned. Since then the market has eased back to an average of 4s. Last year, through the scare brought about by the Spanish-American war, which has an appreciable effect upon such a sensitive article as breadstuffs, the price jumped up again; but since then the market has been eased off under the influence of the London market, Australia being an exporting country. Although we do not ship wheat from this Colony, the Victorian and South Australian markets are dependent upon the English market prices, and the price of wheat here is fixed by the price at which it can be landed from Melbourne, the freight being about 2d. a bushel. With our increased cultivation we should have to be guided in price by the London market. The Commissioners have imposed rates which have given every encouragement to settlers upon the virgin soil of which I have spoken. In Victoria, where there are higher rates for shorter distances, we do not hear of any complaint on the score of rates. The rates have been imposed here in pursuance of the policy of the Railway Commissioners in developing and creating settlement in the back country. I suppose the average price of wheat for the last five years would be about 3s. 9d. per bushel, or about 3s. 3d. a bushel up country.

5259. What is the price this year? 3s. per bushel at Sydney. It started at 2s. 8d. per bushel, and it has advanced during the past few months on account of rather bad American crop prospects. The market, however, is now easier, and I do not anticipate much change in price between the present time and the end of the year. Our exportable surplus up to now has been less than 1 per cent. of the United Kingdom requirements, as against 64 per cent. supplied from America.

5260. The inference to be deduced from that is that there is plenty of room for expansion in our export trade? There is no doubt of that. We shall have to be ruled by the English market, and the English price is dependent upon a great many factors. For instance, there may be a failure in the American crop, and that would have a big effect upon the wheat market. There are a number of factors which are calculated by wheat merchants and buyers in London.

5261. When the Committee were recently in the district affected by the proposed railway we were informed

- informed by farmers and others that if the producers could get 2s. a bushel for wheat locally, it would be a paying price for them;—the figures you have quoted seem to indicate that that would be the case? Yes.
5262. They said they would do well if they got 2s. a bushel for the wheat at the barn? That seems to me to be rather a low price; still, if they say so, I daresay it is the case. But with wheat at 2s. a bushel, they would have to get an average of from 14 to 15 bushels an acre to make the crop pay. Last year the crop averaged about 7 bushels; at 2s. a bushel, that would represent 14s. an acre, and I suppose it costs them from 15s. to £1 an acre to plough and market. Bags are now 6d. each.
5263. The prices you have quoted indicate that in many years the farmers would get more than 2s. a bushel? Yes; 2s. a bushel was the lowest price which had obtained for 100 years. It was thought at one time that wheat-growing here would die out, but, if even that were the case, there would always be stock and other forms of produce to take its place, and we are so situated that when there is a failure in one part there is a crop in another. The good prices the farmers have received during the past few years have been due, not to the Home market, but to our own misfortunes.
5264. Are you able to say, from your large knowledge of the subject, that wheat-growing has been a profitable undertaking for a series of years by the wheat-growers in Victoria? I should say that it had been. For the last three years they have had a failure. Victoria this year had a crop of 19,000,000 bushels, and the highest crop they ever had before was 14,000,000 bushels. I am able to say, from being brought into touch with wheat-growing in this Colony, that in the past two years there have been marvellous developments in farming, especially down on the southern side—in the direction of Albury, Corowa, and Cootamundra. They have suffered, more or less, like everyone else, from the bad seasons, but they seem to be holding on all the same. Notwithstanding the bad season, the area under wheat this year is larger than it ever was before.
5265. *Chairman.*] It has been reported to the Committee that the holders of land which is now carrying sheep would eagerly put it under wheat if there were railway communication between Dubbo and Coonamble? I do not think there is very much doubt about that. The trouble has been the want of railway communication and the consequent cost of handling. The experience of wheat-growers in Riverina has proved that that form of production has two advantages. In the first place, it clears the land; they take two crops off it, and they then put in lucerne. They then give to the farmers on the halves system other land to break up, and that is worked for three or four years; so that additional land is constantly being brought under cultivation, both for wheat and lucerne.
5266. *Dr. Garran.*] Of course, to buyers in town it does not matter much whether the railway to Dubbo has to go over bad grades or not;—all that you are concerned with is the price? Yes.
5267. It is the business of the Railway Commissioners to ascertain whether they can carry the wheat at a profit over the steep grades; but the Colony is placed at a great disadvantage in having to cross such rough country with its railway, so far as the wheat-growing land to the westward of the Blue Mountains is concerned? There is no doubt about that.
5268. Other great wheat-exporting countries, such as Southern Russia and America, have no such difficulty to contend with? No; in the case of America there is water communication from Lake Superior down to New York.
5269. And in the case of Victoria there are no difficulties of communication between the Murray and Melbourne, such as those with which we have to contend in this Colony? That is so.
5270. So that the farmers on the other side of the Blue Mountains, who have to sell in Sydney, are at a great disadvantage in having such rough country to cross with their produce? Certainly; it is a question of freight—the price at which the Railway Commissioners can make the carriage of wheat pay over the high grades.
5271. If we are going to construct a railway with the object of settling people upon the land as wheat-farmers, we have to look to the probable permanency of that form of settlement, and it cannot be permanent unless the farmers can grow wheat at a price which will stand competition in the markets of the world? That, of course, is admitted.
5272. In this Colony we are nearly producing up to our requirements, and if we go on in the ratio in which we have been progressing during the last five years we shall soon be an exporting colony? Yes.
5273. And then Mark Lane will rule prices? Yes.
5274. From what you have seen, do you think that farmers between Dubbo and Coonamble could stand that competition? I can only say that at Narromine during the past three years there has been a marvellous development in farming. I know that in one case we have stored on farmers' account 4,000 or 5,000 bags of wheat, for which the growers have not drawn 1s. in advances. Beyond Nevertire it is doubtful whether the soil is as suitable for wheat-growing. It is a little outside of the rain-belt. But up to that point I do not see why wheat could not be profitably grown.
5275. There is a good district between Dubbo and Narromine? Yes.
5276. How long have the oldest farmers been growing wheat there? I cannot say exactly. The Wellington district is a very old-fashioned, conservative district, and it is only within the past few years that there has been any appreciable development there. Mr. Barton, of the Commercial Bank, four or five years ago, took over a property and turned it into a wheat farm. They are now cultivating upon it from 8,000 to 10,000 acres.
5277. Do the oldest cultivators in the district between Wellington and Narromine show any signs of exhausting their land by wheat-growing? No; the rich chocolate volcanic soil cannot be exhausted, I think, in that way.
5278. You have been buying wheat from that district? Yes.
5279. Do you see any difference between the wheat from farms which have been under cultivation, say, ten years, and that from farms which have been under cultivation for only two years? No. The seasons, I think, have a great deal to do with the wheat. The wheat from the Western district is a full grain; in fact, I may say that the best wheat in the Colony has come recently from Dubbo, Wellington, and Narromine.
5280. But in the case of the Riverina wheat, I understand that you have noticed a distinct falling off in quality? Poor seasons and continual cropping have had their effect. The same thing has been noticed in South Australia, where the average crop is growing less and less.
5281. Do you see any sign of exhaustion of soil and deterioration of crop in the district affected by the proposed railway similar to that which you have noticed in the Riverina district? No; during the last few years they have had a run of good seasons in the west.



- J. S. Brunton. 5282. Do you think the quality of the wheat is accounted for by the seasons, or by the soil? By both, I think. I believe they have a rainfall of 24 inches at Wellington, and at Dubbo I am informed that the conditions are such that plenty of water is retained in subsoil.
- 12 July, 1899. 5283. I noticed from Mr. Coghlan's statistics that land in the northern and north-western districts produces more wheat per acre than does land in Riverina? Yes.
5284. And, according to your account, the wheat is quite equal to, if not superior to, the Riverina wheat? Yes.
5285. Do you think that land which has been cropped for, say, seven years in the Riverina is becoming exhausted, or do you think that the deterioration in the quality of the wheat is due to the weather? I think it is due to the seasons to a great extent. There is a good deal of settlement round about Albury and Culcairn. The soil there is getting dirty.
5286. Has that dirty soil merely the effect of mixing dirty stuff with the wheat, or does it deteriorate the quality of the wheat itself? The wheat is damaged by the intermixture of black oats and weed seeds.
5287. But they are separated? Yes; but that is discounted in the purchase. The buyer takes that into consideration.
5288. Is the wheat inferior? No; I have seen splendid wheat from dirty soil. It depends in a large measure upon the seasons.
5289. The land in Riverina, being light, is easily worked? Yes; they use disc ploughs there.
5290. Could they be used at Dubbo? Yes, equally well.
5291. When you speak of Riverina you speak of soil near Albury, I presume, which is red soil;—but the whole of the soil over Riverina is not so red? No;—down Berrigan way there is a sort of sandy loam.
5292. Is there any difference in the quantity of the wheat produced from those two soils? No; in good seasons both are similar.
5293. Although the soil is different? Yes.
5294. There is nothing to choose between the quality of the two wheats in good seasons? No.
5295. But the Berrigan soil would be more quickly exhausted than would the Albury soil? No; I think not. Mr. Horsefall tells me that there is a good subsoil. Looking at the sandhills round about Finley and Berrigan, you would not think them at all suitable for the growth of wheat. I have noticed the same kind of soil at Mulwala; but it seems to be very suitable for wheat-growing.
5296. You think, then, that if a railway were made between Dubbo and Coonamble, and a farming population were settled on the land, there would be a reasonable prospect of their being permanent settlers;—you think they would be able to grow wheat permanently at a profit? I do. In the first place, you put them where they would have the advantage of two markets, and that is one of the reasons why I advocate the Dubbo junction. They have made a good deal of money on the Western line to the west of Wellington during the last two or three years from the sale of hay and chaff. It has been sent principally to Bourke, where they have the market to themselves. If they came to Sydney they would have to compete with imported produce from Victoria, New Zealand, and other places.
5297. Their splendid market for fodder in the west has been due to the serious drought of the past four years? Yes. Unfortunately it seems to be rather the normal condition of things out there.
5298. Do you know, from your conversation with farmers, whether it pays them better to grow wheat for hay or for grain? It is purely a matter of price. This year, when wheat was down to 2s. 6d. a bushel, it would have paid them better to convert it into hay, because they would get a higher price for chaff; but if wheat ran up to 4s. 6d. a bushel, it would pay them, of course, to sell the grain. One reason of the great uncertainty in the production of our agricultural statistics is that they cannot be compiled until it is known whether the crops are to be converted into hay or grain.
5299. As long as there is a demand by the pastoralists to the west and north-west for flour, that would be a better market for the farmers between Dubbo and Coonamble than would Sydney? Yes; there would be an enormous market in Bourke and in the back country for flour. The only wheat we have received has been that which the local millers could not take. The farmers this year believed that, possibly, the market would advance, and they have stored wheat with us under storage conditions. We take it at a certain rate, and they risk the market.
5300. Do the local millers only grind wheat which they can sell in the west, or do they send any flour down to Sydney? They do send flour down to Sydney, but their best market is in the west. They send the surplus to Sydney.
5301. How much more would the farmer get while the market in the west was not overdone than he would get by sending the produce to Sydney? The local miller, to secure wheat for the west, could afford to give 1d. a bushel more than could the city miller.
5302. You think the difference would not amount to more than 1d. a bushel? No.
5303. Then the big market in the west is not a matter of supreme importance to the farmers after all? There will be always a demand for flour in the west, which could be supplied from the districts of which we are speaking. As matters now stand, with through railway rates, flour can come from the Murray right up to Bourke at low rates; but it is being pushed back every year. The Orange and Bathurst millers send flour out to the back country. There is now no mill between those points and Bourke; but when wheat is grown in the intervening districts mills will be placed there. There is no doubt about that.
5304. Still, if the difference is represented by only one penny a bushel, whether the farmer sells in the west or sells in Sydney, the market is not a matter of supreme importance to him? If the market were low, the farmer could, by holding, demand, perhaps, another 4d. a bushel for his wheat, and the local miller could get a supply for the western market as against the Orange and Bathurst millers. Perhaps I can illustrate what I mean by a reference to the Berrigan trade. There is always a fight there. The freight between Melbourne and Sydney is just about the same, and when the line goes to the border it will enable the Melbourne people to get Riverina wheat across their lines, and ship it to England. We have to draw the wheat a longer distance, and the Railway Commissioners will have to lower their rates if they want that traffic. At present the line from Jerilderie to Berrigan is unprofitable, and it may be that it will pay the Commissioners to let the grain traffic go, and rely more on other produce.
5305. I am speaking more particularly of competition between the western and Sydney markets as affecting the Dubbo farmers; even supposing the pastoralists' market in the west to be a good one, practically Mark Lane will settle the price for the Dubbo farmer just the same? That is so.
5306. So that, although the farmer at Bourke or at Tibbooburra wants flour badly, it is the Mark Lane price which governs what the miller will give the farmer? Yes. 5307.

5307. We have to consider that all these farmers will have to produce at the minimum rate? Yes.
5308. And do you think there will be a living for them at that rate? Yes.
5309. Do you know if they can grow wheat all the way from Dubbo to Coonamble, or for only two-thirds of the journey? I do not know the whole of the country; but I should imagine, from what I know of the tract of country across from Dubbo to Coonabarabran, that it would be a wheat-growing country all through.
5310. Gilgandra wheat goes into Dubbo at the present time, so that in buying wheat at Dubbo you may have purchased Gilgandra wheat? Yes; I remember now having seen particulars of wheat from Gilgandra.
5311. Have you ever bought any wheat from Coonabarabran? No.
5312. What is the maximum distance from a railway station at which the farmers from whom you have bought are situated? I should say that the furthest point would be Gunbar—that is, taking the distance from Gunbar to Carrathool. We obtain wheat from that district in good seasons, but we have had nothing from it lately.
5313. *Mr. Watson.*] What would be the distance? About 50 miles.
5314. That would be the extreme of road-carriage you think? Yes.
5315. *Dr. Garran.*] I remember that evidence was given some years ago before this Committee, that a farmer within 15 miles of a railway station was fairly well served? Yes; he would have nothing to complain about. Before the railway was extended to Berrigan all the wheat was carted from that district into Jerilderie.
5316. You have seen wheat grown in different parts of the world;—do you consider that our western-grown wheat is as good as the wheat grown anywhere for miller's purposes? Yes; it has the colour and the gluten in fair seasons. The southern wheat this year has the gluten, but has not the colour. The northern wheat has generally been the second wheat. The rainfall there is heavier, and up to the last two or three years the price used to range about 3d. a bushel below the Riverina and western wheat; but the last two or three years have been dry, and the consequence has been that the northern wheat has been a good useful mixing wheat.
5317. Has there been much importation of Manitoba wheat for mixing purposes? No. The flour, which came here two or three years ago for the first time, was used principally for mixing with the weaker Californian flour. There is now a difficulty in selling it on account of the good quality of our local flour. It is not likely that the baker would give so much more for it if he did not get a better price for his bread.
5318. *Mr. Watson.*] When the flour of which you have just spoken was first imported, there had been a failure of crops here? Yes; some of the imported wheat was taken over the mountains to Vancouver, and another portion of it came to us *via* New York.
5319. *Dr. Garran.*] You imported it for mixing purposes? Yes; for bakers to mix with the softer Californian flour.
5320. The mixing of the different flours has the effect of making a better flour? Yes; that is why town flour usually commands a higher price than does country flour, made with only one particular kind of wheat.
5321. Taken separately, which is the best bakers' wheat—the southern, western, or the northern? I should say this year the western would be the best.
5322. *Mr. Watson.*] Usually the southern wheat is very good? Yes. There is one point I should like to mention to the Committee. I hope they will not lose sight of the advantages of the western market to the producers on the proposed line of railway. It means far more than you can gather from looking at the map. I happen to know the benefits which the farmers in that direction have already derived from the Bourke trade, and those benefits must increase with increased settlement. I do not approve of the connection *via* Mudgee, because it would lose touch with the western trade.
5323. *Chairman.*] From your knowledge of the district, you would prefer the line from Dubbo to Coonamble to the line from Mudgee to Coonamble? Yes.
5324. *Mr. Dick.*] Why do you think the Mudgee line would put the producers out of touch with the western market? Because they would have to bring their wheat from Coonamble *via* Wallerawang to Bourke; and they could not afford to do that on account of the produce from Bathurst and Orange going towards Bourke.
5325. You know that there is a large wheat-growing area near to Mudgee? I do not know the district, but as a rule the Mudgee wheat is not a hard wheat. It is rather a wet district.
5326. Do you know that flour is milled at Gulgong? Yes.
5327. What is it worth? It is a soft flour. I was offered 50 tons of Mudgee flour yesterday at £6 10s., and I was selling our own flour here at £7 5s.
5328. Have you heard that a large order has been received from London for Gulgong flour? A man who is shipping flour to London will not be influenced by locality, or considerations of that sort, so long as the quality of the flour is good. The cheapest flour this year has been from Melbourne and Adelaide, for export; but so far as this particular district is concerned, I would much rather sell in the Bourke market than in the Sydney market in the matter of flour.
5329. *Chairman.*] If you were going to settle in the district to grow wheat, you would prefer to settle within a reasonable distance of the Western line than on the Mudgee line? Yes. There is a great similarity between the Tamworth and the Wellington districts, but of the two, I would rather risk my future on the Western line. There is a rainfall of 24 inches, and although the rainfall at Tamworth is good, on the Western line there is the trade to Bourke to be considered. That is a very important trade, because the good seasons there are only occasional, and the market must, therefore, be a good one.

Thomas Henry Smith, District Surveyor, Dubbo, sworn, and examined:—

5330. *Chairman.*] You have prepared a statement and a map showing, approximately, the agricultural and pastoral land on the proposed line from Dubbo to Coonamble? Yes; the statement I have prepared is as follows:—

T. H. Smith.  
12 July, 1899.

1. In furtherance of your personal request to be supplied with a map showing both alienated lands and Crown lands within a limit of 20 miles on each side of the railway trial line from Dubbo to Coonamble, indicating, approximately, thereon the lands which may be deemed to be situated within a fair agricultural limit, I have the honor to state:—
2. On the accompanying map, marked XO, the 20 miles limit on each side of the proposed railway is shown by firm red lines; alienated lands are shown thereon by pink tinting; Crown lands are white; and the area which may be said to include, more or less, agricultural lands is shown by blue pencil hatching.
- 3.

T. H. Smith.  
12 July, 1899.

3. The Crown lands shown by white embrace reserves from sale, or are within pastoral leases, which will expire in July next year, and will then be available for settlement.

4. Within the agricultural limit, shown by blue pencil hatching, there are, of course, patches of open plain, pure black-soil country, and some "monkey" country, which are not, in my opinion, suited for agriculture; but those patches are separated, and are not of large extent. My original intention was to show these patches on the accompanying map, but I found, unless an exhaustive search were made through the plans of portions measured for alienation in the subject part of the district, it was impossible to locate them from local knowledge; moreover, unless a map of a much larger scale was prepared—which would be expensive and take some time—these patches could not well be shown.

5. With the exception of the ironbark forest country, between the Talbragar and the Castlereagh—which country has not been included within the agricultural limit, as shown on accompanying map—the whole of the country within 20 miles on each side of the proposed railway between Dubbo and Coonamble may be said to embrace either good agricultural lands, or exceptionally good pastoral country, the latter carrying rich pasture, excellent for sheep, either for fattening or breeding.

6. So far as agriculture is concerned, the district, in my opinion, is still in its infancy. Some little time after my appointment to Dubbo as District Surveyor—some sixteen years ago—it was pointed out in my reports that there existed no reasonable doubt but that the district, so far west as Trangie—judging from the rainfall and nature of the soil—could be far more profitably developed by agricultural pursuits than by sheep-grazing.

7. No farming had then been tried. The old residents had no faith in this opinion, and it was not until settlement had increased, and new men, practical in agricultural pursuits, had acquired land, that this part of the district gradually was placed under agriculture. The limit given by me, viz., Trangie, has now proved not nearly far enough west, as good wheat is grown so far west as the Bogan River, near Girilambone. I mention this to show what the district is really capable of, and I have no doubt whatever, if the Dubbo and Coonamble railway is constructed, that large areas adjacent thereto, which are now used for sheep-grazing only, will be cleared and placed under cultivation, and that a large population will be supported. All red soil in this district undoubtedly is well suited for wheat and hay growing. I have serious doubts, however, about the black soil; although rich enough, it is difficult to work, owing to its sticky nature. Recently areas of open plain country, with dark chocolate soil have, however, been successfully cultivated.

8. The country within the 20-mile limit is level throughout, and with the exception of the plain country is timbered with box, pine, apple, gum, oak, belah, &c.

9. In reference to the ironbark country mentioned in paragraph 4, this forest, considering its importance, extent, and the quality of valuable ironbark timber growing thereon (so scarce in other parts of the Colony), may be deemed a national forest. For many years past exceptionally large quantities of sleepers—some millions I should think—have been obtained, and at the present time large quantities are being cut and delivered at Dubbo. In the event of a line being constructed from Dubbo to Coonamble, which would practically skirt the edge of the forest, a considerable saving to the Crown would result in the expense of sleeper-getting. I may say the cost of carting sleepers was found to be so great that the Railway Commissioners proposed to construct a tramway from Dubbo along the Coonamble road to Brocklehurst, thence into the forest—a distance of about 25 miles. The construction of a railway from Dubbo to Coonamble would render such a lengthy tramway unnecessary. I think I hardly need more than briefly refer to the scarcity of ironbark throughout the Colony, and the fact that the Commissioners have now to obtain other and inferior timber for sleepers.

10. The area within the 20-mile limit, as shown by firm red lines on enclosed map, is estimated approximately at 4,450 square miles.

11. The area of agricultural country shown by blue-pencil hatching within the above 20-mile limit is approximately 3,096 square miles.

12. The area of ironbark forest country within the above 20-mile limit is approximately 540 square miles.

13. In conclusion, I would state that parishes of Boyben, Burrendah, Bearbung, and Wallemburawang, in the county of Gowen, are not in my district, and I have no local knowledge of them. These parishes, I think, do not embrace good country, and probably are within the limits of the ironbark forest.

5331. As to paragraph 8 in your statement, you purposely left the rainfall blank? Yes. The reason is, that it is difficult to give an average rainfall for the whole of that district. The annual rainfall for the past twenty-five years at Dubbo has been 23.36 inches; at Quabathoo, at the northern end of the district, it has been 19.91 for the past twenty years; at Coonamble, it has been 22.46 for the past eighteen years; at Gilgandra it has been 27.83 for fourteen years; and at Gulgargambone, 30.68 for ten years. If I were to attempt to give an average I might mislead the Committee.

5332. Have you seen the country upon which wheat is being grown round about Narramine? Yes; I know it well.

5333. How does the land which you have plotted on your map as being fit for agriculture compare with the wheat land at Narramine? Part of it would be quite as good; but other parts would not.

5334. *Mr. Watson.*] The Narramine country is very good? Yes.

5335. *Chairman.*] I suppose there are bad portions in the Narramine country? Yes. When you approach the black-soil country it is not so good.

5336. Would the good land on the proposed line, in your opinion, be equal to the good cultivated land round about Narramine? The bulk of it would be.

5337. You have put down the area of the agricultural limit as approximately 3,096 square miles? Yes.

5338. You have exercised care in compiling that statement? Yes; the figures have been carefully prepared.

5339. The Committee may take the statements as being reasonably correct? Yes. Of course in the area within the agricultural limit there are patches of open, plain country.

5340. But they are so small that you could not very well show them upon the map? That is so.

5341. The area of ironbark country given is 540 square miles? Yes.

5342. In your opinion, that does not detract from the value of the proposal? No; I regard that area as a most valuable forest. It is a national forest of very large extent.

5343. You are of opinion that the Railway Commissioners will for a long time draw their sleepers from that part of the country? I think they will have to do so.

5344. And that will mean so much additional traffic for the proposed railway? Yes.

5345. *Mr. Watson.*] I understand that the blue hatching on the map before us represents the land suitable for agriculture? It represents the limit of it.

5346. Does it include any of what are known as Myall Plains, on the western side of the Castlereagh? Yes; those are the patches to which I refer in one of the paragraphs of my statement.

5347. You do not think they are suitable for agriculture? No. The black-soil plain country is certainly not fit for agriculture.

5348. On the other hand, do you consider that the whole of the land on the eastern side of the proposed line, which is shown in white on the map, without hatching of any character, and which is ironbark country, is all unsuitable for agriculture? No; I would not say that the whole of it is unsuitable.

5349. Taking the ironbark on the eastern side,—on the average, what would you say would be the area unsuited for agriculture compared with the average area unsuited for cultivation in the country marked fit for agriculture on the western side? I could not give you the proportions.

5350. You do not think that the total of your estimate of the agricultural limit near the proposed line is an extravagant one? No, I do not think so. 5351.

5351. Have you been over the whole of that country yourself, or are you relying to some extent on the reports of your officers? I have a good general knowledge of the country. I have not been much in the field during the last five or six years, my duties having kept me in the office; but prior to that I was a good deal in the field. T. H. Smith.  
12 July, 1899.

5352. You have also a general knowledge of the purposes to which similar land is put in other localities? Yes.

5353. So that you are competent to express an opinion as to whether this particular land is fit for agriculture? Yes.

5354. In the discharge of your official duties, you are often called upon to express an opinion as to what land is fit for? Yes; I classify land.

5355. At the present time, is your office preparing areas for settlement within the sphere of influence of the proposed line? Yes; we have been designing all the leasehold areas for settlement. The leases expire in July next.

5356. Would the knowledge that the proposed railway was decided upon have any effect in altering the designs of the various settlement areas—that is, as to the area necessary to support a family? Certainly, and for the reason that the areas might embrace wheat-growing country. The cost of carriage to market would be very great; therefore, without a railway the land would be used only for sheep-growing. If there were a railway, the greater part of such land would be put under agriculture.

5357. So that we are safe in assuming that, if the line is decided upon, a greater number of settlers will be placed upon the land that is to be thrown open next year than would otherwise be the case? Certainly.

5358. Would there be any increase placed upon the capital value of the land consequent upon railway construction? There would be; but the throwing open of the land would really rest with the Minister. If he wished the land thrown open that would be done whether the railway were constructed or not.

5359. You have cast upon you the duty of making recommendations as to the capital value to be put upon the land for settlement? Yes.

5360. With the construction of a line to Coonamble, would a higher capital value be justifiable in respect of the leasehold areas than would otherwise be the case? Yes.

5361. And the State would get a corresponding advantage? Yes; the areas would be reduced in size.

5362. And increased in capital value where they were fit for agriculture? Yes.

5363. *Mr. Dick.*] I see you have marked the whole of the country on the western side of the proposed railway up as far as Gilgandra without exception as agricultural land? The plotting on the map gives the limit of the agricultural land. Within that area, as I have already explained, there are patches of open plain country which cannot be shown on the map.

5364. Would there be any patches of 3 miles by 3 unfit for agriculture? Yes.

5365. Would not that area be visible on the scale on which the map is drawn? Yes. I tried hard to put all the areas on the map; but I found that I could not do it in any way accurately unless I got out all the plans.

5366. Do you know the country to be served by the proposed line from Mudgee to Coonamble as well as you know the country between Dubbo and Coonamble? No; parts are out of my district.

5367. When Mr. Harper was examined by the Committee he gave this evidence:—

We are told that the country from Dubbo to Gilgandra is rather poor? So it is.

Other witnesses confirmed that statement;—do you still hold to the belief that all the land on the western side of the railway within the 20-mile limit is good agricultural land up to the point I have named? Yes; speaking generally, a large proportion, in my opinion, is good agricultural land.

5368. Have you had any experience in agriculture? I have never grown wheat myself, but I have seen a good deal of wheat growing. The whole of the country to which you refer is not absolutely good country. I should say, for example, that Narramine was an agricultural district. Still there are patches there of poor country which would not be cultivated. In the same way there are patches of poor land between Dubbo and Coonamble.

5369. Can you give any reason why the country within a distance of 20 miles of the proposed railway north of the section on the Western line, between Dubbo and Narramine, has not been put under agriculture? A great deal of it may have been under leasehold area.

5370. Can you not say whether that is the case or not? I could say if I had my plans with me, but it is impossible to remember everything of that sort. The bulk of the land, speaking from memory, has only been recently taken up, I think.

5371. Would you describe the country from Gulargambone north to Coonamble as likely to prove profitable under agriculture? I do not see why the red soil country should not be. If there is not a good wheat crop the crop would be available for forage. If there is not a good wheat crop the district would be generally under drought, and in that case there would be a good local market for forage.

5372. Could you inform the Committee what would be the average number of failures in a decennial period in a section of the proposed railway between Gulargambone and Coonamble? I could not; but I know that Mr. Frank Mack of Narramine, when he first put his country under wheat, informed me—I am speaking from memory—that if he got four good seasons out of ten, he would not lose money, and that every good season beyond four would be a source of profit to him.

5373. Have his anticipations been fulfilled? He has had a good season every year.

5374. There is a very much heavier rainfall at Narramine than at Coonamble? Yes; but, on the other hand, there is a better rainfall at Gulargambone than at Narramine. I do not wish to be misunderstood as to the blue hatching on the plan. I have included areas of open plain country, but it would be a very hard thing to show those areas from local knowledge on a map of that small scale. It would be misleading, so I thought it better to give the agricultural limit.

5375. *Mr. Watson.*] Do you think the patches of myall country on the west, which are unfit for agriculture, and which are not shown, would be counterbalanced by patches of good country on the eastern side among the ironbark? No; there is more open plain country on the western side of the line unsuited for agriculture than there would be good country fit for agriculture among the ironbark.

5376. *Chairman.*] There being a less area of ironbark country? Yes.

5377. You were asked whether you could account for so much land fit for agriculture on the western side of the proposed line not having been put under the plough;—do you know anything of Mudgee? No.

5378.

T. H. Smith. 5378. Supposing a man had 30,000 acres of good agricultural land within 20 miles of Mudgee, how would you account for his not putting it under the plough? I could not say. Personal feeling as to business considerations comes into these things sometimes.

12 July, 1899.

5379. The real reason might be that a person having taken to pastoral pursuits would not readily take to agriculture? That might be one reason. He might not like to place his property under cultivation if he had valuable sheep.

5380. Until new men with agricultural ideas come among them, pastoralists do not dream of putting their land under crop? No.

5381. Has not that been the experience at Dubbo;—have not farmers come there from Victoria and South Australia and shown settlers there what can be done by wheat-growing? Yes.

5382. Since their advent the area cultivated has been very much increased? Yes. Sixteen years ago there was no agriculture in my district, and when in my old official reports I pointed to the fertility of the soil, and said the land was well adapted to wheat-growing, I was laughed at by old residents.

5383. What was then predicted is rapidly taking place? Yes.

5384. You meet a good many settlers in the district? Yes.

5385. What is the general opinion of the district as to wheat-growing;—do you think many of the settlers will leave pastoral pursuits and take to agriculture? I think they will. I believe the Dubbo district is more adapted to wheat-growing than to sheep-farming. Narramine, fifteen or sixteen years ago, was a sheep station. I think it carried 45,000 sheep when Mr. Mack bought it. He lost the resumed area by selection, and carried on the other half. When he improved it he carried about 80,000 or 90,000 sheep. He carries a great number of sheep now, but he has also gone in for agriculture. He has a large area under cultivation.

5386. I believe there is a proposal in your district to effect an exchange of 25,000 acres of land with Mr. Body, the land being within the influence of the proposed railway? The proposal has been made but the papers have not yet been sent to me.

5387. Do you know the land proposed to be given up? No; I have not seen the proposal. In regard to the open plains of which I have spoken, I should like to give myself some margin. I think it would be fair to estimate about  $7\frac{1}{2}$  per cent. for open plain country in the areas marked within the agricultural limit on the western side of the line.

5388. *Chairman.*] The land there not suited for agriculture would be admirably suited for fattening purposes? Yes.

5389. *Mr. Watson.*] What proportion of the ironbark country shown on the eastern side of the proposed line would be fit for agriculture? I should say about  $2\frac{1}{2}$  per cent.

## PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

## Railway from Dubbo to Coonamble.

## APPENDIX.

## A.

[To Evidence of Howard Speight.]

TRAVELLING AND TRUCKING OF STOCK.

Sir,

Cobborah, 12 July, 1899.

Please find herewith enclosed some additional evidence for your Public Works Committee to consider.

Yours, &amp;c.,

E. J. WILLIAMS,

Secretary, Cobborah Railway League.

The Secretary, Public Works Committee, Sydney.

Cobborah, 12 July, 1899.

THE following statement by Howard Speight, of Cobborah, taken on oath before the undersigned Justice of the Peace is an Appendix to his evidence given before the Public Works Committee, at Cobborah, on the 7th July, 1899 :—

I, Howard Speight, sheep overseer, residing at Coonamble, on oath saith :—As an Appendix to my evidence given before you on the 7th July, 1899, at Cobborah, I wish to state that at least 100,000 sheep and other large stock travel from the Coonamble and adjoining district to the Aberdeen Freezing Company's Works at Aberdeen, a distance of over 200 miles. In consequence these animals lose over 12 per cent. of their weight, the journey taking at least five weeks. If the railway were constructed from Mudgee to Coonamble, the stock would be trucked from the latter place to Cobborah and driven from there to Aberdeen, bringing a considerable revenue to the State and shortening the time taken in travelling and placing the stock in a better condition on the market.

HOWARD SPEIGHT.

Sworn at Cobborah, this 12th July, 1899, before me,—

H. A. PATRICK, J.P.

## B.

REPORT BY THE RAILWAY COMMISSIONERS ON THE MUDGEE-COONAMBLE ROUTE.

Office of the Railway Commissioners of New South Wales,  
Sydney, 1st May, 1899.

The Rt. Hon. G. H. Reid, P.C., Q.C., M.P., Premier and Minister for Railways.

Railway to Coonamble *via* Mudgee.

WITH reference to the communication of the 14th ultimo, from the Chairman of the Public Works Committee to the Right Hon. the Premier and Minister for Railways, relative to the merits of the alternative routes for a railway to Coonamble, and to our minute of the 27th ultimo, intimating that an inspection of the route from Mudgee would be made and a report subsequently furnished, we beg to state that the route has been inspected, the capabilities of the country studied, and the prospects of traffic carefully considered.

Before proceeding, we desire to express our satisfaction at being afforded this opportunity of stating our views on the alternative routes to Coonamble. Hitherto it has been generally understood that our reports should be confined to the merits of any particular route submitted to us, and we have on more than one occasion laboured under considerable embarrassment by the observance of such a course, and have felt that the value of our reports has been limited by the restriction.

It will be remembered that we have already reported on the proposed extensions—Warren to Coonamble and Dubbo to Coonamble—as separately referred to us. Previously we have mentioned the Mudgee-Coonamble connection as one worthy of consideration, its cost, however, causing it to be looked upon unfavourably in comparison with the route *via* Warren, which involved a very much smaller expenditure.

When dealing with the proposed Warren-Coonamble extension the Public Works Committee came to the conclusion that a connection from Dubbo, although necessitating a larger expenditure, offered greater advantages, particularly in regard to the more direct communication with the metropolis.

In our report on this subject we intimated that Coonamble was entitled to railway facilities, and that the route was consequently worthy of consideration.

Reverting to the Mudgee-Coonamble connection, and bearing in mind the apparent intention of the Government to expend a larger sum of money in giving Coonamble railway communication (to which the district is fully entitled) than would be involved by extension from Warren, we beg to state that we have a high opinion of the country which would be traversed by a line from Mudgee, and the route is one which is worthy of the most thorough investigation and inquiry.

Although necessitating a larger capital outlay than the other schemes recently under consideration, it offers the advantage of giving the more direct communication with Sydney, and it would open up and develop a more extensive and better agricultural area. Further, it would help materially to more satisfactory results in connection with the working of the Mudgee line than have hitherto been experienced.

If it is desired, we shall be glad to instruct the Chief Traffic Manager, Mr. Harper, who accompanied the Commissioners on their recent inspection, to give evidence before the Public Works Committee as to the extent and character of the country which would be served by a line from Mudgee to Coonamble, and probably consequent development of the agricultural industry.

Should the matter then be proceeded with to the stage when it is competent for us to report in terms of the Public Works Act, we shall be glad to do so.

CHARLES OLIVER,  
Chief Commissioner.W. M. FEHON,  
Commissioner.DAVID KIRKCALDIE,  
Commissioner.

C.

## C.

## [To Evidence of William England Morgan.]

EVIDENCE GIVEN BY W. M. B. DAYRELL, IN WARREN-COONAMBLE RAILWAY INQUIRY.

William Mortimer B. Dayrell, manager, Co-operative Flour-mill, Dubbo, sworn, and examined :—

1584. *Mr. Hassall.*] How long have you been in the district? Over thirty years.
1585. You have seen the progress and development of the district since that time? I have.
1586. Can you give the Committee any information as to the progress of agriculture in the district—what it was, say, ten years ago, what it is at the present time, and what are the prospects of its ultimate increase? Ten years ago there were not 30,000 bushels of wheat grown in the district, and this year I suppose there have been fully 400,000 bushels. That is an approximate estimate, judging from what has left the district, and what still remains. That embraces the district around Dubbo, including Narramine, but not going as far as Gilgandra, and under the mountains to Coonabarabran, where there is a good deal of wheat grown.
1587. That wheat has been sent to the Coonabarabran mills for some years past? Yes; and they get it for a very small sum, inasmuch as the carriage is very heavy from Coonabarabran to the railway. We are getting some delivered now. Yesterday we had 6 tons in from Coonabarabran way.
1588. Judging from your experience of the wheat produced, do you think this district is suitable for growing good, sound grain of marketable quality? Undoubtedly.
1589. Such as would sell in any market of the world? Yes.
1590. Of what quality is the flour made from it? It is very good. We can always top the market in Sydney. We have just finished delivering several hundred tons to Mr. William White and others.
1591. Your principal supplies at present are drawn from the immediate vicinity of the town, or within a radius of 30 or 40 miles? Between Geurie and Nyngan.
1592. Where is the principal market for flour? West from here.
1593. What portion of the Colony west is supplied? Every town along the line—Nyngan, Cobar, Coolabah, Byrock, and Bourke; every town in the west that is reached by rail.
1594. I presume you supply numerous orders in that direction? Yes; we truck every day.
1595. And I presume the flour is sent even still further? Yes; it goes away to Queensland.
1596. Does your demand exceed your supply? The company has not been long formed. This is the first season during which we have been able to run night and day. We have no difficulty in placing our flour without sending any travellers out.
1597. In addition to your western market, you also have the Sydney market available? Yes.
1598. So that you can compete successfully down there? Yes; as long as we have wheat on the spot.
1599. I understood you to say that you do not have much wheat coming in from Gilgandra, Mudooran, and down there? Not a great deal; we have had about 300 tons.
1600. Do you get any wheat in from between here and Gilgandra? Yes.
1601. Of what quality is that? Very good.
1602. Will it compare favourably with any other wheat in the district? Yes.
1603. And make equally as good flour? Yes.
1604. Have you any knowledge of the country between Warren and Coonamble? I have.
1605. Do you think that would be a wheat-growing country? No; a great deal of it would not, and some of it would. Take the country between Bullagreen and Bourbah. You go along there in wet weather and you cannot see the track; it is just like a stream. I have been seven or eight hours going from Bullagreen to Bourbah in winter-time.
1606. You think that is country in which it would be almost impossible to grow wheat successfully? You could not do it.
1607. You might grow wheat in patches or in suitable seasons, but to grow it successfully you do not think it is possible? No.
1608. Do you know the country between here and Gilgandra, down the Castlereagh? Very well.
1609. What do you think of that? Of course, there is a lot of bad country, but then, again, there are some very good patches when you get in off the road a bit, especially in on the western side of the line from here to Gilgandra.
1610. You consider that country eminently suitable for wheat-growing? Yes; there is some very good wheat country through there.
1611. Have you any wheat from that locality? Yes; small quantities come in.
1612. The country is not yet sufficiently developed to send in any large supplies? No; a good many selections have been taken up there, and the holders are clearing the land, preparing for wheat.
1613. With regard to the country lying to the east, running from Gilgandra up towards Mudooran, and in that direction, I presume it would be supplied with flour from Coonabarabran? We send a good deal of flour there. For instance, some farmers of Tooraweena bring their wheat in here for gristing. We supply nearly all Gilgandra and Tooraweena. We do not supply Cobborah; they get their flour from Mudgee or Gulgong.
1614. But with regard to the whole of that country from here to Gilgandra, and a little distance on the eastern side of the Castlereagh down by Coonamble, and also the country lying west, practically right through to Warren, and down the river to Bourke and the intervening townships and stations;—I suppose you have an outlet for flour in that direction? Yes.
1615. If any considerable quantity of land were put under cultivation for wheat, do you think the market would be overstocked;—do you think the wheat supply would be greater than the demand? It will be, locally; but we would have to export, and the price then would be regulated by the London market, less freight.
1616. You think the outlet would be sufficient to induce people to go in for the cultivation of wheat on suitable soil? I think so; because wheat is about the only grain you can grow up here with advantage.
1617. And the only grain that will bear the cost of carriage? Yes, and it does not require a very great deal of rain.
1618. Have the seasons been fairly favourable and the crops fairly successful from year to year to your knowledge? For the last two years. This season has been a very good one for quantity, although the quality has not been A1. Still in quality it was far better than the southern wheat. The northern wheat has beaten us this year for quality, for they had more rain, but the quantity here has been very large.
1619. You heard the statement made by Mr. Morgan? Yes.
1620. Can you endorse that statement? Yes.

## D.

## [To Evidence of Edward McCulloch.]

RAILWAY FROM MUDGEE TO COONAMBLE.

MUNICIPALITY of Gulgong, parishes of Gulgong and Guntawang, county of Phillip, area 20,480 acres; incorporated 6th February, 1876; approximate population, 2,200; dwellings, about 500; general rate only of 1s.; fair average annual rental of improved land, with buildings thereon, £8,900; capital value of all rateable property, £210,000; roads and streets, 69 miles 60 chains, of which over 40 miles are metalled.

There is a demand for freehold land, which brings a higher price now than it ever did. Some unimproved land, half a mile from the town, realised, recently, £5 to £6 10s. per acre, originally purchased at Crown land sale, some years ago, for £2 5s. and £2 10s. per acre. All available land for homestead selections has been taken up. There are six residential leases now being improved. A portion of the temporary common, when revoked, will be immediately selected. The district is in a better condition in every way than it was twenty years ago, settlement having taken place in a greater measure than one would anticipate.

E. McCULLOCH.

1899.  
(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

PROPOSED RAILWAY FROM DUBBO TO COONAMBLE.

(REPORT OF THE RAILWAY COMMISSIONERS RESPECTING.)

*Printed under No. 10 Report from Printing Committee, 16 November, 1899.*

Office of the Railway Commissioners of New South Wales,  
Sydney, 14 November, 1899.  
The Hon. W. J. Lyne, M.P.,  
Premier and Minister for Railways,—

We deem it necessary to take the most exceptional course of addressing the Honorable the Premier and Minister for Railways in connection with a contemplated railway extension which has been recommended by the Public Works Committee and submitted to Parliament for adoption. We refer to the Dubbo-Coonamble line.

During our recent inspection and investigation in connection with the proposed cross-country line from Werris Creek to Wellington we were very strongly impressed with the necessity for affording railway facilities to an extensive area of agricultural country, naturally and commercially connected with Mudgee, which would not be served by either the Werris Creek to Wellington or Dubbo to Coonamble routes, but would be amply provided for if the extension to Coonamble were made from Mudgee.

We are aware that the latter was rejected by the Public Works Committee in favour of the Dubbo-Coonamble route. After most thoroughly and carefully considering the question, and fully realising the exceptional course we are taking, we feel compelled to urge that the question of railway communication to Coonamble—which it is fully admitted must be provided—should be reconsidered. While Coonamble is apparently content with the Dubbo extension, there is strong reason for believing that more satisfaction would be felt if it were made from Mudgee, and, in addition, the tract of country specially referred to would be given railway facilities to its natural market; and, further, in the direction of Coonamble a far better and more settled class of country is traversed than would be opened up by the proposed Dubbo extension.

It is true that a considerably larger initial cost would be involved, and a greater length of line would have to be constructed, but Coonamble *via* Mudgee would be brought 34 miles nearer to Sydney, and for all time be thus saved the additional haulage rates over the longer route *via* Dubbo, and we now feel assured that ultimately better results would be obtained both financially and as affording largely-increased facilities for the extension of agricultural settlement.

It is admitted that the Mudgee connection would not serve all the country that would be served by that from Dubbo; but, as previously stated, a larger and better area of country would be opened up, and, as there cannot be a railway extension in the direction of Coonamble from both Dubbo and Mudgee, we feel that, even at this late moment, it is worthy of further consideration whether the connection would not prove the best in the interest of both the larger number and more extensive area of good country by it being made from Mudgee.

Further, it may be added that, as the traffic increases on the Western Line, greater relief would be afforded by the extension of the Mudgee line than by the projection of a line from Dubbo to Coonamble.

It may be inferred that the suggestion now made has some bearing upon the Werris Creek to Wellington proposal, but it is not so, as such a line would in no way be prejudicially affected, indeed rather the reverse, by the adoption of the Mudgee route.

We trust that this representation may not be considered as in the direction of challenging the recommendation of the Public Works Committee, our only desire being to respectfully, but earnestly, represent our views with the object of further inquiry being made, if deemed necessary, before a final decision is arrived at as regards the extension of the railway to Coonamble.

CHARLES OLIVER,  
Chief Commissioner.  
W. M. FEHON,  
Commissioner.  
DAVID KIRKCALDIE,  
Commissioner.





1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

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PROPOSED RAILWAY FROM MUSWELLBROOK  
TO CASSILIS.

(PETITION FROM CERTAIN RESIDENTS AND ELECTORS OF MUSWELLBROOK, DENMAN, GOULBURN RIVER, MERRIWA, AND CASSILIS, IN FAVOUR OF.)

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*Received by the Legislative Assembly, 25 July, 1899.*

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To the Honorable Sir Joseph Palmer Abbott, K.C.M.G., Speaker, and Honorable Members of the Legislative Assembly of New South Wales, in Parliament assembled.

The Petition of the undersigned Residents and Electors of Muswellbrook, Denman, Goulburn River, Merriwa, and Cassilis,—

RESPECTFULLY SHOWETH :—

That your Petitioners are at a great disadvantage in competing with growers and producers in other districts through the want of railway communication, and are thereby at a great inconvenience in the effort now being made to develop the rich agricultural resources of these districts of Denman, Goulburn River, Merriwa, and Cassilis.

That your Petitioners have been agitating for the construction of a railway through these districts between Muswellbrook and Cassilis for a number of years, with the result that line has been surveyed, locksplitting completed, and trial-holes sunk, and all necessary work done for the construction of the proposed line as far as Cassilis, and the sum of £700,000 voted by Parliament for the purpose.

Your Petitioners very respectfully pray the favourable consideration of your Honorable House so far as to place the matter before the Works Committee for the report as to the advisability of constructing a railway, not alone from Muswellbrook to Cassilis, but to continue the line from Cassilis to Coonamble; and your Petitioners feel sure that they could furnish that body with such evidence as would justify them in making a favourable report that would impress your Honorable House not only with the local but also the national importance of such a line.

Praying your Honorable House will take our Petition into your favourable consideration, your Petitioners, as in duty bound, will ever pray.

[Here follow 642 signatures.]

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1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

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## PROPOSED RAILWAY LINE FROM WELLINGTON TO PARKES.

(PETITION FROM LEWIS MAY, CHAIRMAN, AND H. P. MILLER, SECRETARY, ON BEHALF OF THE  
BALDERODGERY AND MOUNT AUBERY RAILWAY LEAGUE, IN FAVOUR OF.)

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*Received by the Legislative Assembly, 20 July, 1899.*

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To the Honorable the Speaker and Members of the Legislative Assembly in Parliament assembled.

The Petition of the undersigned Chairman and Secretary on behalf of the Balderodgery and Mount  
Aubery Railway League,—

HUMBLY SHOWETH:—

1. That whereas the proposed line of railway from Wellington to Parkes, passing through Balderodgery and Mount Aubery, would probably be less expensive to construct than any other continuation of the Werris Creek line, would tap a rich agricultural and pastoral district, and would, in the opinion of your Petitioners, pay interest from its inception and a handsome margin in the near future.

2. The line, some ten or fifteen years since, has been surveyed and marked out.

3. The area of land alienated in the vicinity of the line is about 226,714 acres; 5,000 acres are under cultivation and yielding annually about 75,000 bushels of wheat, say nothing about hay, straw, fruit, &c.; 26,223 acres are fit for cultivation; 72,080 sheep; 691 head of cattle; 653 head of horses; 100 to 150 holdings, and about 650 residents in the locality, ranging from half a mile to 10 miles from the proposed line.

4. The above statistics have been collected by reliable collectors, and that the land through which the line passes is all of first-class agricultural quality, besides having excellent land for grazing purposes, also fruit-growing.

5. Your Petitioners therefore humbly pray that your Honorable House will take the foregoing premises into your favourable consideration, and grant such relief as in your wisdom may seem most expedient and necessary under such circumstances.

And your Petitioners, as in duty bound, will ever pray.

LEWIS MAY, Chairman.

H. P. MILLER, Secretary.

On behalf of Mount Aubery and Balderodgery Railway League.

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1899.  
(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

GEORGE AND HARRIS STREETS ELECTRIC TRAMWAY.  
(REPORT ON THE.)

*Printed under No. 10 Report from Printing Committee, 16 November, 1899.*

Sydney, 8 November, 1899.

The Hon. the Secretary for Public Works,—

Sir,

We, the members of the Board appointed to hold an inquiry into the circumstances connected with the construction of the George and Harris Streets Electrical Tramway, and the delay which has occurred in opening the line, have the honor to submit the following report:—

The important nature of the inquiry entrusted to us led us to consider carefully every step we have taken, so that our investigation might be conducted in the fairest and best possible manner, and the conclusions drawn may be definite and beyond dispute.

In dealing with the matter submitted for our investigation, namely—

1. The question of design;
2. The various steps taken from time to time to complete the work in a businesslike and satisfactory manner;
3. The failures which have taken place in the carrying out the necessary tests;—

we first made ourselves thoroughly acquainted with the correspondence and documents laid before us, and afterwards took the evidence as far as possible of all persons connected with the subject of our inquiry. We also made various personal inspections of the power-house at Ultimo, and a careful study of the contract, plans, and specifications. So far we have not been able to make anything more than a superficial inspection of the line and the permanent-way.

The first steps taken in regard to the construction of the line of tramway under consideration appears to have occurred on October 1st, 1889, when the matter was referred to the Parliamentary Standing Committee on Public Works. The Committee reported on July 4th, 1891, that it was not expedient to construct the proposed tramway. On September 18th, 1895, the Minister gave instructions that the necessary information should be prepared to enable him to refer the matter to the Public Works Committee, who, after consideration of the matter, submitted their report on May 21st, 1896, recommending that the motive power required for working the tramway be derived from the power-house of the Ocean-street Cable Tramway, Rushcutters' Bay, the electric current being conveyed from thence to George-street by means of buried armoured cables connected to accumulators, and from thence

The first steps taken in regard to the George-street Tramway.

thence to the overhead trolley wires, conveying the current to the motors on the cars at a cost estimated at £123,000, which was afterwards increased to £130,000, in consequence of an extension proposed by the Railway Commissioners.

The Act authorising the construction of the George and Harris Streets tramway was assented to on 6th September, 1896.

The Ultimo power-house scheme.

Shortly after the Act was passed the Railway Commissioners, and especially the late Chief Commissioner, Mr. Eddy, began to discuss the desirability of having a central power-house in Ultimo, which should ultimately supply power, not merely for the George and Harris Street tramway, but for the whole of the electrical and steam tramway systems.

After considerable investigation by Mr. Deane, the Engineer-in-Chief for Railway Construction, and the late Mr. Elwell, the Electrical Engineer to the Railway Commissioners, it was ultimately decided to make the necessary arrangements for the construction of the power-house at Ultimo, as the site selected was considered to be suitable, and, moreover, it placed the power-house as nearly as practicable in the centre of the whole tramway system. The visit of Professor Forbes to Sydney about this time was taken advantage of to submit the matter to his consideration, and his concurrence in the proposed arrangements helped considerably towards finally settling the matter.

It will thus be seen that the scheme adopted was vastly more comprehensive than that originally contemplated by the Public Works Committee.

As a first step towards providing power at Ultimo, twelve electrical firms were asked to tender on 13th January, 1897, for four complete sets of engines and generators of 800 kilowatts capacity, or 1,072 horse-power each, which resulted in seven firms sending in tenders on 4th May, 1897. A Committee was appointed, consisting of Mr. Deane, Mr. Elwell, and Mr. W. Thow, Chief Mechanical Engineer, to investigate the tenders and report to the Railway Commissioners. The Committee sent in a report on 15th June, 1897, recommending the acceptance of the tender of Messrs. H. H. Kingsbury and Company, representing the General Electrical Company of New York, the largest electrical engineering company in the world. The Committee further recommended the proposal of the General Electrical Company that the size of the unit be raised from 800 kilowatts to 850 kilowatts be adopted, as this company had recently completed a new and improved machine of this capacity, which was being generally adopted where a machine of about this power was required.

A few other minor recommendations were embodied in the report, which was approved by the Railway Commissioners on 17th June, 1897.

## DESIGN.

### GENERAL DESCRIPTION OF THE GEORGE AND HARRIS STREETS TRAMWAY.

Site for power-house.

The site selected for the power-house and car-shed is near to the Darling Harbour railway and the Harbour, and as near as practicable to the centre of the present and proposed tramway systems.

It is conveniently situated in regard to the supply of coal, the removal of ashes, and the supply of water for condensing.

Power-house.

The power-house as it stands at present consists of engine-room, boiler-house, pump-room, and offices. Four sets of engines and generators have been installed in the engine-room, which is of ample size for its purpose. The floors and part of the walls are tiled, and the building is well ventilated and lighted. Two electric cranes have been provided, each capable of lifting 30 tons; and the southern end of the building is closed in with a temporary wall, which can be removed whenever extensions become necessary.

Car-house.

The car-house is 275 feet long by 130 feet in width, and is covered by a roof of saw-tooth design, lighted from the south. It is divided into nine bays, and is capable of housing 108 cars; space being available for an extension up to a capacity of an additional seventy-two cars.

Two travelling cranes, each of 2 tons capacity, are fixed at the rear end of the shed, and extend over three bays for lifting the car bodies off the trucks.

Adjoining

Adjoining the car-shed on the eastern side, dining-rooms, lavatories, and ample sanitary accommodation have been provided for the conductors and motor men engaged by the Traffic Department. Accommodation for the traffic officers is provided in a separate building at the front of the car-shed. The car-house and offices have been provided with an efficient water supply for washing and cleaning cars, and as a protection in case of fire. Electric lighting is provided throughout.

Adjoining the car-house at the northern end is a workshop and store covering an area of 160 feet long and 45 feet wide.

The boiler-house, which is 105 feet long and 86 feet wide, adjoins the engine-room on the eastern side. The engine-room and boiler-house are to be provided with temporary ends of galvanised-iron at the southern end to allow of future extensions; that of the boiler-house is not yet completed. Boiler-house.

Adjoining the engine-room on the northern side is the pump-room, which is 86 feet long and 47 feet wide. Pump-room.

The chimney-stack is situated in the pump chamber, and is 200 feet high from grate level, with a minimum internal diameter of 6 feet. Chimney.

There are fourteen horizontal tubular boilers, of the multitubular return-flue type, each capable of generating 300 horse-power at a pressure of 140 lb. per square inch, which allows twelve boilers to supply the engines, with two as a reserve. Boilers.

The boilers are arranged in two batteries of seven each, the main flues passing along either side of the boiler-house, and converging into the chimney in the pump-room.

In the front of the setting under the ash-pits, and below the level of the floor, is another tunnel, which is floored with a continuous cast-iron floor, having a track cast in it similar to that in the boiler-house, which allows for a small car being run under the hoppers when removing the ashes. The furnaces are provided with the "Alve's Patent Fuel Economisers." The floor space between the fronts of the boilers is covered with cast-iron plates, in which is cast a complete system of tracks for handling the charging-cars, the tracks extending out under the coal pocket. The system for charging the furnaces, and removing the ashes is that manufactured by the C. W. Hunt Company, New York.

The main valve on each boiler is connected by a copper pipe to a cast-iron main pipe, 12 inches in diameter, running the entire length of each battery; each main pipe is connected from its end and middle to cross lines of piping running into the engine-room, and connected to a steam loop 12 inches in diameter under the engine-room floors, from which each engine is supplied through a copper pipe 9 inches in diameter, the steam passing through a separator just before reaching the stop-valve of the engine. From the loop in the engine-room, a secondary system of copper piping for supplying steam to the air-pumps, receivers, jackets, and for heating in connection with the oil filters. Main steam piping.

There are two complete systems of feed mains, one for hot and one for cold water. Feed water piping.

The feed pumps in the pump-room consist of two triplex plunger pumps, capable of delivering 125 gallons per minute against a steam pressure of 140 lb. per square inch. Each pump is driven by means of a 25 horse-power electrical motor through spur gearing. There is also provided one steam pump as a reserve in case of a shut down of the electrical plant. All pumps are connected to the hot and cold water supply. Boiler feed pumps.

Three electrically-driven centrifugal circulating pumps are provided for the condensers, each capable of delivering 2,000 gallons per minute against a head of 36 feet. Each centrifugal pump is directly coupled to a 50 horse-power electric motor; two pumps will be run in parallel, the third being a reserve. The supply of condensing water is obtained from Darling Harbour through a conduit 1,000 feet long, and 3 feet 3 inches in diameter. The hot well is located near the feed-pumps, and the water is discharged from the pumps through a "Reeves" filter before passing into the boilers. Circulating pumps.

There are four engines, arranged in pairs—*i.e.*, right and left handed—of the horizontal cross compound Reynolds-Corliss type, with two surface condensers so arranged that two engines will exhaust into one condenser, or that either engine can exhaust into either of the two condensers. Each engine is directly coupled to an 850 k.w. generator mounted between the two cranks, and is capable of delivering to the armature shaft 1,212 horse-power, with steam at 130 lb. per square inch and a speed of 100 revolutions per minute. Engines.

The



The high-pressure cylinder is 26 inches in diameter, and the low-pressure cylinder 48 inches in diameter; the stroke is 48 inches. The cylinders are jacketed on the barrels and covers, and there is a superheater between each high and low pressure cylinder of the multitubular type, provided with suitable traps connected to drains.

The engines are each provided with two governors, one of the special weighted high-speed type, driven by eccentrics off the main shaft to automatically shut off the steam in case the engines should exceed the normal speed by five revolutions, the other being belt-driven to regulate the speed within 2 per cent.

The makers expect to be able to generate 1 horse-power for  $13\frac{1}{2}$  lb. of steam.

The condensers are of the Wheeler surface type, with "Blake" direct-acting air-pumps, the steam supply being derived either direct from the main or through the jackets of the receiver.

Oiling system.

An elaborate system of oiling arrangements has been provided. The whole of the oil is drained into a common reservoir, and from thence to a filter, after which it is elevated to an oil tank by air-pressure, and from thence it will gravitate to the oil cups of the engine.

Generators.

The generators are of the General Electrical Company's Multipolar type, compound wound, as used by them for electrical traction in America. The armatures are mounted on the engine-shaft, which is supported on bearings of ample area; the pole-pieces are bolted on to the cast-steel framing. The output of each generator is 850 kilowatts at 550 volts and 100 revolutions per minute. Carbon brushes are used to collect the current from the commutator, which is conveyed by means of insulated copper cables to the switchboard, and is there switched on to the various feeders by means of the switching apparatus.

Switchboard.

At the northern end there is a switchboard, provided for the control of the generators and feeders, erected upon an elevated gallery 14 feet above the floor level. The board consists of fire-proof material, viz., polished slate-panels, mounted on iron framing. On these slate-panels, the various switching and controlling apparatus has been mounted, consisting of four generator panels, one summation panel, two accumulator panels, one lighting panel, and ten feeder panels. All the positive leads and connections have been arranged as far apart as possible from the negatives in order to minimise the risk of short circuit. At the switchboard each machine is protected by a safety-fuse, and an automatic cut-out for operating when the current drawn from the machine exceeds certain fixed limits. Each generator is protected from lightning by means of arrestors and choking coils; connections having been made to ensure an easy path for the lightning to earth free from induction. Magnetic blow-outs are used for extinguishing the spark after a lightning discharge. Means have also been provided for preventing the station being shut down should one of the automatic cut-outs open and throw the load thus cut out on the other machines and opening their cut-outs in turn.

Space has been left between the switchboard and the wall so as to allow of all parts and connections being inspected at any time.

Underneath the switchboard there is the cable room, where all the leads from the generators and feeders are assembled together with the balancing cables of the generators, which are fastened on wooden battens plugged into the wall.

Accumulators.

Two batteries, each of 300 cells, have been installed for lighting and testing purposes, and are mounted on wooden stands so arranged that they may be easily inspected and cleaned.

#### PERMANENT-WAY.

Description of route.

The George and Harris Streets electric tramway commences at the eastern side of the Circular Quay, and following the curvature of the Quay passes the wharfs of the various ferry companies; thence by way of Queen's Wharf to George-street and along that street to its junction with the existing tramway opposite the Benevolent Asylum, running parallel with the existing steam tram-lines to a point opposite Terminus-street. Following the existing steam-lines for a few chains it branches off at Harris-street, along which the line runs until John-street is reached, where it terminates.

A junction is provided for with the existing steam tramway running to the Redfern Railway Station, which, continuing through the railway premises, the cars on their return journey will travel by way of Devonshire-street on the existing steam tramway to opposite the Benevolent Asylum, where they again connect with their proper track in George-street.

The distance from Circular Quay to John-street is 3 miles 20 chains, and is double-track all the way; the length of the track, including cross-over roads and junctions, is about 7 miles. Description of route.

The rails used on this tramway are of the girder type, weighing 83 lb. per yard, 30 feet in length, and of specially hard steel. They are laid on concrete 10 inches deep, and kept to gauge with wrought-iron tie-rods. All joints rest on bed-plates, and are provided with fish-plates with six bolts, and Pullen's patent rail-joint boxes are used. Rails.

Krupp switches are being used for all the standard cross-overs. Switches.

On all the sharp curves 80 lb. steel rails, with an 80 lb. rail acting as a guard and secured to the running rail with cast-iron distance blocks and bolts, have been used. These have also been secured to the concrete by lewis bolts and clips. 80 lb. rail on curves.

The Edison-Brown plastic bond has been used on this tramway. As a supplementary return a copper cable having a sectional area of 49 square inches is laid between each track from Circular Quay to Redfern. Each cable is connected to alternate rails on either side so that every car will be connected direct to the cable. These cables are laid against their respective tracks, and cross connected every 60 yards, the connection between the cable and the inner rail being made with a special gun-metal clip bolt. At the intersection of Liverpool and George Streets nine cables are taken directly underneath the Callender-Webber casing, carrying the return current to the power-house at Ultimo, a distance of 900 yards. There are also from Engine-street two cables, and from Harris-street along William Henry-street four cables, which carry the return current. Bonding.

The copper cables for the return feeders consist of No. 13 S.W.G. soft drawn copper wire stranded together. These are connected to the rails by gun-metal clips, and at every second rail there is a cross bond feeder to rail, and every sixth rail there is a cross bond feeder to feeder. Return feeder cable.

The feeders consist of insulated copper cables laid in Callender-Webber casing, the route being taken from the power-house along William Henry-street, and thence *via* Harbour and Liverpool Streets to George-street. Feeder cables and junction boxes.

The feeding-points are situated as follows:—

Intersection of Liverpool-street and George-street.			
"	Hunter-street	"	"
"	Bridge-street	"	"
"	Pitt-street	"	"

At these points the feeders are connected to the trolley-wire, the cable, as it emerges from the casing, being covered with piping to protect it from mechanical injury.

At each feeding-point lightning arresters and sectional cut-outs are provided. These cut-outs enable any section of the live line to be made dead without interfering with the traffic on the other sections. Feeders.

The overhead trolley-wire consists of hard-drawn copper of figure 8 section. The clips and ears used are of Billings' and Spencer's make. The section insulators at the cross-over roads are of local manufacture. The overhead wire is supported in Harris-street, and in the wider portions of George-street, on centre poles. Where the width of the street did not permit this, side poles and stays have been used. Overhead wiring.

The centre, span, and anchor poles are of Mannesmann manufacture, being solid drawn in three lengths of different diameter. The wrought and cast ironwork has been made locally.

In order to provide for the safe working of the traffic opposite the Redfern Railway Station, a complete signal-box has been erected, from which the whole of the points on to the existing steam and George-street trams are controlled. There is also a subsidiary-box opposite the Cyclorama to control the traffic in and out of Harris-street, and also from the Botany-road siding to the existing steam tramway. Signal-boxes.

A complete telephone service has been erected throughout the George-street tramway. Telephone communication with the power and car house is situated at convenient places along the route of the tramway. Telephones.

The

The contract for plant in the power-house, Ultimo.

The prices submitted by the General Electrical Company through Messrs. H. H. Kingsbury & Co. were for the General Electrical Company's electrical generators with engines of either the E. P. Allis Co., Milwaukee, or of the MacIntosh and Seymour Company. The Allis Company's engines were selected by the Committee.

Although blue-prints with all the principal dimensions of the engines and 800 kilowatts generators were furnished with the tenders, in consequence of the substitution of 850 kilowatts generators and the necessary alteration in the sizes of the engines to develop the extra power, it was necessary to wait for the measurements of the larger machinery before arranging for the disposal of space in the engine and dynamo room, and proceeding with the preparation of the contract drawings for the power-house buildings. Again, in order to secure the best materials and workmanship generally, and in consequence of a modification of the governor gear recommended by the Committee, it was decided to send Mr. G. Fischer to America to confer with the engineers appointed to inspect the work, and to settle the design of the governor gear. The time allowed for the completion of this contract was forty-six weeks, to date from the arrival of Mr. Fischer in Milwaukee. His departure from Sydney having been unavoidably delayed, this proved to be 3rd September, 1897; so that the proper date fixed upon for the completion of the contract would be 20th June, 1898.

The considerations which led to fixing such an early date for the completion of this contract appears to rest not solely with Mr. Deane, as the late Mr. Eddy, Mr. Elwell, and the Minister, Mr. Young, all urged that the work should be pushed on as speedily as possible.

Delay in sending plans from America.

During the absence of Mr. Fischer in America, plans were completed and contracts let for permanent-way of the George and Harris Streets tramways and the car-house.

The contract plans of the power-house could not be proceeded with at the same time as the car-house, owing to the delay in sending the necessary dimensions of the plant from America. This information did not arrive until the latter end of December, 1897. A contract had, however, been let for removing the surface material at the site, which was completed on 23rd February, 1898. On 19th March, 1898, the plans of the power-house contract were submitted for the approval of the Railway Commissioners, who, after consideration of the matter, finally adopted them on 13th April, 1898; so that two and a half months were occupied in the preparation of the drawings, and twenty-five days in their consideration by the Railway Commissioners. These plans and specifications for the buildings and foundations were completed, and tenders called on 23rd May, 1898, returnable on 13th June, 1898, which was afterwards extended to 27th June, 1898.

Messrs. J. Stewart and Co.'s contract for power-house buildings.

This contract was let to Messrs. J. Stewart & Co., of Sydney, who have had considerable experience as builders and contractors and have carried out large works in the city.

The time fixed for the completion of the contract was twenty-six weeks from the date of acceptance, or to 29th December, 1898. This time was afterwards extended four months, or to 29th April, 1899.

Meanwhile the engines and generators were being pushed forward with all possible speed, and both the General Electrical and the E. P. Allis Companies state that they incurred considerable extra expense in working overtime, and in extra freight, in order to expedite the delivery in Sydney in time to admit of their erection, and the completion of their contract within the time fixed—*i.e.*, 20th July, 1898.

They commenced to deliver their generators in Sydney on 23rd April, 1898, but at that date the contract for the power-house buildings, in which they were to be erected, was not let, and consequently it was necessary to make arrangements for their storage until the buildings were sufficiently advanced to enable their erection to be proceeded with. Two of the generators were stored in their cases at Garden Island, and two in railway trucks covered with tarpaulins. The storage was a difficult matter, owing to the large size and weight of the machines—the complete generator weighed about 65 tons, the armature alone, 25 tons. On 18th November, 1898, Messrs. J. J. Kelly and A. M. Libby arrived in Sydney from America representing the General Electrical and the E. P. Allis Companies respectively, but they were unable to proceed with the erection of the plant, for the reasons above given, until April, 1899. The roof, however, was not covered in sufficiently

to

to afford any protection to the machinery before the end of May, and was not completed until 17th July, 1899—*i.e.* two and a half months after the extended contract time for the completion of the whole of the buildings.

The contract for fourteen steel boilers was let to Messrs. C. & G. Hoskins, on 24th August, 1897, and completed on 31st January, 1899. Contract for  
boilers and  
boiler setting.

The contract for boiler-setting was let to Messrs. J. Stewart & Co., on 30th January, 1899; the time fixed for the completion of this contract was 19th June, 1899. This work is now practically complete, excepting a small portion in connection with the two end boilers in the eastern battery, which are intended to be provided with mechanical stoking apparatus. Also the permanent arrangements for conveying the coal and removing the ashes on the Hunt Company's system of cast-iron floor tracks and charging cars is not yet complete, but temporary arrangements have been made for partially carrying out this system in connection with the battery of the seven boilers on the western side.

The permanent arrangements for Hunt apparatus are at present in course of construction by day-labour.

The western battery was completed, as far as Messrs J. Stewart & Co. are concerned, on about the end of July, 1899, or about forty days after the time fixed for the completion of their contract for setting the fourteen boilers.

A contract for electrical travelling cranes to be erected in the power-house was let to Messrs. K. W. Peabody & Co. on 11th February, 1898, which was delivered in contract time—August, 1898. Contract for  
electrical  
travelling  
cranes.

A contract for the manufacture and delivery of the columns and girders required to carry the travelling cranes was let to Messrs. R. L. Scrutton & Co. on 17th June, 1898, which was not completed before 22nd December, 1898, three months and thirteen days after the time fixed for delivery. The remaining contracts did not in any way affect the chief causes of delay.

A complete list of the various contracts, giving particulars of cost, dates, &c., is appended to this report.

#### CONCLUSIONS ON DESIGN.

The design of the various works at Ultimo for supplying power and providing accommodation for the rolling stock, and the officers and men engaged in operating the tramways, is very complete. The buildings are conveniently located for economical development of power and its transmission to the various tramways which will ultimately be supplied from this central station. There is also a reasonable provision for future extensions, which should meet the requirements of Sydney for a very long time.

The power-house is equipped in a most complete manner with boilers, engines, generators, switchboard, and various apparatus and appliances in connection with the generation and distribution of the electrical energy. The engines have been designed and built by Messrs. E. P. Allis & Co., of Milwaukee, one of the largest and most successful engine builders in America, who have devoted special attention to the requirements of tramway service, and have built several hundreds of engines for the various electrical tramways and railways in America. The engines at Ultimo are well up to the latest and best practice, and are provided with the Reynolds-Corliss valve gear, complete steam jackets, superheaters, and other appliances for securing economical consumption, so much so that it is expected that 1 horse-power will be developed for every  $13\frac{1}{2}$  lb. of steam supplied when working under the most favourable conditions. The boilers and the methods of charging the furnaces and removing the ashes have been designed with reference to economical steam generation, and they should give a high evaporative efficiency, and a low cost in working expenses.

The electrical generators are of the latest type, supplied by the well-known General Electrical Company of Schenectady, New York, America, for railway traction purposes. They are substantially built to stand the severe strains to which they will be subjected in tramway work, and are mechanically and electrically designed in accordance with the latest modern practice.

The feed and circulating pumps, which are electrically driven, appear to be suitable for the duties they will be required to perform. The three-throw feed pumps with cranks at  $150^\circ$ , gives a fairly uniform resistance to the electric motor, and the centrifugal pumps are specially suited to electrical driving. The Blake steam-feed pump is a wise provision as a reserve. In

In regard to the methods adopted in wiring behind the switch-board, we consider that these are not in accordance with the best practice, in view of the risks of fire.

The permanent-way, feeders, trolley-wires, and the method of carrying them by means of centre poles with projecting arms, appear to have been constructed with due regard to economy and convenience in working, as far as can be judged from a superficial inspection. In design the methods adopted in Europe and America have been generally followed.

It is necessary to state, however, that the feeder junction boxes have not the required insulation. It was not until the full line voltage was available for testing that this evil was detected. Steps have been taken to remedy this defect, which will certainly cause some delay.

During the trial trip on 6th November of the whole length of tramway, we observed that in passing over the switches in connection with the cross-over roads, considerable jarring occurred; this may probably improve under traffic. The loop at Circular Quay was traversed three times, and the cars passed round smoothly on each occasion. The shunting operations at the Harris-street terminus appear suitable, and generally the trip was successful.

#### CONCLUSIONS IN REGARD TO THE VARIOUS STEPS TAKEN FROM TIME TO TIME TO COMPLETE THE WORK IN A BUSINESSLIKE AND SATISFACTORY MANNER.

It is necessary to point out that the magnitude and cost of the works at the Ultimo Power-house is very much greater than originally contemplated by the Public Works Committee in their report on the George and Harris Streets Electrical Tramway. The scheme submitted to the Public Works Committee provided for the supply of power from the engines in the Rushcutters' Bay Power-house, and left only the generators, belting, feeder cables, accumulators, the laying of the permanent-way and trolley-wires, which Mr. Deane stated could all have been completed in about a year or fifteen months. It has been estimated that the power required to work the George and Harris Streets tramway during the busy portion of the day, when the heaviest traffic occurs, and thirty-six cars are running continuously, is about 600 horse-power. Now, if three of the four units in the Ultimo Power-house are developing the full power, and the fourth one standing as a reserve, they will develop about 3,400 horse-power or over five times the maximum power required to work the George and Harris Streets tramways. It appears, therefore, that the present scheme is vastly greater than that originally contemplated, and the time necessary to complete this work would be correspondingly greater; so that the adoption of the complete scheme at Ultimo is the primary cause for the delay which has occurred in opening the George and Harris Streets tramway.

The second cause of delay was due to the alteration of the unit from 800 k.w. to 850 k.w., as the General Electrical Company did not send drawings of their 850 k.w. machine, or the necessary dimensions of the larger engines required to drive them, with their alternative tender. In consequence of the adoption of the 850 k.w. unit, it was therefore necessary to wait for the arrival of the foundation plans from America before the plans of the power-house buildings could be proceeded with as far as the roof over engine-room was affected. As these did not arrive until the end of December, 1897, and the report of the Committee was adopted by the Railway Commissioners on 17th June, 1897, it follows that six months' delay occurred from this cause alone.

In consequence of this loss in time in commencing the drawings of the power-house buildings, and the fixing of the time for the completion of the engines and generators at such an early date, it was impossible to have completed the foundations and the roof over the power-house in time to proceed with the erection of the plant immediately after its arrival in Sydney.

The delay in completing the engine-room prevented the contractors for the engines and generators completing their work in contract time; for although they delivered the plant in April, 1898, the erection could not be commenced until twelve months later. The roof was not covered in sufficiently to protect the machinery until May, 1899.

Again,

Again, the long time occupied in preparing the necessary drawings and specifications for the power-house from the commencement of the year 1898, and the twenty-five days occupied by the Railway Commissioners in considering the plans before finally approving of them, which together delayed the letting of the contract for these buildings until 27th June, 1898, is much to be regretted, considering the urgency of the matter, and the desirability of proceeding with the erection of the machinery as soon as possible after its arrival, in order to minimise the possible damage to the machinery, more especially the insulation of the various coils in the generator. But it is necessary to consider that Mr. Deane was not allowed a free hand in regard to obtaining the services of extra assistance in preparing the plans, and he has clearly shown that to obtain such extra assistance through the Public Service Commissioners in the usual way would have taken necessarily nearly as long as to prepare the drawings with the staff at his disposal. Again, the time occupied by the Railway Commissioners in order to thoroughly satisfy themselves as to the efficiency of a great system, which they would ultimately have the responsibility of working successfully, economically, and with due regard to the convenience of the public, is difficult to criticise. Moreover, both the Railway Construction Branch and the Railway Commissioners had at the same time other important matters to attend to; so that we consider that this delay is clearly to be attributed mainly to the system under which the work was controlled, rather than to any of the individuals concerned.

We consider also that, in view of the six months which was lost in waiting for the correct dimensions of the plant from America, decided steps should have been taken to inform the manufacturers in America, who should have been required to delay the delivery of the plant until such time as the buildings could be reasonably expected to be sufficiently advanced to receive them, thus avoiding the risks of storage, and reducing the time occupied in drying out. Mr. Deane states that he sent a letter to Mr. Fischer to this effect. This letter, however, does not appear to have reached its destination. It was a mistake, in the first instance, in our opinion, to bind the contractors for the machinery to complete within such a short time as forty-six weeks.

In regard to the magnitude of Messrs. J. Stewart & Co.'s contract, and the extra work necessary in the foundation of the walls of the buildings and the plant, six months appears to have been too short a time; but the total time allowed, viz., ten months, was ample to complete the contract. They claim that the delay in the roof was due to the difficulties they experienced in obtaining the rolled steel sections for the principals and framing, in consequence of the exhaustion of stocks in England owing to the strike, and in America owing to the war. They also claim that the employment of such a variety of sizes in the rolled sections in the roof, some of which were not marketable and had to be specially rolled, caused further delay in obtaining the material, and that they spared no expense in cablgrams in ordering the material, and did their best to expedite the work.

After carefully considering all these circumstances of the case, we consider that the time when the material was ordered was unfortunate, owing to the state of the markets in regard to rolled sections and the urgency of the matter. Messrs. J. Stewart & Co. may possibly be entitled to some consideration in this respect; but there should have been no great, if any, delay in consequence of the variety of the sections or their dimensions, and further, that Messrs. J. Stewart & Co. should have made the necessary arrangements before sending in their tender, which would have enabled them to order the material immediately after they had obtained the contract. We consider that Messrs. J. Stewart & Co. did not use every effort to push on the buildings, and that the chief cause of delay in the power-house is attributable to their inability to carry out their contract in reasonable time.

In regard to Messrs. J. Stewart & Co.'s contract for boiler setting, the delay caused has been stated to be due to the fittings and mountings not being obtainable in Sydney or within the Colony, and that they had to be ordered specially from Messrs. Dewrance & Co., the makers in London. There was also some delay in obtaining the cast-iron floor-plates and tracks in connection with the Hunt's coaling arrangements.

We consider that the delay in the completion of this contract might well have been avoided, but that no serious inconvenience has been experienced, as the western battery of seven boilers is ready for steam.

THE FAILURES WHICH HAVE TAKEN PLACE IN THE CARRYING OUT OF THE  
NECESSARY TESTS.

Upon arrival two of the generators were stored at Garden Island, and two in railway trucks. As far as we could ascertain no steps were taken to inspect the machinery after arrival. It was stored in its cases until ready for erection. No steps appear to have been taken to ascertain whether the generators arrived in a damp condition. When the erection of the machinery was commenced the armatures were unpacked and pressed upon the shafts. As the power-house was not at this time covered in, the armatures could only be protected from the weather by means of tarpaulins. As soon as the frames of the generators were erected, the field coils were unpacked and placed in position.

As the erection of the generators necessarily proceeds with that of the steam-engines, the armatures, after being pressed on the engine shaft, had to stand some time until they could be mounted. One of the armatures, on its shaft, was standing in a cellar when a rain storm filled the cellar with water to a depth "enough to wet one's boots." Another was wet by rain coming on while the armature was being pressed on the shaft.

When the machinery was erected steps were taken to dry-out the generators. This was accomplished by putting them on short circuit, thus passing a heavy current at low voltage through the coils. This process, which is necessarily slow, was continued until the insulation resistance, as measured by a high resistance volt meter, was three megohms. The shunt field coils, which consist of many turns of thin wire, took considerable time to dry out. Until the generators were dry they could not be built up to voltage, and so the engines could not be loaded. When the generators had been sufficiently dried out an artificial load was put on them by means of a water resistance. The steam-engines were run at no-load for some time, and then the load gradually put on. In the case of No. 2 engine, when the load had reached about 500 h.p. the crank-pin bearings became too hot to run. The same thing occurred with the crank-pin bearings of No. 1 and No. 3 engines. No. 4 engine and generator has not been tested nor dried out as the fly-wheel was being turned up. This work has now been completed, and steps are being taken to dry out No. 4 generator. Two of the engines and generators may now be said to be practically in working order.

PROPOSED TESTS OF ELECTRICAL GENERATORS.

Clause 38.  
Output.

The specifications for the generators were as follows :—

The generators are to be of the multipolar type, and are to be designed to be operated at a speed of one hundred (100) revolutions per minute, and to give an output of eight hundred (800) kilowatts each, viz. :—1,450 amperes at 550 volts. Each generator must also be capable of delivering 2,175 amperes for short periods of time—*i.e.*, to take an overload of 50%, without excessive heating.

Clause 39.  
Compounding.

The generators must over compound ten per cent. (10 %)—that is to say, the pressure at the generator terminals with no-load must be 500 volts at the specified speed ; and when a current of 1,450 amperes is being given off, must be 550 volts at the same speed. On being submitted to a test after six (6) hours' continuous work at full-load, each generator must give the above results within one per cent. (1 %) of accuracy, and the rise of pressure due to the increase of current from zero to 1,450 amperes must not be less than 47 volts or greater than 53 volts. The generators shall be so constructed and wound that the increased pressure at any load shall be approximately proportional to the current.

Clause 40.  
Sparking.

The generators must be capable of supplying any current from no-load to twenty per cent. (20 %) above full-load without observable sparking ; and must also be capable of a sudden change from over-load to no-load, and from no-load to full-load without injurious flashing at the commutator, the brushes in all instances remaining stationary.

Clause 41.  
Heating.

The generators must be capable of working continuously at full-load without any portion heating to a greater extent than seventy degrees (70°) Fah. above the temperature of the surrounding air ; and this result must be obtained without the assistance of any fan or other method of cooling the generators.

Clause 42.  
Efficiency.

The commercial efficiency of the generators at full-load must not be less than ninety-four per cent. (94 %)—that is to say, the electrical power measured at the generator terminals must be at least ninety-four per cent. (94 %) of the power communicated by the dynamo shaft.

The

The insulation between either of the field coils and the frame, between the armature and frame, between the commutator and frame, and between the series field coils and the shunt field coils must all stand an insulation test of 5,000 (five thousand) volts alternating current. The test must be made by a transformer of at least 15,000 watts capacity. Clause 43,  
Insulation.

None of the generators have, as yet, been tested to full load for the various reasons already mentioned. This prevents the tests specified as to output and overload, compounding, heating, flashing, and efficiency being made. With regard to the insulation test specified, viz., 5,000 volts alternating current, considerable correspondence has taken place between Mr. Deane and the late Mr. Elwell. It appears that Mr. Elwell was anxious to have the 5,000 volt test applied in Sydney before the generators should be taken over by the Railway Commissioners. Mr. Deane maintained that this high potential test was a workshop test to insure good insulating material being used, and that the test applied by measuring the insulation resistance by means of a high resistance volt meter was sufficient for ordinary running. From the report of Messrs. R. W. Hildreth & Co., Inspecting Engineers for the manufacture of the steam engines and generators, it appears that these high potential tests have practically been carried out in the General Electrical Company's workshops.

In the report abovementioned, Messrs. Hildreth & Co. state:—"In view of the fact that it was not feasible to assemble the generators, it is not possible to make a running and temperature test, and no insulation test was insisted upon by us. This matter of final test was carefully discussed with Mr. Fischer, and it was decided that, inasmuch as complete tests could not be made, it was advisable to hold the makers solely to the final test at Sydney. However, the makers made their usual test as follows:—The armature and spools were in each case subjected to an insulation test of 5,000 volts. The commutators were similarly tested for a flashing test."

As a result of the discussion between Mr. Deane and the late Mr. Elwell, it was decided to reduce the high potential test to 2,500 volts alternating current.

Owing to the unusual treatment to which the dynamos have been subjected, in the opinion of the Board it would not be advisable to apply the high potential test of 2,500 volts until the generators have been running under full load for at least a month and are thoroughly dry. The fact that this test should not be applied until the generators are thoroughly dry does not imply that traffic could not be commenced until the dynamos would stand this test. We consider that when the insulation resistance between the armature and frame, shunt field coils and frame, series field coils and frame, and between shunt field coils and series field coils is in each case greater than 1,000,000 ohms, this resistance to be in each case determined by a high-resistance volt-meter, the voltage being 550 volts, the ordinary traffic might be placed upon the generators.

As the dynamos have been stored for some time and subjected to considerable dampness, special care should be exercised to record the condition of the insulating material daily, with a view to ascertaining whether the generators have suffered any permanent injury.

We have not been able to make the various tests specified for the engines and generators, as the plant is not sufficiently completed, nor in a fit state to admit of such tests, and, moreover, the limited time allowed for this inquiry would have rendered it impossible in any case to have included the results of these tests in our report.

We have the honor to be,

Sir,

Your obedient Servants,

W. H. WARREN,  
Chairman,

J. A. POLLOCK,

B. WALLACH.



## GEORGE-STREET AND HARRIS-STREET ELECTRIC TRAMWAY.

TABLE giving Particulars of the various Contracts.

Contract No.	Contract.	Contractor.	Amount of Tender.	Tenders called.	Date of acceptance.	Date fixed for completion as per Specification.	Time extended to.	Actual date of completion.	Remarks.
			£						
1	Plastic bend .....	Noyes Bros. ....	900	10 Dec., 1896	16 Dec., 1896	18 June, 1897	.....	18 Jan., 1897	
2	Mannesmann poles .....	Foreign Agency Co. ....	1,785	3 Feb., 1897	30 April, 1897	17 Sept., 1897	.....	17 Sept., 1897	
3	Steam engines and generators .....	H. H. Kingsbury & Co. ....	33,119	4 May, 1897	12 July, 1897	20 July, 1898	.....	.....	
4	George-street permanent-way .....	Willmott and Morgan .....	25,690	18 Oct., 1897	2 Nov., 1897	5 " 1898	30 Sept., 1898	1 Oct., 1899	
5	Harris-street permanent-way .....	J. McSweeney .....	12,754	18 " 1897	29 Oct., 1897	26 June, 1898	.....	26 June, 1898	
6	Tracks to car-house entrance .....	H. W. Peabody & Co. ....	1,200	Quotations ...	15 " 1897	15 May, 1898	.....	15 May, 1898	
6A	Points and crossings, King and George Streets .....	.....	268	.....	15 " 1897	15 " 1898	.....	15 " 1898	
7	Steam boilers .....	G. and C. Hoskins .....	4,718	12 July, 1897	24 Aug., 1897	24 Aug., 1898	31 Jan., 1899	31 Jan., 1899	
8	Boiler settings and mountings .....	J. Stewart & Co. ....	7,135	3 Jan., 1899	30 Jan., 1899	19 June, 1899	.....	.....	Almost completed.
9	Switch board and connections .....	H. H. Kingsbury & Co. ....	2,750	15 Aug., 1898	31 Aug., 1898	4 Jan., 1899	1 month after gallery is ready.	.....	Practically completed.
10	Accumulators .....	H. Adams & Co. ....	1,748	12 April, 1898	5 May, 1898	22 Sept., 1898	.....	.....	Practically completed.
11	Overhead material .....	Various orders .....	2,000	.....	.....	.....	.....	13 Sept., 1899	
12	Power-house and offices .....	J. Stewart & Co. ....	19,797	6 June, 1898	30 June, 1898	29 Dec., 1898	.....	.....	Practically completed.
13	Ironwork for poles .....	J. J. Wood .....	1,919	18 Oct., 1897	3 Nov., 1897	23 Mar., 1898	.....	23 Aug., 1898	
14	Car-house .....	J. Stewart & Co. ....	12,490	23 Dec., 1897	4 Jan., 1898	24 May, 1898	.....	— Dec., 1898	
15	Travelling cranes .....	H. W. Peabody & Co. ....	2,293	Quotations ...	11 Feb., 1898	— Aug., 1898	.....	— Aug., 1898	
16	Feeder cables and junction boxes .....	Noyes Bros. ....	5,134	5 July, 1897	22 Nov., 1897	11 April, 1898	.....	11 April, 1898	
17	Circulating and feed pumps .....	H. P. Gregory & Co. ....	4,680	8 Aug., 1898	21 Oct., 1898	23 " 1899	.....	25 May, 1899	
18	Water conduit .....	J. McSweeney .....	3,895	18 April, 1898	29 April, 1898	21 Oct., 1898	30 April, 1899	1 Oct., 1899	
19	Portable offices .....	C. Shuker .....	155	20 Dec., 1897	8 Jan., 1898	19 Feb., 1898	.....	19 Feb., 1898	
20	Excavation, power-house site .....	C. McClure .....	1,418	8 Nov., 1897	23 Nov., 1897	22 " 1898	.....	22 " 1898	
21	Chimney .....	Phippard Bros. ....	2,365	31 Jan., 1898	21 Feb., 1898	22 Aug., 1898	.....	30 Nov., 1898	
22	Return feeders .....	C. Kolling .....	2,342	15 Nov., 1897	7 Dec., 1897	14 Feb., 1898	.....	14 Feb., 1898	
23	Material for cross bonding .....	W. Hoskins & Sons .....	239	17 Jan., 1898	3 Mar., 1898	12 May, 1898	.....	12 May, 1898	
24	Trolley wire .....	C. Kolling .....	775	13 " 1898	25 Jan., 1898	25 June, 1898	.....	25 June, 1898	
25	Steel columns and crane girders .....	R. L. Stratton & Co. ....	1,040	15 June, 1898	17 June, 1898	9 Sept., 1898	.....	22 Dec., 1898	
25	High pressure steam piping .....	H. W. Peabody & Co. ....	1,459	7 Nov., 1898	18 Nov., 1898	10 Mar., 1899	.....	10 Mar., 1899	
27	Store and repairing shop .....	T. E. Spencer & Co. ....	2,699	24 Feb., 1899	24 Mar., 1899	22 Sept., 1899	.....	.....	Almost completed.
23	Station wiring (cables) .....	India-rubber G.P. & T. W. Co. ..	777	11 Jan., 1899	13 Jan., 1899	26 May, 1899	.....	14 June, 1899	
29	Low pressure steam piping .....	H. Vale & Sons .....	2,119	6 Feb., 1899	16 Feb., 1899	25 " 1899	30 May, 1899	8 Oct., 1899	
30	Covering for steam piping (large) .....	W. Adams & Co. ....	330	20 " 1899	9 Mar., 1899	20 April, 1899	.....	.....	Being carried out.
30A	Covering for steam piping (small) .....	Renwick .....	33	20 " 1899	9 " 1899	4 May, 1899	.....	.....	"
31	Office and W.C. accommodation, Circular Quay .....	Eaton Bros. (lowest) .....	262	25 June, 1899	.....	8 weeks from date of acceptance.	.....	.....	Almost completed.

21st October, 1899.

# MINUTES OF EVIDENCE

TAKEN BEFORE

## THE BOARD OF INQUIRY

APPOINTED TO INQUIRE INTO THE

# CONSTRUCTION OF THE GEORGE AND HARRIS STREETS ELECTRIC TRAMWAY.

MONDAY, 23 OCTOBER, 1899.

Present:—

PROFESSOR WARREN (CHAIRMAN).  
PROFESSOR POLLOCK, | MR. B. WALLACH.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works,  
examined:—

*Mr. Deane:* The Act authorising the construction of the George and Harris Streets tramway was assented to in September, 1896. At that time it was intended to provide power at the Rushcutters' Bay power-house; but shortly after that Act was passed, the Railway Commissioners, and especially the late Chief Commissioner, who took the matter personally in hand, began to discuss the desirability of having a central power-house in Ultimo. I, myself, was always very much in favour of having the central power-house there, although Mr. Elwell tried to see what could be done in arranging for a central power-house at Rushcutters' Bay, in consideration of the expenditure which had been incurred at that place. However, it was ultimately decided to provide the central power-house as near as possible to the centre of the whole tramway system, and the most suitable place where the necessary land could be obtained, was near the head of Darling Harbour. At the instance of the late Chief Commissioner for Railways, first of all I made many inquiries as to a site available for a large car-house in connection with the system. At one time it was thought that portion of the University grounds would be obtained, and I was instructed to interview the Chancellor (Dr. MacLaurin) in the matter. That idea, however, was eventually discarded, and a proposal was made by the Omnibus Company to sell their land between Mary Ann-street and Macarthur-street. I do not remember exactly the actual steps taken in the first instance to secure the land for the whole scheme, because it was concluded that the proper thing to do would be to keep, if possible, everything together; but I know that the first proposal was to purchase the block between William Henry-street and Macarthur-street, and between Harris-street and Pyrmont-street, which was a square block, and to have the power-house fronting Harris-street, and the car-house down below in the hollow adjoining the railway premises. Eventually, however, it was decided that it would be less costly to take the whole strip between William Henry-street and include the back part of the two blocks between William Henry street and Mary Ann street, leaving the frontage to Harris street—which would be made more expensive to resume—intact. Steps were then taken to secure this property, which was ultimately done, part of it being purchased from the Omnibus Company and part from the Harris Estate. Sketches were prepared showing how the power-house, the engine-house, and the car-shed, might be adjusted; and prices were invited from a number of electrical firms for the supply of engines and generators. When these came in, I think, as it was shown in the papers—about May or June, 1897—I asked that the late Mr. Elwell and Mr. Thow, of the Railway Commissioners' Department, might confer with me, and report jointly on the question and the selection of the particular tenders, and this was agreed to. In March of this year the Minister wished to have a report upon the progress of the works, and I wrote a report dated 2nd March, 1899, giving an outline of what had taken place, and the reasons for there having been so much apparent delay at that time. But before going into that report I should like to make a few remarks as to what I always urged should be done to enlighten the public as regards the work which it had been decided to carry out. The public were led to suppose from my evidence, and from statements made before the Parliamentary Standing Committee on Public Works, that about a year would be quite sufficient to construct the George and Harris Streets tramway, and this would have been the case had the original intention been carried out; but the Public Works Department were never informed until a few months ago—and now they do not really grasp the fact—that the original intention was abandoned. From time to time excuses were made for delay, and new times were fixed for the completion of the work, with which, for the most part, I had nothing whatever to do. The public naturally could not understand the extreme

H. Deane,  
Esq.  
23 Oct., 1899.

H. Deane,  
Esq.  
23 Oct., 1899.

delays that were taking place, not having been made aware that the original intention to construct this line and provide power—at the cost of £130,000—had been abandoned, and that instead of this, works were going on at Ultimo to provide power for converting the whole of the tramway system to electrical traction, at a cost nearly equal to the original sum set down for the construction of the tram-line. I urged the Minister over and over again to enlighten the public, and it seemed that at the time it was not convenient to do so, for political reasons. I have nothing to say as to that. It may be a complete justification for not enlightening the public, but at the same time it was very unfair to me, and I take this opportunity of stating so.

*Chairman*: If the original intention had been carried out, and the power-house at Rushcutters' Bay had been used, that part of the system would have been long since complete? Yes.

And your having to simply put on the generators to supply the necessary horse-power, I take it that all this-trouble would not have existed at all? That is correct.

The work would then be devoted to laying the lines? Simply laying the lines and putting small generators down, which would be arranged to be driven from the main shaft, with or without counter shafts, because there is surplus power available. The greatest power, I believe, that has been indicated at Rushcutters' Bay, including all the work they are doing in connection with the cable tram and Rose Bay electric tramway, and sewerage works, is under 400 horse-power.

What is the capacity of the engines? 750 horse-power each. They were supplied, not to work the Ocean-street cable tramway alone, but the Minister (Mr. Lyne) who was in office at the time gave instructions that power should be provided for a cable extension to Rose Bay, and for a branch cable line to Paddington. Plant was therefore provided for the extra power which was thought to be necessary at the time.

I was under the impression that the engines at Rushcutters' Bay power-house were 1,000 horse-power each? They will develop 1,000 horse-power economically; it is just a question of cut off what they are reckoned to be.

Will you now read your report? It is a statement which was made on 2nd March, 1899, and it only requires a little supplementary information to bring it up to date. It is as follows:—

The original intention was to supply the power for the George-street and Harris-street tramway from Rushcutters' Bay, the estimated cost of doing this, as given to the Public Works Committee, was—

Power .....	£11,150
Feeders .....	6,000

No provision was made for additional building, it being considered that the accommodation provided in the existing building was ample.

The power required to work the George-street and Harris-street tramway, taking into consideration the railway and Harris-street traffic alone, is estimated at 540 h.p. Forty cars were to be provided; so that, taking thirty-six cars as being constantly in active service during the busy times of the day, this would mean an average of about 15 h.p. per car. There is sufficient reserve power in the engines at Rushcutters' Bay to provide for this, so that by adding electric generators driven by a system of shafting, the whole could have been economically arranged. The proper provision to make would be three generators of, say, 300 h.p. each, so as to provide a small surplus and one machine in reserve; but even suppose it had been found more suitable to leave the reserve power at Rushcutters' Bay for the Rose Bay or other extensions, engines and generators of a total of 900 h.p. could be provided at a cost of £9,000, leaving the balance to defray the cost of two additional boilers and other contingencies that might arise. The George-street and Harris-street Tramway Act was assented to on 14th September, 1896.

Soon after this the Railway Commissioners came to the conclusion that as the conversion of the whole of the tramways to electric traction was contemplated, it would be wise to make George-street and Harris-street tramway part of the complete system, and commence the installation of the power at one spot. The matter was, as will be seen from the papers, discussed between the Minister for Works and the late Chief Commissioner, with the result that it was in the end decided to secure land in Ultimo in contiguity to the Darling Harbour Station yard, where eventually power to the extent of 20,000 h.p. could be laid down, as well as accommodation for 200 cars.

The visit of the eminent electrical authority, Professor Forbes, and his concurrence in what was being done, helped to clinch the matter.

It is to be noted that at the time (1st November, 1896), that the money (£130,500) for the George-street and Harris-street tramway was voted, the Railway Commissioners obtained a vote of £150,000 for conversion purposes, and that an Act had been previously passed—22nd October, 1896—to enable them to adopt electricity as a tractive force, and erect overhead electric conductors in the city of Sydney.

As part result of the conference between the Minister for Works and the late Chief Commissioner it was decided that the work of providing buildings and power for the conversion of the tramways should be carried out by the Railway Construction Branch.

As a first step towards providing power at Ultimo, twelve electrical firms, who were considered competent to tender, were, on the 13th January, 1897, invited to send in prices for four complete sets of engines and generators of 800 kilowatts (1,072 h.p.) each. Seven firms responded to this call on the 4th May, 1897, among whom were the General Electric Company of New York, who have carried out, it may be stated, a larger amount of traction work in the world than all other firms put together. This firm is represented by H. H. Kingsbury and Company of this city. The General Electric Company put in a number of alternative suggestions, almost any of which, in the matter of price and efficiency, appeared to be superior to the tenders received from the other firms.

The prices were for the engines and generators as specified to be of 800 k.w. each, but the tenderers added a recommendation that the power of the unit should be raised to 850 k.w., because, although up till recently the 800 k.w. machine was the adopted standard, a new and improved machine of 850 k.w. had now been recently constructed by them, and was being generally adopted where a machine of about that power was required.

The decision as to which of the tenders received should be accepted being one involving considerable responsibility, I obtained the approval of the Minister for Works and the Railway Commissioners to avail myself of the assistance of Mr. Thow, Chief Mechanical Engineer, and Mr. Elwell, Chief Electrical Engineer, in coming to a conclusion. After going into the matter carefully, a joint report was prepared on the 15th June, 1897, and submitted both to the Minister for Works and the Railway Commissioners.

The report recommended the acceptance of one H. H. Kingsbury & Company's tenders, and the size of electrical unit determined upon was the 850 k.w. machine, as suggested by the General Electrical Company. There were a few other minor recommendations embodied, one especially having reference to the governor-gear, which was afterwards made part of the stipulations of the contract. The recommendations contained in the report were approved by the Minister and the Railway Commissioners.

The prices submitted by the General Electrical Company, through H. H. Kingsbury & Co., were for the General Electric Company's electric generators, with engines, either of the E. P. Allis Company, Milwaukee, or of MacIntosh and Seymour. The Allis Company's engines were selected. Blue prints, with all the principal dimensions of the engines and 800 k.w. generator, were furnished with the tenders; but, in consequence of the proposed substitution of 850 k.w. generator, and the alteration in the governor gear, it was necessary to have the measurements of the larger machinery before arranging for the disposal of the space in the engine-house. The importance of having these dimensions absolutely fixed before the design of the power-house could be completed, is evident from an inspection of the plan. It will be seen that the division of the roof into bays, and its height, depend upon the space taken up horizontally and vertically by each engine, and extreme care was required in fixing the positions of the columns along the centre of the building, and the piers of

of the side wall carrying the crane girders. It was not thought at the time that there would be any serious delay, such as afterwards occurred; otherwise it would have been better to postpone giving the first order for the machinery, or allow a longer time for its delivery and completion.

The time allowed for completion was forty-six weeks (the date being fixed at 6th July, 1898); but as it had meanwhile been arranged that my assistant, Mr. Fischer, was to proceed to America for the purpose of settling the design of the governor gear and some other details, as well as to meet the inspectors of the machinery, and thoroughly imbue them with our ideas as to quality of material and workmanship required, the date from which that period was to commence was practically the date of Mr. Fischer's arrival in Milwaukee. His departure from Sydney having been unavoidably delayed, this proved to be the 3rd September, 1897; so that the proper date for completion of the contract would be 20th July, 1898.

There should have been no great delay in furnishing the required dimensions to enable me to go on with the building design; but, as a matter of fact, I only received them about Christmas, 1897.

As soon as the general plan of the machinery was determined upon in June, 1897, I instructed Mr. Fischer to get out a sketch plan, and elevation of the power and boiler house. I find that a copy was furnished to Mr. Elwell, in August, 1897, and as no further suggestion was made, I concluded that, generally speaking, the design of office accommodation was satisfactory.

The death of the late Chief Commissioner on 21st June, 1897, was a most unfortunate occurrence, especially as he had taken so much personal interest in this question, and had assumed the responsibility of settling details. I may say that I was frequently in conference with Mr. Eddy on this and other constructions questions.

During Mr. Fischer's absence in America plans were completed and contracts let for the permanent-way of the George-street and Harris-street tramway, and designs were prepared and contracts let for the car-house, the construction of which involved a very considerable amount of careful thought, as the foundations proved to be exceedingly bad, and nearly the whole place—walls, columns, pits, and roads—had to be placed on piles.

With regard to the power-house, sketch designs were begun, but could not be completed owing to the absence of proper dimensions; and it was only at the latter end of December—after the information had arrived—that designs could be energetically pushed forward. A contract, however, had already been let and carried out for the removal of surface material to foundation level, at the site. This work was completed on the 23rd February, 1898.

On the 19th March, 1898, I formally submitted to the Railway Commissioners, in accordance with clause 28 of the Railway Act, a plan showing the whole arrangement of the power-house site. After considerable discussion, a decision was come to on 13th April, 1898, after which the matter could further proceed. Office accommodation finally determined upon does not differ materially from that suggested in August, 1897, the accommodation proposed being such as to be sufficient when the tramways had all been converted, and when the business done may be expected to be of a very large and important character.

Contract plans for the building and foundations were completed and tenders called on 23rd May, 1898, returnable 13th June, 1898 (afterwards extended to 27th June).

The commencement of the erection of the building having from one cause and another been so much delayed, and some of the heavy machinery having already arrived, I endeavoured to make the best arrangements possible to get the site ready to put some of it in place. Therefore I anticipated the tenders for the building, which were to come in on 27th June, 1898, and, with the approval of the Minister, let a contract for the manufacture and delivery of the columns and girders required to carry the travelling cranes, the use of which, if allowed to the machinery contractor, would go far to make up for lost time. I ascertained that the bars and plates required were in Sydney, and the contract which was made with Scrutton & Co. provided that they were to complete at the end of September, when the building contract was to be ready with the side walls and foundations to put them up at once. Unfortunately Scrutton & Co. were not up to time, as they had failed to secure some of the material which at the outset was actually in Sydney, and when the girders and columns were ready to put in place, the building contractors, Stewart & Co., were not prepared to take delivery and erect. Had everything gone off as calculated by me in the previous June and July, the erection of the machinery could have been commenced about the third week of October, and, as Mr. Allen, of H. H. Kingsbury & Co., assured me, two months would be ample to get two sets of engines and generators in place and working. The building ought also to have been roofed in by the end of this time, and the final completion of the rest of the electrical work, which must be done under cover, could then have been effected.

As to the delay in the erection of the building, some observations are necessary. The contract was let to Stewart and Co. on the 30th June, 1898, rather more than five weeks after tenders had been called. The time for completion was 30th December. One would have expected a contractor of Mr. Stewart's ability and experience to have made such provisional arrangements for the supply of ironwork, bricks, and other material, so that the progress of the building would not be hindered. As it happened, however, several causes of delay have occurred, more or less important. The worst were those connected with bricks and ironwork of roof. With regard to bricks, had I been willing to allow an inferior article to be put in the work, or, in the case of the front elevation, let the facade have a patchy appearance from want of uniformity in colour, the brickwork could, no doubt, have proceeded faster. As it was, in consequence of a quarrel with the brickmaker, failure of kilns, and the inability of the contractor to get exactly what was required, the work has not progressed as it might very well have done. Had these difficulties not occurred—and there is absolutely no reason why, in a city the size of Sydney, they need occur—the walls of the engine and boiler house, and the whole of the front building, the floor and roof, might very well have been completed up to contract time.

With regard to the design of the ironwork for the roof, I took the greatest possible care to see that only standard and marketable sections have bars as shown, and had there been any difficulty about any particular section, I should have been willing to adopt in lieu of it another, which would equally answer the purpose, as I have not infrequently done in the case of bridge work manufactured in the Colony. Had Mr. Stewart at once given an order through Scrutton & Co., or some other leading firm of importers, the matter ought, under ordinary circumstances, to have been in a position to supply him with some of the material to go on with within four months, and in six months the whole route could have been completed. Usually there is no difficulty whatever in buying at a moment's notice in England or America any marketable section of iron or steel, and the quantity required for the power-house roof is not large. In this case, however, it was stated, probably with truth, that the engineer's strike in England and the Spanish war had caused the exhausting of stocks both in England and in America, and the agent had to wait for some of the material to be rolled afresh before it could be shipped out. There is a point, however, about which Stewart & Co. are very much to blame, and the fact has only come to my knowledge within the last two or three days, and that is, that they sub-let their roof-work at the start without the Minister's sanction to Tulloch & Co.—that is to say, not merely the labour of making up in this Colony, but also the provision of the material. This is not only an infringement of the general conditions of the contract, but it is an attempt to relieve themselves of responsibility and trouble in a way they have no right to do. Had I known of this at first, I should have strongly objected to such sub-letting.

With regard to the boiler setting, this might, if urgently required, have been let as long ago as July last as the plans were then practically complete, but there was no necessity to do so. One stack of boilers could easily be got ready in three months, and we did not want them till near the end of the year, and the time was utilised to discuss the coaling arrangements with Mr. Elwell, the question of mechanical stoking and coal-conveying being the subject of very careful inquiry. The questions were gone into from a consideration not only of first cost, but also of economy in working; and it was finally decided to adopt what I had previously proposed to adopt—the Hunt Company's system of cast-iron floor-tracks and charging cars.

Tenders came in on the 3rd January, and Stewart & Co.'s modified tender was, contrary to my recommendation, accepted.

The tenderers afterwards found that they were not in a position to carry their own proposition out, and the contract had to be altered back to agree with my specification; but the new acceptance was only issued on 30th January, twenty-seven days after the tenders came in.

During the construction of the George-street permanent-way contract, considerable complaints arose as to the slow way in which it was being done. Much has been said on this subject, and it is scarcely necessary to refer again to it more than to point out that the work in a street like George-street cannot be carried out like an ordinary tramway in a less important street. Such a street can only be closed in sections, and the contractor is hampered in every way.

The work can only be carried on by day, as it is not safe to do either concrete work or electrical work of special character, except under an illumination which is not obtainable in the streets at night. Further, a good deal more electrical work

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work on the roadway was done than the original design provided for. It was intended that the rails should take the whole of the return current; but in view of the enormous traffic that must eventually arise, it was afterwards arranged to put down special copper cables to assist the rails.

There still remains a portion to be done by my Branch after the curve at the Fire-station is completed, namely, the terminal loop and turn-outs at the eastern side of the Circular Quay, which was an arrangement asked for by the Railway Commissioners, and finally approved by them as late as the 15th November, 1898. This involved a lot of difficult and special work, which is still in course of preparation at Cockatoo Island under the supervision of an inspector of my Branch.

I think a perusal of the above will show that there may be a failure of calculation to be regretted, but no cause for blame. It is easy to be wise after the act, and to say that things ought to have been otherwise arranged. It must not be overlooked that the power-house now being installed is in every respect up to date, and till quite recently would have ranked amongst the largest of its kind in the world. In order to give, if necessary, additional proof of how the most able men may be thrown out in their calculation, I may mention that had the power-house been in every respect complete at the end of the year, the traffic could not have been undertaken, as the Railway Commissioners did not have enough cars ready to meet the present conditions of traffic.

This report was, of course, made to meet the demands for information at the time? It has probably been noticed that Stewart & Company's contract for the completion of the buildings was to be carried out in six months. This, of course, might seem rather short time for the completion of such big buildings; but if he had got the whole place covered in, one would not care so much about finishing the inner portion. The main purpose was to get the building closed in, and he was most dilatory in that respect; for, notwithstanding that he had his tender accepted at the end of June, 1898, I think it was March, 1899, before he had got the whole of the ironwork out for the roof; so that whatever arrangements I might have made for the completion of the work were entirely neutralised by that delay. The progress reports which I had made from week to week will show the date on which the roof and the end were completed. There was a terrible delay over this, as well as in the setting-in of the boilers. It appears to me that he has been over his time in both these contracts to a disgraceful extent. I expected very much better from Stewart & Company, because I thought they were energetic contractors and carried out their work well; but in this instance they have been terribly slow.

*Chairman*: The generators arrived, I believe, a considerable time before the power-house was ready for them? Yes.

Could you tell us what became of them after they were landed? Two of them were sent over to Garden Island and taken into the store by the Admiralty. The others were left on trucks, covered over with tarpaulins, right near the power-house.

And the ones at Garden Island have given trouble, have they not? I do not think so. The armatures were found to be a little damp, but they were soon dried. The greatest trouble was with the coils, especially the shunt coils, which are bound with fine wire, and the difficulty in drying these out is to get sufficiently low voltage of long duration. I think it not at all an uncommon thing, for these large machines especially, to accumulate a lot of moisture; and I think that the damp weather that we had in May, June, and July of this year was quite sufficient to account for anything like that. I know we loaned one of our electric pump motors to the firm of H. H. Kingsbury & Company to drive a temporary plant, and although it had been carefully packed and came out in proper cases, and had been unpacked and stowed in the car house under cover, which was built at the time, when it came into the temporary power shed it was in a very damp state; in fact, I do not believe it possible to get any machine and keep it for a month, or a couple of months, in damp weather in Sydney without its absorbing a large quantity of moisture.

Was not Garden Island a bad place to take them in, in consequence of the sea air? I do not think so; the buildings were all closed in. It was the only available place.

The two generators were stored there complete, with armatures and fields? Yes; the other armatures were stored in the open with tarpaulins over them. I think the fields were put under cover either in the power-house or at the stores at Circular Quay. The armatures were left out of doors because they were so very heavy and awkward to handle. I think the cases containing them weighed 22 tons.

They were allowed to remain in the waggons? Yes.

Are we to understand you to say that the armatures are now dry? Perfectly dry; and they show a resistance of 3 megohms, and the fields are also now quite dry and satisfactory.

*Mr. Wallach*: With what voltage do you measure insulation resistance? We take the current off the electric crane line—550 volts.

It is measured with a high resistance volt meter showing 3 megohms? Yes; that is what has been reported to me.

Has the insulations of the field coils failed in any way? No; I believe not at all.

I believe you have snap switches in the coils? Yes.

Do you not think that the use of snap-switches in the field coil might not tend to injure the insulation, owing to the large inductive rush that would be caused by snapping the current in them so suddenly? According to the specification the insulation has to be made so as to stand a test of 5,000 volts alternating current, and I understand from the Inspector's report that these tests were actually applied in the workshop. It is a usual thing with the General Electric Company to make their machines to that test. Mr. Elwell was very anxious about the insulation being right, and he wrote me some time before he died, saying that he thought a 5,000 volt alternating current should be applied to test the insulation. I objected to that, and pointed out that it was the workshop test that they had secured; that if the inspector had done his duty with that high quality of workmanship and material which have already been put into the work, supposing that by any hook or chance there was some slight defect in the perfecting right throughout, to go and put that through when the machine was finished would be a serious matter indeed. Besides it is altogether an unnecessary test to carry out before the traffic is started. The matter was discussed with Mr. Elwell, and I went down to his house, and eventually the Railway Commissioners wrote expressing some annoyance at the position I took up. I did not see any cause for annoyance, as under the contract I had a perfect right to my opinion. They were however annoyed, and having stated that they would not take over the line until the machinery was subjected to a 2,500 volt alternating test, I informed them that if the contractors were prepared to carry it out I should have no objection, but I certainly do not care about it.

*Chairman*: You do not consider the insulation test necessary now? No; I consider the insulation test of 550 volts current that has been made as necessary. I also consider that the load-test is a necessary condition before the line is opened for traffic, and these load-tests as you will see by a reference to the specifications,

specifications, are something of this nature; namely, that we should apply a working load for a definite time, say, 25 per cent. for work for two hours, and 50 per cent. for about two minutes, and then besides the flashing test, which in themselves would throw a great amount of strain on the shunt-coil especially, they would provide all the test you could expect to make. Mr. Elwell and Mr. Brain seemed to think there might be some danger from lightning discharge. We have lightning arrestors at each point where the current is led on to the overhead line, and where each feeder comes on to the switchboard. I do not see myself how it is possible that any lightning discharge can get into the generators.

I should like to say one thing about the ordering of the generators. When these were ordered—I do not know whether it is known to the Board—the Government were anxious to show that they were doing something. I did not offer any objection in this particular case, but I have protested in other cases against ordering things before they were necessary, but as I said, there was an anxiety to show the public that we were doing something, and when that is the case you cannot do things in Government work with the same view to economy of time and interest on money, and so forth, that you can in private enterprise. Later on, when I saw that delays were going to occur—although I did not then see to what extent the delays would reach—I wrote to Mr. Fischer and asked him to inform the General Electric Company that they need not push on with the work, as we should not be ready to receive the machines. Mr. Fischer informs me that he did not receive the letter. Why, I do not know.

*Chairman*: You had the site well agreed upon when you ordered the generators? Yes.

And the excavation work was being carried on? You could not tell before it was decided what the generators would be, or how the space would be utilised. I quite acknowledge that the best way would have been after deciding what machinery we were to have, to work the whole thing out; but that never suits the Government. You are not allowed to wait, and so the orders went out in this case.

Was that at the wish of the late Minister for Works, Mr. Young? Yes. I thought at the time there would be no difficulty about getting cover ready for the machinery by the time it came out; but, of course, in that I was very much mistaken.

*Chairman*: You did not anticipate that the delays would have been as great as they have been after the completion of the building? I do not think anybody could have anticipated the delay. The immensity of the work, the amount of detail that there is in carrying out this work, and the difficulty in getting skilled labour in the office to work out the details were very great indeed. There were thirty-three contracts let, besides considerable work done by day-labour by our own staff.

Is there anything else you would care to state to the Board at this stage; could you furnish any information as to the cause of the failures; we are anxious to find out whether the armatures are in a satisfactory condition now, and also the fields? That, of course, you can easily test, and I shall be glad to render any assistance in testing them. I am perfectly satisfied myself that they are alright.

*Mr. Wallach*: You do not object to the 5,000-volt test because you think the insulation might give way. You object on principle that it is a test which should be only applied in the workshop? Yes. It seems to be analogous to a case of this kind: You have a contract for boilers, you insist on the material in those boilers being of certain quality, having a certain breaking strength and having (say) certain elasticity, and you insist on a certain standard of workmanship. It seems to me that it would be just as absurd for anyone to say, "I will not take over those boilers until you test them up to the elastic limit of the material." Even the late Mr. Elwell saw that by applying this 5,000 volts test by some chance or other a little more than that might be applied and the insulation might break down. I am sure that the Board will agree with me that the specification is made to insist upon a certain high quality of workmanship and material, and the best possible steps are taken to secure them, not because there is any particular virtue in that 5,000 volts—you might have 1,000 volts—but because you want the material and workmanship to be of a certain quality, to provide a large factor of safety.

You would have 550 volts as the maximum voltage, and you intend to make a test at 5,000, five times decimal four. The factor of safety then would be about 15? Yes. I suppose the greatest strain thrown on these generators and coils would be in the case of sudden stoppage.

Of course that would only come on the shunts? Yes. I take it that that is when the machines would fail if they failed at all.

*Chairman*: Respecting the sizes of the machines, were they ordered after consultation with Mr. Elwell and Mr. Thow? We called for quotations for 800-K.W. machines after discussing the matter with Mr. Elwell and the Commissioners. Mr. Eddy was anxious to get four of these machines at once; in fact, he was talking about getting five, but it was, however, considered a proper thing to get four, and so we called for tenders to supply that number. I am afraid you will find the written matter in connection with the inquiry rather deficient.

At any rate, you all agreed about it? Yes; we entirely agreed.

You all agreed as to the size of the unit? There was not the slightest doubt about it, and that the machines were to be 800 K.W.

But why did you order four when two would have been sufficient—one to work the traffic, and one to act as a standby? Because it was intended to proceed at once with the conversion. No time would have been saved as regards that, because we should have had to go on with the building. I have no doubt the late Chief Commissioner had well thought out the question of conversion.

As you will only utilise one machine, and the other is for a standby, how long do you think it will be before the other two are required? Within the next two or three months we shall probably want more than one machine. I have been making arrangements for conveying power to the North Shore system.

What horse-power will be required for the North Shore system, giving 550 for George-street and 400 for the Rose Bay line? The Rose Bay line will be left out of consideration for the present.

So you have only 550 for George-street? Yes; then there is some for North Shore.

But will there not also be, in a very short time, a line to Dulwich Hill? I could not say. I know that, in discussing the matter with the officers of the Railway Commissioners as to the amount of work to be thrown on to these machines, the conclusion arrived at would be that one of the generators would not be sufficient for George-street and North Shore. You must remember the North Shore service is at present very inefficient. It has been acknowledged to be so, and the probability is that as soon as they get additional power the Commissioners will provide 20 per cent. or 30 per cent., or even 50 per cent., more accommodation. Of course the two machines may last for a long time, possibly a couple of years.

Mr. Deane then explained to the Board the contract drawing of the power-house.

H. Deane,  
Esq.  
23 Oct., 1899.

TUESDAY, 24 OCTOBER, 1899.

Present:—

PROFESSOR WARREN (CHAIRMAN).

PROFESSOR POLLOCK.

MR. WALLACH.

Gustave Fischer, Principal Assistant Engineer for Tramways, examined:—

G. Fischer.  
24 Oct., 1899.

*Chairman*: Could you inform the Board if it is true that the generators in connection with the George-street Electric Tram Service were delivered in Sydney on 6th July, 1898? I cannot say exactly if that is the correct date; the papers, however, will show that they did not all arrive at the same time.

They were shipped, I believe, on the 18th March, 1898, and, as the papers show, the tender for the power-house building was accepted on the 30th June, 1898, one week before the arrival of the generators? I could not say the exact date; the papers will show the actual time they were let.

How was it that the generators arrived before the place to put them in was ready? The plans were not ready to call for tenders.

Can you say why the plans were so long delayed? I was absent from Sydney till December, 1897; in the meantime the plans were started, and when I returned they were pushed on with all speed.

Did you send the necessary plans and particulars for the preparation of the tenders for the power-house on 11th October, 1897, from America? I may say that I left Chicago for New York when I had finally settled certain details with Mr. Reynolds on 11th September, 1897, and the Allis Company sent on the plans to me when completed.

Then you forwarded them on to Sydney? Yes; I despatched them on 9th October, 1897. I might explain that as soon as I got to America I made it my business to get east as quickly as I could, so as to forward on the foundation-plan as quickly as possible. I went to Milwaukee and stayed there till some deviations from the original plans were decided upon between Mr. Reynolds, of the Allis Company, and myself.

The particulars sent by you from New York to Sydney were necessary before the drawings for the foundations for the engines and generators could be commenced? Yes.

What was the actual time occupied since receiving those particulars before the contract was let? The papers show from January, 1898, to June, 1898. I think you can take the dates on the papers as correct.

Do you consider that six months was sufficient to complete the building contract? Six months after letting the contract?

Yes? It is doubtful, judging by our recent experience.

Is it actually completed at the present time? No; of course, it could have been completed in that time, under ordinary conditions, to a sufficient extent to be able to make use of it.

And that time would expire on 29th December, 1898? Yes.

Does that mean the extended time or the contract time? The contract time. I would like to explain in connection with the contract there was great difficulty in obtaining the material straight away. It was difficult to obtain bricks, and the contractor says he had great difficulty in getting ironwork for the roofs and girders in consequence of strikes in England having depleted all stock.

Were there any strikes in America at that time? Not that I am aware of.

Were there no bricks to be obtained in Sydney suitable for the work? There was some difficulty at first in getting suitable bricks for the building.

I understand from the papers that Mr. Stewart complained that the sizes of the rolled sections were unusual, and were in great numbers? Of course, the plans will show exactly that there is not a section that you could not find in any manufacturer's ordinary catalogue; and should any such difficulty have been experienced it was Mr. Stewart's business to let us know. We could have easily varied the sections to suit him, but we were never informed of any such difficulty until after the trouble arose about the material not coming forward; then it was too late.

What was the date of the completion of the power-house roof? Do you mean the entire completion, or merely sufficient for covering?

I mean the time for covering so as to prevent the generators from being damaged; I suppose it is now completed? Yes; the corrugated iron was on the whole roof on 10th June.

At what date did you commence the erection of the engines and the generators? Early in March.

How many boilers are ready for use under steam at the present time? Seven; all of which were under steam to-day.

That is one-half? Yes; that is the western battery.

In regard to the method of firing these boilers, the "Hunt's system" of coaling them, I understand, is to be used? Yes. The arrangements in the boiler-house proper are completed, but the coal storage is still in the course of construction. The reason for that is that we could not start working until all the material had been delivered down to the boiler-house, so as not to block the entrance entirely.

What about the removal of the ashes; that comes in under the system? Yes; part of it is also finished, but the elevator arrangements are not yet complete. They are being built now.

How long will it be before the "Hunt's" apparatus for one set of boilers will be completed—that is to say, the whole arrangement for coaling and taking away the cinders just as in complete working order? It will take about three weeks from now. As I pointed out to the Board on Saturday, the temporary arrangement which has been made is quite satisfactory for the present.

There is nothing to prevent the work from being pushed on? I might be allowed to point out that at the present time we have great difficulty in getting first-class skilled labour, and even unskilled labour. We have looked out for good carpenters up till yesterday to make up our complement, and I should like to point out that we have had less carpenters on the coal-bin than we would have liked; that is the reason why I estimate the time to be three weeks.

Are you referring to Stewart's contract? No; we are doing it by day-work to avoid delays with contractors. We have started doing a good deal of day-work lately which saves us the trouble of getting out plans and specifications, calling tenders, and so forth.

How is it that you were unable to commence making these arrangements earlier? Simply because we could not get the boilers and other heavy materials in had we erected the coal-bin, &c., earlier.

You would not commence before they were in position? Yes.

Do

Do you consider the site a difficult one to manage in that way? Not more than what might be expected. One thing depends upon another in getting the work in order. G. Fischer.

Are the condensers, the circulating pumps, and feed pumps all ready? They are all in working order. 24 Oct., 1899.

You do not use condensers? Yes, we do. The reason we are working by exhausting the atmosphere just now is simply because we have no power to work our electric centrifugal pumps until we can get sufficient power from the station.

How long do you think it will be before the steam-pipes are permanently supported? Everything is at present permanently supported from the western side to the main entrance.

The western side is not propped in any way? No, it is only the eastern side. All other piping is permanently supported.

*Mr. Wallach* : Does that include the piping adjoining the eastern and western batteries? That is not complete, as we have to get closure pieces cast. This is not due to accident; the pipes were intentionally left short, because one can never tell in such long lengths to the sixteenth of an inch.

The engines are said to have broken down; I believe there has been a defect in the bearings on the crank-pin? I would not call it a break down; they did not work as smoothly as they ought to have done.

Do they run hot? Yes.

And the engines were brought up? No.

*Chairman* : Well they were slowed down? No; they started heating up and whistling, and were consequently shut down.

All that has been modified? The bearings in two of the engines have been modified.

And they have been since tried? Yes, but only with a light load. It was just to run the bearings down. We yesterday tried No. 3 engine again with the old type of bearing, but she heated up again. I think the lubricant might have something to do with it. I first sent down Englebert's oil, and the engineer of the Allis Company thought it too heavy an oil and stated he would like Harris', so we supplied him with that ever since.

That is for oiling the crank-pins and machinery generally? Yes; except the cylinders, for which there is a special oil. Yesterday I came to the conclusion that we might try Englebert's again to see whether the oil has anything to do with the heating. We will, however, have a load on to-night with the new oil, and I shall be able to see how it will then get on.

The engine-house floor is not yet completed, is it? Yes, except a little tiling to be done where the fly-wheel is being turned up on No. 4 engine. We cannot get at it yet until the driving gear is removed.

Is No. 4 the one you are putting on? No, No. 2, with the new brasses.

And that will have the fly-wheel turned up? No. 4 is being turned up; the others are still in the rough.

So that it will be some time before the whole place is finished off, although you hope the engines will be running this week? Yes. It will take a month or several months yet to clear up everything. It will take a month for each fly-wheel to be turned.

I understand that the Railway Commissioners object to taking over the work until such matters are attended to? I have never heard anything of that; all I can say is that when I was in the United States I saw several engines working heavy traffic in a similar state of completion to ours. They had been running in that condition for eighteen months before I went there, and the other day I received word that their fly-wheels are only now being turned up, and it is now nearly two years since I have returned to Sydney. The largest engine referred to above, I might mention, is one in the main station of the West End street railway in Boston—a 1,500-K.W. machine running at eighty revolutions, and I received word the other day that the engineer-in-charge was only just getting ready to turn up the fly-wheel.

I take it that it is the usual thing with the tramways in America, as far as you have observed, to run trams before the work is quite complete, provided the engines develop their power? Yes; I can mention a station in Boston—Cambridge station—they have 1,200-K.W. machines, the armatures had to be built up in their place. They were too heavy for railway transport. I was there on a Friday inspecting the works, when they were still working on riveting up the fly-wheels, and they were running for traffic on the following Tuesday. The floor in this station was only then temporarily covered with planking, and the completion of the buildings and coaling arrangements in a very backward state.

Can you say of your own knowledge and from your observations in America if the Allis Company's engines are those generally used for railway work? Yes, very largely.

And the type of generator used as supplied by the General Electric Company is also very largely used in America for railway purposes? Yes, with the exception of Westinghouse and a few Walker machines; but the majority of them were of the General Electric Company make.

So far as you know, if the proposed test is successful, there is no reason why the George-street tramway should not be immediately started? None whatever.

How many engines and generators would you have ready this week? Two at least. We only want to run one at a time for George-street. That would be quite sufficient.

What is the horse-power required for the George and Harris Streets tramway? It depends on the number of cars sent out; but it was estimated that the George-street tramway would require about 800 horse-power.

That is the maximum? Yes. The rated load for the engines is 1,250 horse-power each, but we could take a big overload with perfect safety.

So that one engine and generator will develop about 50 per cent. more power than is necessary for a long time to come? Yes.

I wish to ask you something in regard to the generators—as to the time of their arrival and how they were treated to prevent any damage being done to them; what steps were taken to store them when they reached Sydney? The two first sets we managed to store at Garden Island by the permission of the Admiral. They were put under cover there.

Were they kept absolutely dry? There was no possibility of any water getting at them, except the moisture from the atmosphere.

Were those generators considered to be better than those stored in the railway trucks? No; they were just about the same. *Mr.*



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*Mr. Wallach*: Why were two stored at Garden Island and the other two left in the railway trucks? We only got permission to store two there, and when the other two arrived they were left on the trucks, and covered over with tarpaulins and galvanised-iron.

*Chairman*: What steps have been taken to dry the generators that were wet? It depends entirely on what you call wet. They had absorbed a considerable amount of moisture, but how it got into them I cannot say. One of them got wet from a rain-storm, but it was nothing serious. This armature tested about as well as any of the lot after drying.

Was that the wet one referred to? Yes.

How did the water get to it? We started erecting generators before the roof was on, and we used tarpaulins to put over them in case of a storm. On one occasion the water must have found its way through them.

But would they not be as well protected in the building without the roof as in trucks? In the railway trucks they were still in their casing, and in that case were not as liable to damage as if exposed in the shed.

I am speaking of the whole of the machines? The armature of No. 1 machine was the only one that got any direct contact with water. The others became damp through absorption of the atmosphere.

You call it No. 1? Yes.

It became slightly wet through standing in water? Yes; through the water splashing on it. The armatures of all machines are in good order now.

You took steps to dry them? Yes. We warmed them up.

And that you consider entirely effective? As far as the electrical portion is concerned, I have no misgiving on that point.

You have made some tests, I believe? Yes, from time to time. Taking the results of the three machines at the present time they are about the same. The insulation resistance between the armature and frame is 2 megohms; between the series field and frame, 1 megohm; and between the shunt-field and frame,  $\frac{2}{3}$  of a megohm. Of course, these machines when put to regular work will improve from day to day. Once moisture gets into the shunt-fields it takes time to dry it out.

Do you consider them now thoroughly dry and in every way satisfactory? No; but they will become better from day to day when running on load. The insulation is quite sufficient for running at full load.

Would you apply the test required by the Railway Commissioners? Which test?

Alternating 2,500? We are quite prepared to do it; but I don't think it would be wise.

You consider no test of that kind should be made until you run the machine for about a month? Any machine improves every day, and there is hardly any chance of it breaking down, although, if the Railway Commissioners insist on it, we have everything ready to apply it within a day or two.

*Mr. Wallach*: You say that in the armatures there is a resistance of two megohms. How is that resistance measured; do you arrive at it by measuring with the volt metre? Yes, with the full 500 volts.

Is the connection made between the armature plank, or with that of the commutator against the plank? With the commutator.

So the frame, then, is kept perfectly clean? Yes. The contacts were perfectly good; they were proper metallic contacts.

*Chairman*: Could you furnish the Board with a diagram showing the connections between the switch-board and the machine? Yes.

You have made insulation tests on the series coils, &c.? Yes.

*Mr. Wallach*: When you were testing the insulation of the series coil, was the armature disconnected from it? Yes.

Were they tested separately, disconnected from everything? Yes.

*Chairman*: And the series coil within the shunt-winding? The two windings are on separate spools.

In the shunts, I believe, you have snap-switches;—is it your opinion that these might tend to damage the insulation by heavy inductive rushes passing through the coils owing to the sudden snap of the switches? No; this snap-switch was only in circuit while drying out the shunt-fields.

You do not think there is anything against the use of snap-switches in the shunt-field coils? No, not as explained above. Of course, that is the severest test you can put on to the shunt-fields.

What methods have you taken to dry out the shunt-coils, which, I understand, are the worst? Yes, they are the worst. We used a small 100-volt machine to dry them out.

I mean the shunt-windings? Mr. Goodman will be able to inform you as to them.

When you tested each machine in this way, did each give the same resistance? We tested them all as soon as we stopped; however, they have gone back and took up moisture again.

*Mr. Wallach*: How do you account for that? Only that Sydney is a very moist place, and that it is in the atmosphere.

*Chairman*: Is the permanent way quite complete and satisfactory—that is, admitting the powerhouse to be complete, is there any possibility of anything going wrong in the permanent way? Not to my knowledge.

Are the feeders, overhead conductors, bonding, &c., all complete and ready for traffic? Yes. I might mention that we are having the connection with the feeders altered; but this will not prevent the running of the trams.

There is no doubt, I suppose, that the present rolling-stock will be able to run round the loop which is at Circular Quay? We have already been round it, but are now taking it in hand for some alteration.

You have not tested it since? As the cars went round the old loop, they ought to go round the new one much easier.

There is no doubt whatever about that? None whatever.

What you really did was to put in transition curves? Yes, to ease the curvature at each end. As I explained the other day, we always design sharp curves with transitions; but I gave one of my assistant engineers instructions to shift the location of one track as far back as possible, so as to allow more room for the vehicular traffic; but he took me literally, and cut out the transition curves, so we had to lift a few lengths of rails to put in the transition curves.

There

There are certain cross-over roads from Harris-street to the car-house;—are they complete? Yes. G. Fischer.

There is nothing to prevent you from using them? No, nothing.

You have already made certain trials, and obtained certain results? Every time we have been out 24 Oct., 1899.  
we were perfectly successful, so far as the permanent way is concerned; no one could take exception to the running.

You have not made any tests of the power developed by the engines? Yes; we have had 1,700 amperes on the engines tested.

*Mr. Wallach* : With full voltage? Yes.

Were the motors in the motor-cars at all damp? I have nothing to do with them.

*Chairman* : In whose charge are they? The Railway Commissioners, so far as I know.

Do you consider, then, that the delay has really been caused by the contractor of the building? I think he is, to a large extent, to blame.

Can you tell us the resistance of the rails used for the return current, and the resistance of the copper cables which have been put in to assist the rails in delivering the return current? I will obtain you the information.

Is there anything you would care to state officially in connection with any of the points put before you? Perhaps it would be better to defer doing so for a few days as something may crop up. I should like to say now, however, that so far as the designing of this work is concerned, we had great difficulty in this country to get a proper staff of draftsmen, and it is owing to that that considerable time was occupied in working out the plans for the power-house. It certainly seems much longer than should have been the case.

What, six months? Yes; it is all due to the scarcity of experienced men. The papers will show that I applied for additional help, and it took weeks and weeks before I could get it.

After you came back from America, did you have anything to do with the preparation of the plans? Yes; I took again charge of the work. Mr. Deane looked personally after them while I was away.

WEDNESDAY, 25 OCTOBER, 1899.

Present:

PROFESSOR WARREN (CHAIRMAN).  
PROFESSOR POLLOCK. | MR. WALLACH.

Orlando William Brain, Acting Electrical Engineer, Railway Department, examined:—

*Chairman* : Could you inform the Board how the generators were stored after their delivery by the O. W. Brain.  
General Electric Company;—as you have practically made a complaint that the generators were under 25 Oct., 1899.  
water, you might furnish a brief history of them from the time they were landed in Sydney until their erection into their proper positions? The manufacturer's representative gave me the information. I understood he was sent by Mr. Deane to confer with me as to the reason why the test should not be carried out.

You were informed they were under water;—we could not obtain any evidence to that effect unless you can now furnish us with it—you did not yourself see them under water? I did not.

What reason have you to suppose they were under water? I was informed by the manufacturer's representative. That is the only reason.

Who were the manufacturer's representatives? Mr. H. A. Kingsbury and Mr. Raymond.

So that, from what you have been told, you assume that the generators have been very badly cared for since their arrival in allowing them to get wet? It was because of that that the manufacturer's representatives urged that the tests should not be carried out.

And assuming they were wet, you made certain recommendations for drying them? Yes.

Do you consider they are now fit for taking over for traffic, or is it necessary to wait till they are dry and the test is made? I presume you now wish my personal opinion; if so, may I say that up to the present I have not been previously requested to give my personal opinion on the matter. I advised the Commissioners as to any tests that are made, and the matter of taking over the machines is quite a matter of policy which the Commissioners will decide. If they are informed that certain tests are guaranteed that the machines are in a certain condition they will then decide. I should not presume to dictate to them as to what risks they would run or what degree of safety should be insured before they are used for traffic.

You say you would not give them that advice? No.

What was insisted upon is shown in the specification and reads as follows:—"The insulation between either of the field coils and the frame, between the armature and frame, between the commutator and frame, and between the series of field coils and the shunt-field coils, must all stand an insulation test of 5,000 volts alternating current; the test must be made by a transformer of at least 15,000 watts capacity";—I suppose you do not know how these were decided in the General Electric Company's works, except from their reports? No, I do not.

That test could not be applied without putting the armature on its shaft and inserting it in position in the yoke? No.

So that the test could not have been made unless it is built up? No; but there is no evidence that it was not built up.

You are really acting in the capacity of the late Mr. Elwell, and as he was associated with Mr. Thow and Mr. Deane in determining upon the acceptance of tenders, he was doubtless thoroughly familiar with the specifications, and the questions I have just put to you could have been fully answered by you were you acting all along? Yes.

You are at the present time acting in that capacity? Yes.

And you were closely associated with them all? Yes; but the responsibility, of course, did not rest upon me.

The tests described in specification are not generally made here? No.

They could not have made them except in Sydney. Yes; they do not mention there that the field coils were tested between the series and field windings. It

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It does not say that at all? No.

Considering the tests specified have not been made, do you not think they ought to be made before the line is open for traffic? As I have already stated, that matter is one which rests entirely with the Railway Commissioners. In the ordinary course of my duties I should not say whether they ought or ought not to be made. I should merely point out to the Commissioners the risk they run by not making them, and it would be for them to consider possibly in this case the relative importance of tests to ensure safety and the necessity of getting traffic started.

Then we may take it that you have expressed yourself fully on that ground in your report? Yes.

You have referred to Mr. Badger's evidence, in which he says he thinks that the proposed tests are not of any great importance, at present at any rate;—you have observed that? Yes; I recollect clearly the whole of my report.

Could you explain to the Board the risks you think would be run if the Commissioners took over the plant without making these tests? There is the risk of the insulation breaking down. The late Mr. Elwell had stipulated for certain insulation tests.

Did not the late Mr. Elwell ultimately decide upon 2,500 volts alternating current? Yes. When we first considered the matter of these tests—of course most of the details, I may tell you, were decided upon in Mr. Elwell's office—we considered what margin of safety should be allowed for insulation tests. Mr. A. W. Jones, the representative of the General Electric Company, stated that his Company were prepared to submit their machinery here to a test of 5,000 volts, and was quite agreeable to it being done. Of course, it was very desirable that at such a distance from the base of manufactures we should have the best class of insulation; consequently we agreed to stipulate that that should be the insulation, and the other tenderers to that Specification had to provide for that insulation in their tenders.

That accounted for the passage I have just read? Yes.

Anyhow it was the origin of it? Yes; I have no doubt about it. I was not present at the various interviews between the late Mr. Elwell, Mr. Deane, and the representative of the General Electric Company. It is possible that that test was put in by Mr. Deane on Mr. Jones' suggestion. It would be undesirable to have one firm making the test while others did not; so it was agreed to call upon all the firms to make it.

It is clear, however, that the General Electric Company practically brought the test up to that voltage, although they do not appear to have tested the machines in a complete state. Yes. The point raised here was that it was not their practice to do it in the station, but that it should be tested at the works.

Does that mean that it is not their practice to test generators when they are built up complete, or only to test the separate parts—the commutator, the armature, and fields? They did not go into that. Their claim was that it was not their practice to make the test outside. It was now a matter with the Works Department.

You do not know for certain? No; my information is purely what they stated to me.

You have spoken of possible risks, the failure of insulation, or other cause from ordinary traffic? Yes.

With 500 volts? Yes; the fact of the machine once giving 500 volts is no guarantee at all for permanent insulation for an indefinite period. On the 18th September, when we were to have started traffic, one of the feed-pump motor's insulation broke down.

On the other hand, it is quite possible that this voltage might be very much increased? Yes. Before we leave the reference to the pump, I should like to say I think the pump was running about a fortnight at 500 or 600 volts, showing that prolonged test was no guarantee any more than in any other class of machinery. It was then supplied with current from the circulating motor driven as a generator. Certain working conditions subject the machine to other strains, and the consideration of greater strains leaves finally the question of the lightning to deal with.

Have you entered at all into the probable increase of the voltage from a sudden breaking of the circuit? No; I have not gone into any figures in the matter at all.

You would have to consider the number of windings? Yes?

*Mr. Wallach*: Is it your opinion that the use of snap-switches in the shunt-field coils are injurious to the insulation? If you mean to break them instantly, I certainly think it would be very dangerous.

Can you say if they are installed at the Harris-street works? No; it is quite contrary to the practice of the General Electric Company. It was suggested by Mr. Deane in one of our conferences that it should be substituted for insulation tests; but I advised that it should not be done.

*Chairman*: Have you any knowledge of the tests actually made on the generators at Harris-street? They have never switched a heavy current on when I have been present.

What do you consider the insulation resistance should be in the generators generally? In replying to that question I should be guided to a considerable extent by the opinion expressed by Mr. Badger in his letter to Mr. Deane, as I have a high respect for his thorough practical knowledge of the General Electric Company's manufactures under working conditions. At the same time, as expressed in my report, I do not consider that a low potential test is a satisfactory test, as it does not necessarily detect a weak point in the insulation of a machine which has otherwise a high insulation.

You have inspected the plant, and are doubtless familiar with all matters connected with the delay;—could you tell the Board what you consider is the chief cause of the delay? That, of course, is a big question—that is, I mean to say there was a very considerable delay before the machinery was got into form at all, and during that time the materials imported had arrived. I was not, however, conversant with the progress of the work at that stage.

*Professor Pollock*: We wish to know why you were not in a position to open on the 1st September? The machinery generally was not sufficiently completed, as you may have noticed from Mr. Thow's report; there was a delay, in the first instance, due to the dampness of the machines.

*Chairman*: You are perfectly satisfied, from your own knowledge, that they were damp? Yes; I was very much afraid from the first, that, owing to the anxiety of the Public Works Department to get the trams started as soon as they were found to stand 600 volts without breaking down, they would want the Railway Commissioners to rush the traffic on them; and with a view of avoiding any supposition on the part of anyone that the Commissioners would adopt that course, Mr. Elwell gave an intimation as early as possible to the Department that the Commissioners would require an insulation test, chiefly because

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we had an idea from general reports that these machines had been allowed to get very wet. We only wished to defend ourselves against being handed wet machines, and being expected to run traffic at 600 volts. When things were put in order, we arranged at different times for men to go down to attend to the cars when the current was going to be put on. The Public Works Department, however, took the precaution to take an insulation test, and found the dynamos wet; consequently our men were sent back. This was repeated a few times, at all events; and, finally, more serious steps were taken to properly try the machines. Since then, however, the other machines have got sufficiently dry, and full voltage has been put upon them. In every instance we commenced running them some engine brass became heated. The first time we got one car on the line, and were just going to bring it back for trailers, the high-pressure crank-pin of No. 2 engine heated, and the car had to be pushed back by our traffic men. On the following day we had another run; we connected seven cars with trailers up in Harris-street, and the eccentric strap seized, and the sheave slipped on the shaft, and consequently stopped the engine. The Westinghouse, of which you have doubtless heard, that was driving one of our motors for supplying circulating pump motors, was called into requisition, and we brought the cars home one at a time.

Do you mean the motors driving the pumps? There is a little Westinghouse engine, to which we had one of our circulating pump motors attached. This was driven as a generator by the engine, and was used for driving the motors of feed-pumps. I am not sure that we stopped more than once after that with the cars out on the line. An arrangement was subsequently made—I cannot recall all the tests from memory—to put seventy cars on George-street. I opposed this to the Commissioners, and asked that after our experience they should make all tests with the rheostat, in order to escape the possibility of having the cars scattered all over the town. The Commissioners, however, arranged for seventy cars to go out; but, in view of the circumstances, proposed that they should be put out in the small hours of the morning. Of course, during the interval between our original difficulty and this, the No. 2 engine was kept going by a water-hose being kept continually playing on the low-pressure crank-pin. In order to satisfy themselves, the Works Department made a rheostat test during the previous afternoon with the water resistance, and, as I understand, they switched on 1,500 or 1,700 amperes; at all events, the load was stated to be 1,100 or 1,200 horse-power. In the tests subsequent to the original one we had only run to 200 or 300 amperes, with just a light load on the tramway; but on the occasion to which I have referred the switch was closed on the rheostat, and the current mentioned was obtained. The load was put on No. 1 engine, No. 2 engine was supplying the circulating and feed-pumps, both driven electrically, as you know, and at about a quarter of an hour after starting they had to stop in consequence of the low-pressure crank-pin on No. 1 engine seizing. The engine was at once stopped, and it was subsequently discovered that the high-pressure crank-pin of No. 1 engine was in a similar condition to the low-pressure one, and that the high-pressure crank-pin of No. 2 engine had also become badly heated.

The dynamos have given out the power they were expected to? Yes; they have not failed so far, but they have to give 25 per cent. over load for half an hour.

Over 850 K. W.? Yes; but I think they would not give it for that time.

Can you give the Board any general information as to the condition of the generators? I can only say that the delay was not due to any trouble on the part of the generators.

*Mr. Wallach*: Do you consider Garden Island a suitable place to store generators? I have no knowledge whatever of the conditions under which they were stored.

*Chairman*: But having regard to the saline atmosphere? Had I had charge of these machines myself, it is probable that, if there had been any saving in expense, and it could be done with no great difficulty, I should have stored them there myself and have made all arrangements I thought necessary to protect them from the damp atmosphere.

*Mr. Wallach*: With reference to the motors in the motor cars, have you had any trouble with them;—were they damp? Do you mean the particular motor cars here?

Yes? No, none whatever.

I suppose they were installed in the cars as soon as they were unpacked? Yes; they were all ready by the 1st September.

Have you applied any tests to these motors, in respect of their insulation? No.

None whatever? No.

*Chairman*: Do you intend to enter them into the traffic without applying any test? Yes.

Do you regard the break-down of a motor a very serious matter. No; that is a thing which can be remedied at once. We always give motors a few days' trial before putting into traffic, and generally find they do not break down.

There is no insulation test? No.

*Mr. Wallach*: How do you propose to carry out the test if definite instructions to make a high potential test; will it be made after the running with a full load or when they are quite cold? I should think it would be more advantageous to make the test while they are warm and dry.

You would not propose to do it when they are cold? No.

*Chairman*: Would you be satisfied with a 2,500 volt alternating current? Yes.

*Mr. Wallach*: How long are these high potential tests to be applied? I should be satisfied myself with a test of, say, a minute.

*Chairman*: You mentioned in your report that this high potential test should be adopted because of danger of lightning;—would the 5,000 volt alternating current be any guarantee that no damage would accrue if struck by lightning? The only strain they would be subjected to by lightning would be the strain which the lightning arrestors permitted. For instance, you might have lightning arrestors which would relieve anything over 2,000 volts, although, of course, in the case of lightning, one is subject to several conditions under certain circumstances. I do not mean to say that any insulation test you can put upon a dynamo would guarantee it as absolutely safe. No one can possibly tell what may come in the way of lightning. I have had lines repeatedly struck with lightning before anything could be done to rectify the damage to the arrestors, and the arrestor points have been burnt away. One is always to some extent at the mercy of lightning. There is no possible doubt about the voltage of lightning being about 5,000 volts. With lightning up to a certain point, you only make provision against anything you have reason to expect.

In other words, you do not really depend on the lightning arrestors? I do up to a point that I think would meet all the conditions likely to prevail in a place like Sydney.

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O. W. Brain.  
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Do you mean the lightning would burn away the points in the arrestors? Yes; it may be possible that under certain circumstances a smaller charge may be more dangerous than a larger one, as the arrestor might discharge the latter, but not the former.

*Chairman*: Has an auxiliary pump been placed there as referred to in your report? It has been done, I believe, and is pretty well connected up by now.

The steam-pump? Yes.

That is the one you considered necessary? Yes.

Have you anything to do with the permanent-way? Practically, I have not.

But you have, of course, the overhead lines, feeders, connections, &c.? Yes.

Have you made any tests? We never do till we take them over.

Have you made any inspection of the loop at Circular Quay? Yes; I have made a general inspection of the line.

Have you any reason to anticipate that the curves are too sharp at Circular Quay? Do you mean so far as the rolling stock is concerned? If so, I would rather not express an opinion.

*Mr. Wallach*: Can you give the Board an idea when the rolling stock will be complete to take over the traffic? It was ready on the 1st September ultimo.

Are all the cars and everything complete for the George-street line? Yes.

In the test you made of the motor cars, did everything work right? Yes, absolutely so.

I mean the adjustment of the overhead wire and the trolleys? The overhead wire is anything but satisfactory.

Was there flashing at the rails? Yes; that was simply due to the dust and dirt on the car, which is a thing that always happens on new lines.

Were the cars loaded at all when the tests were made? No, not specially; it was not a test for loading.

In what respect is the overhead wire—the trolley wire—unsatisfactory? The trolley wire does not adhere to the wire, it keeps coming off.

That is not due to the wire itself, but to the conductor, is it not? It is in consequence of the location of the wire. It is of the greatest importance to locate the wire properly, and it requires experienced men for the work.

William Thow, M. Inst. C.E., Chief Mechanical Engineer, Railway Department, examined:—

W. Thow,  
M.I.C.E.  
25 Oct., 1899.

*Chairman*: You wrote a report, dated 11th September, in reference to the condition of the works at the Ultimo power-house;—do you consider the design of the plan satisfactory? I do not think I can give you any information about that. I have not criticised the drawings or anything connected with the plan.

Were you not associated with Mr. Deane in regard to the acceptance of the tenders? In the matter of the prices, that is all; it was simply the financial question.

Did you give any advice as to the type of engines to be used? No; that was not submitted to the Railway Commissioners or their officers in any way, so far as I know.

Can you give a description of the engines? They appear to be duplicating-engines, as far as I could see, and similar to those running the South-side Elevated Road in Chicago. I know they are engines of the same make and about the same size, at all events; they are similar in design, and are made by the same firm—the Edward P. Allis & Co. My reason for thinking so is that I noticed two sets of engines in Chicago, which are doing the crack services there—one the South-side Elevated, and the other the Metropolitan Elevated service. Both sets of engines are built by Allis & Co. The Metropolitan are vertical engines, of the steam-hammer or marine type, built upon cast-iron vertical frames.

They are 1,500 K.W. generators? Yes, I think they are not so much as that, but only about 800 or 900 K.W. generators. The South-side are horizontal engines, the same as ours.

That shows that they are good types of engines, and of the best kind used in America? I think they are very good.

Were the boilers manufactured in New South Wales? Yes, I believe so.

Do you approve of them? They are boilers that are likely to give very good results. I see no reason why good results cannot be obtained from them. Some people prefer the tubular types; but in some of the best installations to be seen in America the return flue-boiler is used.

By "tubular" you mean the water-tube type? Yes, the Badcock and Wilcock type.

Do you approve of the method of setting the boilers and connecting up the steam-pipes in this work? I think it is the usual method. My inspection of the power-house was not for the purpose of criticising the machinery or protesting in any way; it was simply to advise the Commissioners as to when they might take the running of the road into their own hands.

The Board would have liked to have had from you the other information? It would be unfair for me to criticise the machinery there unless I was thoroughly acquainted with the details.

Did you notice whether one or more boilers could be used without any inconvenience? I think you could do that.

Arrangements are generally made for that purpose? Yes.

Do you consider it necessary to have the coaling arrangements complete before the traffic can be commenced? No.

Are they at present complete? The understanding I had with Mr. Deane on that subject was this: That so far as the coaling arrangements were concerned, I did not consider that they would have to be complete before the Commissioners could work the road; but what I thought necessary was to make temporary arrangements—which has been done since the date of my report—for getting the coal down to the boilers, and the ashes up.

Is that working now? Yes; and I do not see any difficulty in getting sufficient coal to the boilers now, since these temporary arrangements were provided. It is only a question of putting on sufficient labour to work it.

It was merely a question of extra labour? Yes; extra labourers to work the temporary arrangements. I want to be quite clear on that point. The delay on the part of the Commissioners in taking  
over

over the engines and the power-house generally, has not been due to the mere incompleteness of the permanent coaling arrangements.

Are the arrangements for the boiler feed-pumps, and circulating pumps satisfactory so far as you know? These were not all put into position when I made my first visit of inspection, and when I made my report on 11th September, they were not complete.

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25 Oct., 1899.

Was there a sufficient number on that occasion? No, there was not; that was one of the objections I raised to the condition of the plant.

Has a special feed-boiler been added since? There was only one pair of feed-pumps fixed instead of two pairs; there was only one in position, the other was not available for pumping water into the boilers. That provision I did not think sufficient. A second pair of pumps were subsequently put down, and at that time the circulating pumps were not in working order; they had no connection whatever with the condensers.

That connection has since been made, has it not? If it has, it has been done quite recently. I do not know whether they are working the condensers or not. I have not been there for the past few days to see. I think the engines are only worked as high-pressure engines. I do not think the condensers are at work yet.

And you are of opinion that that at least should be complete before the Commissioners take over the line? Yes, certainly; we do not know how they will work until the whole of the machinery has been tested.

The boiler feed-pumps are working by electric motors, and the electricity is generated by the main engines;—is that correct? Yes; that is the arrangement. Of course, when I speak of boiler feed-pumps, I confine myself simply to the mechanical features, and do not speak of the electrical efficiency. The pumps, as mechanical pumps, seem to me to be good serviceable machines. Whether it is wise to drive them by steam or electricity, I do not wish to discuss. If the pumps fail I should expect that they would do so in the electrical gear, and not in the mechanical gear.

Was it for that reason you asked for another Blake pump? I did not ask for it. It was Mr. Brain, I think, who expressed some doubt as to the efficiency of the electrical gear. All I did was to mention the matter to Mr. Deane, who seems to have thought it was a good thing to put down a steam pump as well.

Would you insist on the fly-wheels being turned up and balanced? No; I stated to Mr. Deane that although I should like to see them finished, I did not consider that essential, and, of course, I raised no objection to the Commissioners taking over the engines, or the power-house before the whole of the fly-wheels were turned up.

Do you consider it necessary to have the four engines complete before the traffic can be commenced? No, I should not think so; certainly two of them ought to be in a very reliable condition before the traffic is started. One great objection I raised to the condition of the power-house at the time of my reporting upon it, was the want of proper supports for steam pipes and exhaust and condenser pipes, also the feed pipes from the circulating pumps. At that time they were propped up on timber. That did not appear to me to be safe, owing to the liability of movement to break the joints. The liability is much greater when the supports are not sufficient, and there is a great danger from the bursting or breaking of any of the steam pipes of scalding men who may be in the tunnels.

Is it intended to support the pipes from the roof? Permanent supports have to be put in. Since I made my report they are in a more complete form, and most of the pipes are supported now on their permanent supports. I think there are a few yet to go in; but not many.

Are the headers which go into the engine-house from the boilers, and which are proposed to be supported from the roof, temporarily supported at present? I do not know. What I urged them to do was to put in all their permanent supports as quickly as they could.

Do you know that the engines have broken down on several occasions—that is, that the crank-pins have become hot, and the bearings also? I went to the power-house the morning after the engines stopped unexpectedly on Friday evening, and looked at the crank-pins and bearings. There appeared to have been considerable friction; but there was very little evidence of heat. I noticed the brasses were quite bright. It was not as though the brasses had got hot, for their appearance did not in any way indicate they had become heated. The white metal had been worn, and a small part run out. The crank-pins were bright, but there was no discolouration about them.

There was no very great heating? It could not have been anything great, as there was no appearance of any discolouration either on the crank-pins or the brasses.

Is there any likelihood of an accident owing to the crank-pins not being exactly parallel to the shaft? I had not heard of such a defect. The people who make the engines know what they are about; they are a very high-class firm. I was very pleased with the inspection of their premises. They are evidently men who have thoroughly studied the manufacture of such engines in great detail, and I do not think any such defect is likely unless the crank-pins are known to be out of truth, which I do not expect them to be.

Do you consider the defects which have developed in the engines any way serious? As far as I understand them, I do not think they are. I have not, of course, made any critical examination of the engines. It is not an unusual occurrence when engines are first started for bearings to become heated if a heavy load is put on suddenly. I should like to illustrate it in this way: If a locomotive-driver suddenly started a heavy load he would certainly fracture the couplings and the crank-pins, and bearings might heat. It is just the same with an engine as it would be with a crane. If you start a load on a crane with too great a suddenness you are sure to strain it, although the crane is quite powerful enough to lift the weight. Suddenness of application of load will always cause an injurious strain in a machine.

It seems that the defects are all in the engines so far;—what is your opinion? I think they got over the trouble with the generators—that is, their dampness—and as far as I know they have been running satisfactorily.

Could you inform the Board what is the cause of the delay at the present time in connection with the engines and generators;—is it the defects I have mentioned? It is the imperfect condition of the engines that is delaying it as far as I know at the present time.

*Mr. Wallach*: In ordinary traffic a load on the engine might be applied suddenly through a lot of cars starting at once, that would cause a great increase of weight on the engine? Yes; it would cause an increase

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increase of the load certainly. I do not think, however, it would cause such an increase as is said to have taken place in this case. I was informed—I cannot say whether it is correct—that the load ran up from 300 horse-power, to about 1,200 or 1,300 horse-power suddenly.

Would the same effect take place if the engines were suddenly unloaded? I do not expect that it would. You have another condition to consider,—these are new machines—everything about them is in a condition to get irritated; whereas with an engine at work for some time, it has its bearings worn to a smooth condition—each part fits the corresponding part well.

THURSDAY, 26 OCTOBER, 1899.

Present:—

PROFESSOR WARREN, CHAIRMAN.

PROFESSOR POLLOCK,

MR. WALLACH.

William George Toop Goodman, Assistant Electrical Engineer, Railway Construction Branch, examined:—

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Goodman.  
26 Oct., 1899.

*Chairman:* Referring to the insulation of the generators in connection with the George and Harris Streets Electric Tramway, will you be good enough to inform the Board what resistance you actually got when you made the tests? When I first started with the No. 1 generator I made a test of the insulation resistance, and found that it was only about 700 ohms, at which it would not be safe to run.

Where did you find that? On the armature, series fields, and the shunt fields.

On all of them? Yes; the shunt fields were very bad. I found practically the same on No. 2 engine.

Both the series and the shunt fields? Yes; they were all very low—in fact owing to their being so low I did not take the measurement accurately.

Were the armatures at 700 ohms? One of them was—that on No. 1 engine.

*Mr. Wallach:* When you took the measurements, did you take them separately—that is, the armature disconnected from the series coils? Yes; I would explain that at first I took them all together, after which I took them separately. As a matter of fact I tested each field coil separately. I found leakage in all of them.

Is No. 1 generator the one which it is said was standing in water? Yes. No. 1 was the worst of the lot.

It stood in the water some considerable time? Yes.

How did the water accumulate there;—was it owing to the roof not being on the building? Yes.

*Chairman:* You say that No. 1 was the worst when you made the test? Yes. No. 1 was started nearly a week before we started No. 2—that was on the 1st September—and yet I was able to build up No. 2 on the coltage before No. 1.

No. 2 built up the best? Yes. I was able to build it up a week before the other. No. 2 took really a fortnight less to dry out than No. 1.

Have you made a test of any of the others? Yes; Nos. 3 and 4. I may mention that I cannot dry out No. 4 as I am turning up the fly-wheel. I partially dried out the series fields of No. 4 by circuiting the other machines through it. I have been unable to do anything to the armature.

Is that because you are turning the fly-wheel? Yes. Nos. 1, 2, and 3 are all ready for running, and have been built up.

And what test can be obtained from these three now? When I finished with No. 1 the insulation between the armature and the frame was 2.65 megohms, between the series field and frame 1 megohm, and between the shunt fields and frame about  $\frac{3}{4}$  megohm.

Do you consider that resistance satisfactory? Do you mean for running?

Yes? I think so. It is much easier to dry out armatures than series fields or shunt fields. The shunt fields take the longest time, owing to the wire which is wound so closely around them. After they had commenced to dry, the test I obtained was worse than before they started to dry, which I concluded was due to sending the moisture from the inside of the spool to the outside. I used a small 100 volt machine to dry them out, which we borrowed for the purpose, and I coupled the shunt fields—two in each series—so as to get the working current through each coil.

What did you get when you tested No. 2? The armature went up to 2 megohms, the series fields 1 megohm, and the shunt field  $\frac{1}{2}$  megohm. I considered  $\frac{1}{2}$  megohm for the shunt field good enough to start with.

And what did you obtain from No. 3? The armature went 3 megohms, the series field 1 megohm, and the shunt field  $\frac{3}{4}$  megohm.

The shunt field of No. 2 was the lowest? Yes; but it is better now, since it has been running. The results of the tests which I am now giving the Board were taken before the machines were built up to voltage.

Were they the final tests? Yes; they improve each day, according to the running.

Have you any figures to submit to the Board? No. I might add that there is a slight improvement on the shunt field of No. 2.

Could you explain to the Board how you made the tests? I will hand you a drawing, which will show the methods adopted.

Do you consider that the machines are now in good order? Three of them are.

The fourth is not in good order, owing to the fly-wheel not being turned up, and not being yet dry against water resistance? Yes.

Have you finished drying them? Yes.

You are not going to touch them again? No.

You are going to depend on the improvement they will get from being in working condition? Yes.

You have every reason to believe that they will improve? Yes. While they are remaining idle they will get worse. No. 1 has been now standing idle a fortnight, and before I could start it again I shall have to make another test. I have no fear as regards their proper working. All machines of their kind absorb moisture when standing.

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As soon as the tramway commences running, do you think there would be any objection to taking an insulation test of 2,500 volts alternating current? If the machines improve when constantly at work it would not be necessary to take the test.

Do you mean that when the machines have been at work for, say, a week, with a full load, the test might then be applied? Yes. If the machines were run for a week, with a full load, I would be agreeable to taking a 5,000 volts test.

You are of opinion that the wetting which they received will do no permanent injury? No.

Anything like that will be overcome in future? Yes.

Did you not make a trial yesterday? Yes; we built up No. 2 for the purpose.

Was the trial satisfactory? Yes.

The engine worked well? Yes. On Tuesday we ran the engine from 10:20 a.m. till 12 o'clock at night without any loading. The machine was built up to the voltage. After running the trial trip when the Governor was present, we put a load on gradually increasing from 100 amperes to 500 amperes.

When putting the load on, was it done gradually or suddenly? Gradually. The machines have to stand a sudden load test before we finally accept them.

Is that when the brasses are well worn off? No. When I first closed the switch I got about 100 amperes, and it gradually increased by increments of 50 amperes up to 700 amperes, when the crank-pin became too hot to run.

Have you taken notice of the snap switches on the shunt field coils? Yes.

Have you made any calculation of what voltage you are likely to get by suddenly creaking that circuit? No, I have not. It simply depends upon the exact working conditions at the time.

Does it break on a sudden test? The shunt is simply short circuited through a resistance.

*Mr. Wallach*: Are there any snap switches used in the shunt field coils? No, none.

When you were drying out the field coils, did you use snap switches or did you connect up with snap switches? I just connected up to the switch you saw on the board.

That was a snap switch? Yes.

In drying out the field coils in every generator you used snap switches? Yes; as a matter of fact I never break the circuit.

You never shut out with the switch? No.

You do not cut out the current passing through the field coils with the snap switch? No.

Regarding the storage of the generators, do you consider Garden Island a suitable place to store them? Yes.

Have the generators which were stored there given any different results to those taken on the railway trucks? They are rather better. The armatures are all very much the same. No. 1 was the worst on account of its partial immersion in water.

How do you account for the low resistance in the shunt fields? Only that we have had a rather severe winter, and they naturally absorb the moisture from the atmosphere.

*Chairman*: That is really how you account for it? The enormous number of turns on the shunt-fields make them difficult to dry out, and necessarily longer than it takes to dry out the armatures and series-field. It is probable that after they are running on the line awhile they will come up to the same insulation resistance.

Do you mean that both the shunt field and the series field will dry out until they show about three megohms? Yes.

*Mr. Wallach*: There being no roof to cover the machines, was everything possible done to protect them? Yes.

Were the spools also in pools of water? No.

*Chairman*: How do you account for the excessive damage which was done to them? The moisture of the atmosphere simply soaks into the insulation, and they were in this condition for two or three months, notwithstanding that they were covered up.

Were they unpacked and left standing before preparations were made to build up the generators? They were taken out of the cases and put straight in their place; everything was kept packed till the last moment. I may say that I was never in favour of the erection starting before the roof was on.

*Mr. Wallach*: Have you made any comparative tests on the generators—that is, when they were cold, and immediately after they had been running? Yes; the tests are better when they are cold than those obtained after running.

Could you give the Board an idea of the results you obtained? When I first started drying out the shunt field coils, I stopped the small machine and made a test, with very poor results. That I attributed to the moisture I spoke of being driven out. I then changed to another machine, one that had been standing for some time, and which was quite cold, and I got a much better test.

Then the lowest test was obtained from a generator that had been running for some time? Yes.

Did you eventually get the same results? Yes, I kept on drying them till I did.

And the tests you got were obtained by simply drying the moisture out? Yes.

*Chairman*: What is the resistance of the rails? I could not say at present; I will get you the information.

*Mr. Wallach*: Are the overhead conductors properly adjusted for traffic purposes? Yes, if you mean as far as the feed-points are concerned.

I mean the overhead conductors complete? I cannot say. I have nothing to do with them beyond the feed-points.

Are the feeders ready for work? They are not quite ready; they are now in course of completion.

Are they all completed up to the trolley wires? Yes, they were finished this morning.

In your opinion there is nothing to prevent the work of traffic being commenced immediately on the line—the whole defect being in the power-house? Yes. So far as the outside portion is concerned the line was ready for traffic three weeks ago with certain temporary connection made, which could have been permanently established by this.

Did you notice, in the trial trips you made, if the trolleys jumped from the overhead wire, or did anything happen that would lead you to suspect they were not properly adjusted? I have nothing to do with the overhead wire at all, but I know that the location of the frogs and crossings were tested.

W. G. T.  
Goodman.

26 Oct., 1899.



FRIDAY, 27 OCTOBER, 1899.

Present:—

PROFESSOR WARREN (CHAIRMAN).  
 PROFESSOR POLLOCK, | B. WALLACH, Esq.

Henry Deane, Engineer-in-Chief, Railway Construction Branch, further examined:—

H. Deane.  
 27 Oct., 1899.

*Chairman*: Can you give the Board any further information which would lead you to suppose was the cause of the delay in running the tramway? Since I was last before the Board I have been informed that the crank-pins are not at right angles to the disc—that is to say, they are not parallel to the main shaft. Mr. Libby, the engineer for the E. P. Allis Manufacturing Company, who is in charge of the erection of the machinery for that company, yesterday took most careful measurements, which I understand have been checked by Mr. Fischer, Principal Assistant Engineer, and others. These measurements show that the crank-pins of No. 1 engine are out of line, and as the discs of all the engines were all bored by the same machine at the works, it is only reasonable to conclude that the other crank-pins of the engines will be in the same condition.

Then the cause of the delay during the past fortnight is entirely due to the state of the engines? Yes; the crank-pins began to run hot this day fortnight when an attempt was made to put the test load on. I am informed that up to 500 and 700 horse-power there was no heating.

When was the building supposed to have been completed? At the end of December last year. In the completion of contracts of this kind it is the custom of the Department to be fairly liberal—that is to say, we are, as a rule, satisfied if the building is completed for all practical purposes by the time specified; we are not so particular about the finishing touches being done within the contract time if satisfactory reasons can be produced for delay.

You would be satisfied if it was completed sufficiently for the work to be carried on? Yes.

Supposing that the buildings were completed by the date specified, would the Commissioners have been ready with their rolling stock? I was informed that they would not have been. I know there was a delay in getting some of the parts out—I think it was the trucks from America.

Is the loop at Circular Quay quite complete now? Yes.

Have some switches and other parts been made at Cockatoo Island? Yes; the work has been finished some time.

Is the permanent-way all through complete for traffic? Yes. I may say that the Railway Commissioners asked for an alteration from the original plan at the Circular Quay loop in November last year; the original plan simply showed a plain loop with two roads, but they asked for an alteration showing a third road with two or three cross-overs. I had pointed out to the Commissioners that they could not do all the shunting required when they came to running trams to the various suburbs, unless some such arrangement were adopted for passing the cars and getting them into proper order. It would be inconvenient for the whole of the cars to go out in the same order in which they came in; some of the cars would have to wait while others passed. After considering the matter the Commissioners asked me to lay out the loop and put in these roads as suggested. The plan furnished by the Commissioners showed the roads rather close together, and I then suggested that we should make them about 2 feet further apart, so as to allow of a man standing between them when shunting. They agreed to that, and I sent them a plan showing exactly what I thought they wanted, and they sent it back approved. The loop was laid and contained the crossings in accordance with the plan. Some time ago we took a single car down the line with horses, there being no current on at the time. Everything went well, though not too well, and as motors and trail cars coupled were to be used we afterwards tried the coupled cars, but the results were not satisfactory.

Was that due to the transition curve? Yes, partly. I found it had been cut out; and it was partly due to the cross-overs being rather short, and partly to the construction of the cars, which just seemed, theoretically, to permit the cars to run round. The rails had been laid, however, exactly according to the plan approved by the Railway Commissioners. I was asked to alter them and to ease the curves, which I have done. I might say that it is not an uncommon thing to find difficulty at first in getting cars, and especially coupled cars, round sharp curves.

And more especially when you have short radius? Yes; there is no doubt that this radius is a very short one; it was adopted deliberately after consultation with the Traffic Branch. It is very short and we could not make it any larger because there is no room. The loop also at the Railway Station is very much about the same radius, and it is recognised to be inconveniently small.

I suppose you could not do better? No; we could not do better there. At the end of the tramline to Cook's River, however, which I am going to construct shortly, I have been asked by the Railway Commissioners to enlarge the radius from 70 links to a chain, which will certainly be an improvement.

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Orlando William Brain, Acting Electrical Engineer, Railway Department, further examined:—

O. W. Brain.  
 27 Oct., 1899.

*Chairman*: Could you inform the Board if the Railway Commissioners would have been ready with their rolling-stock if the power-house were completed in the time specified in the contract? The Commissioners I know have been very considerably guided in their movements by the progress in the construction of the power-house, and had the power-house been ready they would have made arrangements altogether different to what they did make. They would have, no doubt, made arrangements to have had the cars ready.

The cars were all ready, I understand, on the 1st September of this year? Yes; and they could have been got ready much earlier.

Four sets of engines and four generators have been ordered and put down; I presume that is as much power as you will require for some time; I understand from the evidence given by Mr. Deane, Engineer-in-Chief of the Railway Construction Branch, that the late Chief Commissioner for Railways (Mr. Eddy),

(Mr. Eddy), the late Mr. Elwell, and Professor Forbes, all agreed to the desirability of putting four sets of engines in, having regard to future requirements, notwithstanding the fact that they would not require to use at the present time more than two sets of engines? We hope to start the Dulwich Hill electric tramway with forty more double-truck cars at the end of January, and within fifteen months hence we hope to have 150 eight-wheel cars running in addition to those which will be used on the George-street tramway. What the Commissioners propose to do immediately the George-street line is working traffic is to convert the whole of the steam service trams to an electric service with as little delay as possible.

O. W. Brain.  
27 Oct., 1899.

That, of course, will only necessitate the erection of poles, making the bonds, and so forth? Yes, for the present. Additional machinery will ultimately be required.

Have you not already done considerable bonding in anticipation of the conversion you speak of, from steam to electricity? Yes; a few miles have already been done. Advantage was taken of the opportunity in dealing with the permanent-way to some extent, and we consequently found it more economical to do the bonding possible at once.

Is there a great deal to be done before you can open up the Dulwich Hill line? No; not more than we anticipate being finished by the end of January. The Commissioners have not bound themselves to any particular time for the completion of the work.

Have you any other information you wish to give the Board? When I was previously before the Board I was asked a question as to what guided me in taking any particular voltage as desirable for a high potential test, and, in answer to that, I pointed out that you might fix the lightning arresters to meet any strain above 2,000 volts, and that you cannot guarantee absolute safety with any insulation test, as your arrester points might be burnt away by lightning. If the arrester points are very much burnt away there is nothing to relieve the potential. In making that explanation I intended to point out that it is the general practice of the General Electric Company to fix their arresters with an air-gap of a fortieth of an inch, which, of course, would only break down with something over 2,000 volts potential. When the line becomes charged, in consequence of lightning to the potential corresponding to the air-gap in the arrester, the lightning is discharged, but until it reaches that potential the lightning arrester gives no relief.

Do you mean that your machine may be exposed to 2,000 volts? I mean that until the potential reaches that degree, if the lightning arresters are adjusted for an air-gap which requires a voltage exceeding 2,000, your machine would, of course, be subjected to 2,000 volts before the lightning arrester could relieve the strain; while our arresters are being fixed at the fortieth of an inch, which is something over 2,000 volts, I take the 2,000 volts as being the voltage to which our machines might be subjected in the event of a storm. If they were subjected to a strain the arresters would not relieve it until the potential corresponding to the air-gap was reached. When the Railway Commissioners asked me to explain what potential it was reasonable to assume the machines might be subjected to in practice, I stated that it might fairly be put at 2,000 volts, which accounts for their claim that 2,500 volts would be required to give a margin above the number I had stated. I was not in any way actuated by a wish to over-state the high potential test desirable, and in asking for 5,000 volts I stated all along that we were influenced only by the fact that we had been given to understand the General Electric Company were supplying machines which would stand that test, and as you know, the higher the test the better the security.

How long would any test up to 2,500 be required to last? As I previously stated, I should be satisfied with a test of one minute.

And the test you finally agreed upon is just what may have to be experienced in a thunder-storm? Yes; it is just clear of the lowest limit. In considering risks from lightning you must take into consideration the district the work is in. For instance, in a place like Sydney you would not expect to get the charges on your line to follow one another rapidly; consequently no allowance was made in anticipation of lightning arresters becoming injured during a storm. It was not supposed that a high potential test suggested provided anything materially above what the lightning arresters would permit the machines to be subjected to when they are in good order. I have also been asked whether these high potential tests have been made here.

When you were asked that question the Board wished to know if it is a usual thing to make them at the works or in the power-house? One important point bearing upon that is that the General Electric Company make alternators specially for testing purposes—which they offered to us—from which they do not seem disinclined to subject their machinery to a high potential test. So far as the practice here is concerned one would consider, in making the test, the importance of the conditions. We have never before put machines down on which so much responsibility rested, as in the case of the whole of these machines. So far as my own personal experience goes, that was the practice I had followed in connection with the machines I had to do with up at Hillgrove. I tested them to 4,400 volts. I was then, of course, the manufacturer's engineer, and I was not going to test them more than I thought absolutely necessary for our working conditions. They were 1,600 volt machines.

Were they the machines which Professor Threlfall had to do with? Yes. I may say that after we had lightning discharges and rewound them, I always submitted them to 2,000 volts; that is a very fair margin for working conditions. The 2,200 alternating volts was the test I made simply as the manufacturer's engineer, and was done merely to satisfy myself that everything was all right. In this case I went beyond my usual practice for two reasons. I had an alternating plant there, and took advantage of the opportunity. It was also a matter of more than usual importance, and the firm whose representative I was at the time were under a penalty for stoppages.

Have you been in the service of the Railway Department long? A little over three years.

*Mr. Wallach*: Do I understand you to say that the machines to which you referred were 1,600 volts, and were tested to 4,400 alternators, and that now you propose to test 550 volts machine to 5,000 volts? In the latter instance I accepted a test offered by the manufacturers. It is not an impossible test; machines can be built to work at 5,000 volts when necessary.

Would a machine of 65 volts permit of alternating up to 2,000 volts insulation test? You would probably use your lightning arresters for discharging at a lower potential. Another thing is that a low voltage machine connected on two aerial lines never is particularly safe when lightning is prevalent.

O. W. Brain.  
27 Oct., 1899.

I take it, then, that a low potential machine like a 65-volts machine would catch a 2,000 volts discharge? Do you mean if the points of the arresters are burnt away?

Then you would test a 65-volts up to 2,000 volts? Yes; if it were likely to be subjected to such conditions, the machine would be safer if it would pass this test between copper and earth.

Would you do that as a general practice? I do not think that the ordinary machine would stand it without the base being insulated.

*Chairman*: Is there anything else you would like to explain? With reference to the building up of the machines, I stated in my remarks, when previously before the Board, that an insulation test could not be taken without the machine being built up; it would not necessarily require the armature in the field to take the insulation test. The connection from the armature to the base would be through the shaft, and you could test the armature as it stood in position, and if the field-coils were built up on to the fields you could test the field-coils practically under working conditions for your insulation test. On the other hand—as I remarked the other day—the important test; that is between the series and shunt winding, was not mentioned as having been taken. That test I attach a good deal of importance to, because it is the regular practice in these street railway machines to put the series windings on to the positive brush, and the series is wound over or alongside the shunt winding, which is already earthed. You, therefore, subject the insulation between the two windings to practically the whole voltage of the machine.

Is there any test made here in that way? There has been no alternating test taken here up to the present. They are not in a position to do it.

A direct current is merely sent through? Yes, that is all; they have warmed them up and dried the machines.

Have they now got the alternating plant here? Yes; it is somewhere in Sydney, but I cannot say exactly where.

The 2,500 volts is not so great, is it, as to require a transformer? I should like to say that an alternator has been imported from Victoria, and I think they would probably transform down and put a rheostat in the secondary circuit, and connect on another transformer and transform up again. I was asked as to whether I had any objection to bringing the voltage up slowly. I stated I had no objection if it would stand 2,500 volts brought up slowly.

Were these tests to be made? Yes; I asked the manufacturers if they objected to have it tested, and whether they would allow any margin at all, but they did not think it advisable to say so.

*Professor Pollock*: Would they not give you an answer to that question? No. Mr. Raymond, the manufacturer's representative, said that if the machines were dry they would submit them to a 2,000 or 25,000 volts test. I reported that to the Railway Commissioners, but what the Commissioners wanted was to get the machines dry, and this was the way to do it. I may say that Mr. Raymond has been with the manufacturers a long while, and he is very intimately acquainted with their work. He, therefore, speaks with a good deal of care, and knows what he is talking about.

*Chairman*: Is there anything else you wish to refer to? Something was said, when I was last before the Board, about the series winding—that is the effect of the series winding in the way of increasing the voltage to which the machine was subjected. I was asked if I had formed any idea of what that voltage was. In mentioning that the working voltage of a machine is considerably lower than the voltage to which the machine is subjected when the circuit breaker is opened, owing to the series winding, I should like to explain that this series winding is invariably connected with the positive brush of the machine, so that the extra potential due to the series winding being in the same direction as the voltage of the machine, must necessarily augment it, the series windings of the machines, being such that the rise of voltage is 10 per cent. between no load and a full nominal load, and the circuit breakers being set to act at least 50 per cent. above the full nominal current, the increase of potential must be very considerable. The turns on the field are numerous, and the magnetic blow out on the breaker makes a very sharp break. In the matter of the flashing test, I would like to point out that in the load test I particularly attached importance to the flashing, because, while the machines might possibly carry a load without exceeding the specified increase of temperature, it is still possible for machines of this class and voltage, when subjected to excessive strains—more particularly due to the distortion of the magnetic conditions—to do what we call “bucking”; and a very slight displacement of the brush from its right position will cause our machines to do that. In such a case one would have to be very careful. It is very important that you should not have the circuit breakers set at such a current, as the distortion of the field from the fact of its going from no amperes up to this current might cause “bucking.” It is not unusual to experience this, particularly if the machines are not too well designed. In that case, if you have anything like sudden changes from one current to the other, and do not follow it with the brushes, it will arc right across from brush to brush.

It would burn the commutator? Yes; and the resulting reports would be very disconcerting to the people employed about the works. We know that, the specified current for these machines—from information received from various sources—is the outside current that one could expect from them, and consequently it is important that the Railway Commissioners should know what the machines can really do.

You will make that test before the Railway Commissioners take them over? Yes; I should also like to say that the reason the rheostat test is considered important is that the Public Works Department have suggested that the test should be what is considered a working load. A rule-of-thumb test of 20 amperes per tram was suggested as a fair current to test the machines to. I, personally should not be surprised to see something very close to 40 amperes per tram.

*Mr. Wallach*: What are the horse-powers of the motors? Thirty-five horse-power. We have a motor-car that weighs about 8 tons complete, and which drags a trailer weighing  $5\frac{1}{2}$  tons. As many as ninety persons can be carried on one of these cars.

*Chairman*: Are they anything like the cars on the Rose Bay tramway? Yes; like the large-size ones.

Have you anything further to explain? The fact of complying with the current conditions in the flashing test without excessive heat does not enable one to tell if the machine is going to “buck,” as it is termed, which it is apt to do in making a sudden drop from one current to another; and as the Commissioners are reckoning upon these machines to work specified loads, I attach a great deal of importance to this flashing test.

MONDAY, 29 OCTOBER, 1899.

Daniel Stewart, trading as "J. Stewart & Co.," Government contractor, examined:—

*Chairman*: You were the contractor for the building in connection with the power-house of the electric tramway at Ultimo, which includes the office buildings for the electric generators, &c.? Yes.

D. Stewart.  
29 Oct., 1899.

Your tender was accepted on the 30th June, 1898, was it not? Yes.

The date fixed for the completion of your contract in accordance with the drawings and specification was 29th December, 1899? Yes; twenty-six weeks from the date of acceptance.

Do you consider there was ample time for the completion of the contract? No, there was not.

Yet you undertook the work to be finished in the time specified? Yes; but I got an extension of four months.

Would you kindly tell the Board why you were not able to complete the contract in the time originally agreed upon? I may say that when I started the work I did not expect to be able to complete it in the time, not without a lot of luck. The foundations were to be 2 feet below the floor-level—that is, the foundation for the engine; in fact, the whole of the foundations for the work we show on the plans to be 2 feet below the nearest floor-level; but instead of going down 2 feet we had to go down on an average 14 feet for the engine foundations.

Is that in consequence of the foundation at 2 feet not being considered good enough? Yes; and the excavation necessary for the foundation of the four engines involved the removal of 1,300 cubic yards of material and 1,300 yards of concrete being done.

How long did it take you to put in the foundation? We started that particular work on 8th September, and the foundations were not completed until 13th March, 1899.

Three months after contract time? Yes.

How long would you have taken if the foundations were as shown on the drawing, only 2 feet below the level? We could have completed that easily in the contract time.

That is, as far as the foundations were concerned? Yes. There was an enormous amount of work to be carried out under the schedule in that contract. This work, of course, could not well have been foreseen by the Department, and, as I said, the excavation, and also the converting, involved a considerable amount of work. These foundations could not be put down very rapidly, because they had to be very carefully timbered, and about forty bolt holes had to be put in each foundation. The bolts go right through the foundations, and if these holes are not properly put in, we could not get the plates on. We therefore had to use very great care, and had to work the foundations one at a time.

Is there anything else you would like to mention to the Board in respect of delays on that point? The trenches are shown to be down on an average of 2 feet, but had to be excavated considerably deeper.

Were the foundations all for the engines, or were there any for the walls? I estimated about 1,100 yards additional excavation for the main walls, over and above what is shown on the plans, and the quantity of brickwork corresponding to the excavation had to be put in to come up to the level.

Would not that be put in in concrete? No; we put in brickwork in a good many cases.

In the work under-ground? Yes; my schedule prices were about the same for both items. The Department selected the brickwork in preference to concrete for the walls. The foundations were of solid rock, and were considered most satisfactory. Before we started to erect the roof, we received an order for a separate contract to put up the electric travelling cranes. That order was given on 14th June. It was a difficult job, and involved a considerable amount of delay. It was impossible for us to erect the roof while we were engaged in this work. We erected the travelling cranes to enable the engineers to proceed with the fixing up of their engines.

Could you not have ordered the material for the roof in the meantime? It was all ready.

Was it all delivered? Yes. I might say that that work—that is, erecting crane girders—requiring a certain amount of time, absolutely blocked all the other work in connection with the building from being proceeded with. The principle object was to facilitate the work of the engineers. There is another item in a separate contract amounting to £453 to which I should like to refer.

What was that for? That was for making a tunnel through the centre of the building to William-Henry Street. I mean the main conduit.

Was that not included in your main contract? No; that created a certain amount of delay also.

*Mr. Wallach*: How long did it take you to finish it? About three months. We had to tunnel under the bridge and come up in the street.

*Chairman*: Was the conduit to which you refer for putting in the cable? Yes; it goes right through the building.

Is there anything else? There are some other items of work, such as the tiling of the engine-house floor, &c., which have been considerably delayed owing to the fixing of the machinery; in fact, the floor was quite strewn with materials, and it was impossible to get at it. The basement floor could not be proceeded with until recently owing to the steam-piping not having been completed. The Department have been doing that work themselves—that is, the main basement, the lowest floor of all.

How long do you consider that retarded your work? Our work should have been finished months ago if we could have got at it.

Is there anything else you would like to refer to? Yes; I should like to refer to the erection of the switch-board gallery.

That was extra, was it? No, it was not extra; but I had to write to the Department on that matter. The delay in its construction was also due to fixing up the machinery. The people erecting the machinery had to use a very large hydraulic press. They had to fix it up on the floor, and the result was that it blocked the whole of that portion of the work.

It seems that you got in the way of each other? Yes; we have had to work one to suit the other. My instructions all through were not to interfere with the machinery people, but to facilitate their work as much as possible. There is also the boiler contract, which was a separate contract.

That was a contract accepted on 30th January for £7,135? Yes; the date fixed for the completion was 20th June. I should like to say in regard to that contract that I could see my way to very easily

complete

D. Stewart. complete it in the time, although it was a big piece of work, but the boiler-fitting was specified to be made by Messrs. Dewrance & Co., London. They were not obtainable in the Colony, and, therefore, had to be imported.  
 29 Oct., 1899.

Had all the boiler-fittings and mountings to be imported from London? Yes.

Is that contract yet complete? Yes.

Have you completed the setting-in of the fourteen boilers? Yes; the only things incomplete in connection with the boiler are two of the fronts which were left down, under instructions from the Department.

Are you lining the conduit to take away the ashes with brickwork? That work is being executed under schedule, and is not included in the contract. The principal delay in connection with the boilers has been the fittings to which I have referred, and also the cast-iron floor-plates and tracks.

They are all in connection with the Hunt's coaling system? Yes. Fortunately the agents for these fittings looked well ahead, and if the plans for the Hunt machinery had not been sent Home before the contract was let I do not think we would have had the material yet.

Did that enable them to reach here in time? No, we hardly expected it. The contract was only let in January. Then the fixing of the boilers had to be worked in conjunction with the steam-piping, which latter is a work also being carried out by the Department, and which required an additional amount of excavation, brickwork, and concrete. There were about £700 worth of additional work.

Where was that work effected? Principally under boilers, in consequence of the bad nature of the ground. I think it will therefore appear very reasonable for me to claim the additional time occupied in connection with this additional work. That is all I have to say about the boilers.

I take it that you received the boilers in good time? Yes; they were made locally, by Messrs. Hoskins Bros.

Do you also consider there was ample time allowed for the completion of your contract? Yes, for the boiler contract. As far as the boilers were concerned we were finished in good time. I had necessarily to go a bit slow on account of the steam-piping. The Department had to check my progress with the boilers to enable their piping to be worked at the same time. There has, however, been one set of boilers ready since about the end of July; in fact, I think earlier than that.

Were you made aware of the necessity of completing the roof for the generators, &c., as quickly as possible? Yes.

Were you aware that damage to the generators might result from the delay? Yes.

You then applied for four months' extension of time? Yes.

Was it granted? Yes.

That would extend the date of your contract up to the 29th April, 1899? Yes.

Did you sublet the iron for the roof work to Messrs. Tulloch & Co.? Yes; I sublet the two iron roofs, on the authority of the Government.

Did that include the order for the rolled sections? It included less than half of the material necessary for the work. I imported all the girder plates and the joists through the agency of Messrs. Briscoe, Drysdale, and Co.

You ordered them yourself? Yes; the other portion of the contract was handed over to Messrs. Tulloch & Co.

Did you say you had the authority of the Government to sublet the work? Yes; I have the Minister's approval in writing.

When did the material arrive which you ordered through Briscoe, Drysdale, & Co.? The first lot arrived in November; that is the lot to which you refer.

How long was it before the whole of the material arrived? I may say that the portion sublet to Messrs. Tulloch & Co. was the most important part of the work. That order was placed with Messrs. R. W. Cameron & Co., who are agents for large manufacturers in America. The first shipment was received on 14th January, or within six months after placing the order; the balance arrived in three other shipments; and the whole of it, with the exception of the principal T rafters, arrived during the month of January.

I presume the T rafters arrived in the month of March? Yes. There was tremendous difficulty in procuring them. They had to be specially rolled, and the difficulty was the unusual sections for these T rafters.

Did you only complain of the unusual sections in the T rafters, and not of any other section? It was a very difficult order altogether. There were no less than twenty-eight different sections of material in these two small roofs, and being less than 100 tons in weight, of different sizes, and such a small parcel, and most of it requiring to be specially rolled, manufacturers had some reluctance in executing the order.

Do you mean that for such small quantities there were a large number of sections? Yes; there were very few obtainable in stock, and a glance at the sizes will show that they were altogether irregular.

The Department claim they are the usual sizes, and that they can be found in any manufacturer's ordinary catalogue? What I have stated as to the irregularity in sizes is the opinion they have in America. Personally I may say that we must have spent £30 and £40 in cables in connection with fulfilling the order.

Did you send to America for them? Yes; also to England. The English people would not take the order for the T irons.

*Mr. Wallach*: Were you not informed by the Department that if you had any difficulty in getting the sections specified, that you might apply to them to have the sizes altered? Yes; but the information came too late. We had gone on preparing everything that we possibly could when we got the balance of the ironwork, and had a short time to put it together. The roof of the engine-house was covered in, and the lining of the ceiling completed on 17th July, 1899. That finished the building for all practical purposes.

*Chairman*: So that the engines were being erected, while you were putting on the roof? Yes; as soon as I had the electric traveller in position, they started working straight away.

And the roof was still being proceeded with? Yes; the work of erection was being proceeded with by placing in position one side of the building at a time, so as not to interfere with the work in connection with the machinery. Had we been allowed to erect the roof over the whole building at the

one

one time, we could have completed it a fortnight earlier, and this I pointed out to the Department. The whole of the roofs were, however, erected by the end of May, so that it was a very short time after we got the material till the work was completed. D. Stewart.  
29 Oct., 1893.

*Mr. Wallack* : You say that the roof of the engine-house was finished on 17th July? Yes; the lining of the ceilings I may mention was a very difficult task.

May we conclude from that, that in May all the building was covered in? The roof was commenced during the end of April, and the whole was completed by the end of May.

The building was completely roofed in? Yes; it was finished, as I say, by the end of May.

*Chairman* : Could you inform the Board on what date it was really covered in sufficiently to protect the machinery from the weather? About a fortnight before the time I mentioned as the date of its completion.

*Professor Pollock* : When was the erection of the machinery actually commenced? About the end of January, 1899.

*Chairman* : Where were the electric travellers made? They were made in America.

Could you state where the rolled girders were used, which you obtained through Messrs. Briscoe, Drysdale? They were used in the offices; I suppose nearly 100 tons of ironwork were used in the offices. To show you the difficulty we had in obtaining the plates, I will quote from a letter I received from the manufacturers' agents (Briscoe, Drysdale), dated 16th January, which is as follows:—

In reply to your inquiry as to the cause of delay of the delivery of steel girders, which we undertook to indent for you in July last, we beg to say that our London friends have advised us that, owing to the very heavy demand for steel materials, both from England and on the Continent, being made for some time past from the manufacturers, they have experienced the greatest difficulty in obtaining anything like prompt delivery, unless the sections required chance to be in stock the time the order was received. In the case of your indent, unfortunately, most of the sections ordered, it was found necessary to get rolled, with the result that they were compelled to wait the manufacturer's opportunity to put in the required rolls before obtaining delivery. Of course you will understand that where small quantities of any particular section were required, it would be most difficult to induce makers, under these conditions, to change their rolls in anything like decent time.

That letter was written upon a complaint I made of the delay in delivering the plates.

Where did you say those girders are used? In the offices. I may say that when I applied for the extension of time to the Department the letter which I wrote gave full information; it was dated 17th January, 1899, and was addressed to the Engineer-in-Chief for Railways. It read as follows:—

In connection with our application of 10th January, applying for four months' extension of time for the erection of power-house at Ultimo, we have the honor to inform you that the first shipment of ironwork, ex s.s. "Falls of Keltic," has arrived in Sydney, and we are now getting delivery of the material. In this consignment, we have sufficient material to complete the engine-house roof—

We found out afterwards we were short of the engine-irons—

which work will be at once proceeded with. With the object of procuring the ironwork in the shortest possible time, we placed the orders for the steel girders and plates with Messrs. Briscoe, Drysdale, & Co.; the angle-bars, rods, and T iron with Messrs. R. W. Cameron & Co., who represent large manufacturers in New York, and who arranged with us to cable for the ironwork, and to have it shipped by steamer the earliest possible date.

I made these arrangements with Messrs. Tulloch & Co., and I particularly went with them to Messrs. Cameron & Co. to see that the order was placed.

Have you the date on which the orders were placed? Yes; I will give it later on. We quote extracts from a report received from Messrs. Cameron & Co., who stated in reply to our complaints of the delay in receiving the ironwork, as follows:—

We regret extremely that any delay should have occurred in the execution of this order, but we can assure you that our New York house have done everything in their power to expedite the same, and from correspondence received we are certain that our New York house were constantly endeavouring to get early delivery, and they spared no time or expense towards accomplishing that end. At the time of placing your order the American manufactories were overburdened with work and in many instances could not catch up with their orders, even by working overtime. There were no available stock materials on hand, consequently it takes considerable time for special manufacture. Knowing the urgency and necessity of procuring your material quickly everything has been done that was possible to do in the matter. The second shipment with the balance of your material is in the steamship "Queen Adelaide." This steamer left New York on the 22nd November, and therefore may be expected to arrive at any moment. Messrs. Briscoe, Drysdale, & Co., in their report to us state that their London house advises them that, owing to the very heavy demand for steel material, both from England and the Continent being made, for some time past, upon the various manufactories, they have experienced the greatest difficulty in obtaining anything like prompt delivery unless the sections required chanced to be in stock the time the order was received. In the case of your indent unfortunately most of the sections ordered had to be specially rolled, with the result that we were compelled to wait the manufacturers' opportunity to put in the required rolls before obtaining delivery. Principally through the demands of the English Naval Department which are of an immense nature, the whole of the works in England are full up with orders, and it is a matter of great difficulty to get an order executed in anything like reasonable time. Messrs. Briscoe, Drysdale, & Co. claim to have facilities second to none in the procuring and shipping of ironwork, and they inform us the state of the iron trade is such that they would not bind themselves to procure a shipment of iron such as we require in any given time, and they consider we have been fortunate in procuring the material in the time we have. The late engineers' strike caused the complete exhaustion in all stocks and lines of materials which were generally procurable in stock, and they have now to be specially manufactured. We have the whole of the steel joists and plates now on the ground; and as the balance of the roof material is close at hand, we can state that we are in a position to execute the making-up and erecting of the ironwork with every possible speed. If required, Messrs. Briscoe, Drysdale, and Messrs. Cameron & Co. will verify the statements we have made regarding the difficulty experienced in procuring the ironwork for our power-house contract. We have done all in our power by cabling and other means to expedite the delivery of this material; and we trust, in view of the circumstances, you will consider our application favourably, and grant the extension asked for.

That was the letter I sent in. I could not get any more information than that.

Then you believe that under ordinary circumstances you could have finished the contract in ten months? Yes; six months was rather too fine. The contract price is £20,000, and there was £7,000 or £8,000 additional work also to be done in the time.

What was the amount of the contract? The general contract was £19,789, and the boiler contract £7,135.

*Professor Pollock* : When were the orders given through Briscoe, Drysdale, and Messrs. Cameron & Co.? The end of July.

They were given at the end of July, 1898? Yes, as soon as it was possible. We did not waste any time in placing the orders; immediately I was satisfied the measurements were correct the order was placed.

D. Stewart.  
29 Oct., 1899.

*Chairman*: Did you say you went with Messrs. Tulloch & Co. to Cameron & Co.? Yes; I went personally to R. W. Cameron with Messrs. Tulloch & Co.'s representative. They knew the order was for me, and I impressed on them the necessity of doing their very best to let us have the materials quickly. They said that as they were going to open up a big trade with New South Wales that they would make a special effort in promptly filling the order.

Can you give me the exact date of the order? Yes, 23rd July; that was the date the order was posted.

Was that order for the whole of the ironwork? Yes; the portion ordered through Messrs. Briscoe, Drysdale, & Co. was placed prior to that date. The glass for the roof was not procurable in the Colony and had to be imported.

That is to say, you placed the order for the ironwork as soon as the tender was signed? Yes, as soon as we were satisfied as to the measurements, we placed the order straight away.

*Professor Pollock*: Then you applied for permission to sublet the work to Messrs. Tulloch & Co. much later? Yes; we looked on that as a matter of form with a first-class company like Tulloch & Co. We got permission from the Under Secretary to do so.

*Chairman*: Although the application to sublet to Messrs. Tulloch & Co. was dated later, you had actually let the contract in July, 1898? Yes, and a very stringent contract it was too. The work had to be done in the shortest possible time, and had to be erected complete within two months from time of receiving the material.

Have you yet finished your contract? Yes, with the exception of some small items which we cannot get at until the machinery is really completed, such as the tiling of the floor, which is the principal thing remaining.

*Mr. Wallach*: If you had not been delayed with the ironwork there would have been no necessity for you to apply for an extension of time? I would have had to apply for it in any case. I applied in January last.

*Chairman*: Your principal reason for requiring an extension of time was to carry out the extra work necessary in the foundations for the machinery? I consider the four months' extension which I applied for would give me sufficient time to fix the ironwork, and the balance of time over and above that I think I may reasonably claim to be entitled to in consequence of the additional work which I had to do.

You have done about one-third more work than the main contract devolved upon you? I consider my work was finished at the end of August. I could have been finished by the middle of August if I had not been prevented from getting at the work. For the past two or three months I have been simply studying the Department, merely hanging on to try and get finished. The Department having let such a number of contracts, work has been going on all the time since we started until now; there has been no stoppage of any kind.

Then the carrying out of the other contract has interfered with your work? Yes, very considerably. In fact the chimney was let under another contract. I could not approach that part of the work under three months after I signed the contract; on account of the contracts for the chimney having a steam crane erected there which blocked up the whole portion where the work was proceeding. Where there are three or four firms of contractors working together, it is generally very inconvenient. It is a very big work, and the bulk of it has been done in twelve months' time. Until the power-house was let there was nothing done with the machinery, the conduit or anything in connection with the machinery of any kind. The permanent way was certainly let; but as I say, the bulk of the whole work has been done within twelve months.

The manufacturers in America were unable to promptly fill your orders, owing to the great variety of sections? Yes. It was immaterial what price we offered; it was impossible to get them sooner; immediately they were landed we worked night and day. Messrs. Tulloch & Co. fitted up an electric plant, and the erection was completed in half the time that it would otherwise have been done in.

*Professor Pollock*: When you applied for your extension of time on 17th January, what position was the ironwork in then? We had just received the first shipment then, and were just making a start. In any case, on account of the extensive additions to the foundations, had we received the ironwork earlier we would not have been able to get them finished any sooner.

You stated in your application, when speaking of s.s. "Falls of Keltic," that that was the first shipment of ironwork? We had sufficient material, less the principal rafters, which were not in that shipment. They merely gave us the quantity. We had more than half the material which was required for the two roofs; the main-tee sections they omitted to send.

*Chairman*: Do you mean that you received the total weight? Yes.

But the T-iron rafters were omitted? Yes; they were the last we got, and as I explained it was a very difficult piece of work to get them.

Are there any penalties imposed in these contracts? Yes; on our contract there was a penalty of £50 a week.

You stated that you applied to Messrs. Handyside & Co., and they gave you a time for completing the roof? Yes; they offered seven months; but they would not bind themselves under nine months from the time of receiving the order until its delivery in Sydney.

So that that would have taken much longer than it did? Yes.

When you found that there was great difficulty in getting the T-iron, was it too late then for the Engineer-in-Chief to modify it? Yes.

*Professor Pollock*: The date of the acceptance of your contract was 30th June, 1898, and the date of ordering the material, 23rd July;—do you think that was an excess of time after the acceptance of the contract, knowing that you had agreed to complete the work in six months? I do not think so, because everything had to be worked out carefully. And there was another reason—I had to get prices for this work. I waited as long as I possibly could to hear from England and from the United States. It was merely a week sooner, but for the sake of a week I thought it best to wait and see if we could get the roofs quicker from England than from the local manufacturers. I would like to mention that the first day I got the contract I had the people who were supplying the iron on the scene of the work getting particulars. There was no time unnecessarily wasted; the delay which occurred at the start was absolutely unavoidable.

Did you cable for the ironwork? We did cable for portion of the ironwork, which was first required, and we wrote ordering the second lot, and it is strange, but nevertheless true, we got the material we wrote for before that which we cabled for. With the manufacturers at Home you have to take your turn.

And

And the time you placed your order was most inopportune for getting work out quickly? Yes. I wish to impress on the Board the fact that you cannot place your order straight away from the plans. You must have your work set out. We acknowledged the acceptance of the order on the 1st August as follows:—"We herewith accept your offer to supply steel joists and plates to the undermentioned sizes and lengths, to be delivered by mail steamer. The cost of cabling for same to be borne by us." I may add that in ordering by cable to ensure quick despatch we always make it a practice to prepay the cable. The lines we did not cable for we got first; they were ordered by letter, as I said. This shows how powerless the contractor is in the execution of his orders. Everything was conducted in a businesslike way; there was nothing slipshod about it.

*Mr. Wallach*: You mentioned that on 23rd July the order was placed with Messrs. Briscoe, Drysdale, & Co., and the letter was written on the 1st August acknowledging their acceptance of it;—do you know on what date they cabled Home for the material? It was all done in the month of July. We received acknowledgments before the end of the month.

*Professor Pollock*: Had you any trouble with regard to bricks? Yes; we had great difficulty in getting the bricks the Department required—double-pressed bricks. As a matter of fact there is only one class of brick that will stand their test. That brick is made by Bakewell, and at the time they were very full with orders, which caused considerable trouble in delivering the quantity we required.

*Chairman*: For the first twenty-four days after obtaining the contract for the power-house you were occupied in getting out lists of iron from the drawings, and making general inquiry in regard to placing the order for the material? Yes.

After you had given the order the delays were due to the causes you mentioned in your evidence, namely, strikes, the enormous quantity of work in the factories in consequence of war, the irregular sizes, &c.? Yes. I should like to say that I do not attribute the whole of the delay to the want of the iron-work. There were a considerable number of alterations and additions to the work that would have increased the contract time, even had the ironwork been delivered promptly. These alterations and additions were quite unforeseen and were not provided for in the contract; they were stipulated for in the Schedule.

When you expected the contract to be completed in a certain time, I suppose you were not aware there would be any extras in connection with the foundation? No. Of course, in additional works, one always gets an extension of time. I am well satisfied with the manner in which the plans were detailed, and with the information I obtained at any time from the Department in connection with the work, and all the things which have occasioned delay could not really have been foreseen.

WEDNESDAY, 1 NOVEMBER, 1899.

Present:—

PROFESSOR WARREN (CHAIRMAN).

PROFESSOR POLLOCK, | MR. B. WALLACH.

The meeting was held at the Power-house, Ultimo.

A. M. Libby, Engineer for Edward P. Allis & Co., examined:—

*Chairman*: Can you give the Board any information regarding the treatment the engines have received generally since their arrival in Sydney? I shall be glad to answer any questions with reference to them which the Board may put to me. A. M. Libby.  
1 Nov., 1899.

Did you see Mr. Fischer, of the Railway Department of New South Wales, in America when he was there? No.

Can you say of your own knowledge if your firm made every effort to complete their contract within the time specified? I know that our firm worked night and day to do so, and they also despatched the machinery by the Vancouver mail steamer in order to get it out and erected in time.

Did the forwarding of the goods by the Vancouver mail steamer incur any additional expense? Yes; 3,000 dollars for extra freight.

Have you any idea as to the proportional increase in the expense in pushing on the work rapidly—that is, the extra exertion beyond the ordinary time for the work? It cost about 25 per cent. more than usual.

When did you arrive in Sydney? On the 18th November last year.

How long were you in Sydney before you were able to commence erecting the engines? Four months.

Were you four months doing nothing? Yes; on our contract.

Why was it that you came to Sydney four months before the time of starting to erect the machinery? I came out on the instructions of our firm.

Do you know if any correspondence took place between the Railway Construction Branch here and your firm as to your coming to Sydney? No; you see our contract is with the General Electric Company, and not with the Works Department.

You came out at the instance of your own firm, and not on any request made by the Railway Construction Branch? Our firm received an order from the General Electric Company, and I was instructed to leave for Australia. That is all I know about it. After my arrival here I wrote to Messrs. Allis & Co. asking why I was sent out so soon, and they replied that it was because they received orders to send me from the General Electric Company.

The engines having been erected, and some trouble made evident, can you say what is the cause of the trouble? All I can say is that we are only just ready to run them, and any trouble is due to our pushing ahead before we were quite ready.

Then you do not consider there is any serious trouble with the engines? No. There was a little bother with the crank-pins; that is all that was wrong.

The Board have been informed that the crank-pins are not at right angles to the discs;—is that correct? I cannot say, but I think the Board have been misinformed.

Did you investigate the matter? Yes; I really cannot speak definitely about the machines until they are properly fixed.

Have you not filed the crank-pins? Yes, because they seized and fired, and they had to be smoothed.

You filed them to make them work smoothly? Yes. As I have already said, I cannot speculate upon the trouble which has arisen. When I have everything in proper order I will be better able to give a definite opinion.

Is



A. M. Libby.  
 I Nov., 1899.

Is there anything you would like to explain to the Board in connection with the engines? I might mention that I am very anxious to get my work finished as soon as possible, so that the tramway can be started. I certainly think that I am not encroaching on the time of the Department in any way, as there is yet time due to me for the completion of our contract.

You do not consider the work you have already done unusual? No.

Have you had a wide experience in the erection of these engines? I have had a very wide experience.

Can you give the Board any idea of the number of machines you built for a similar purpose to the one on which you are now engaged? I could not say exactly how many the firm I represent built; I, personally, have built 129.

Were some of that number larger machines than those at Ultimo? Yes; the last one I built was 7,000 h. p.; that was in Louisville, Kentucky, U.S.

Can you mention any other places in America where engines similar to those you are now building are used? There are four at South-side, Chicago, and the Metropolitan West-side Elevated Company have also four. These are all vertical machines.

Are they like those you are now erecting? Yes; but a little larger. They have also the loop in Chicago in connection with the elevated line, that is the power-house which carries the entire loop system where all elevated trams in Chicago are turned. The Boston Elevated Railroad has seventeen of the same size as those at Ultimo, and some larger; Syracuse Traction Company have two like them; the Detroit-street Railway Company, six; The Albany-street Railway Company, New York, two; Brooklyn City Company, four; Kent Avenue, four; St. Louis Traction Company has four, which are on the Cass Avenue line; New Orleans Traction Company, six on the Clybon-street line; Cincinnati Company, nine—some of which are smaller than those in Harris-street; Cleveland City Railway Company, six; Metropolitan-street Railway of New York, eleven, and many others I could mention. The Twin City-street Railways in Minneapolis have nine quite as large as those in Harris-street. The Baltimore and Ohio R. R. Tunnel plant have four and run 110 revolutions.

Do you know of any similar to them being used in any other part of the world? Yes, the London Underground Company have fifteen; there are five in Madrid; three in Cork; four in Dublin, all of which are running; two in Bristol; two in Barcelona; and two in Middleburgh. By the last mail I received a letter, in which our firm state they have sold four to the Glasgow (Scotland) Tramway Company; and I also noticed that the Glasgow *Herald* states that the company I have mentioned have given an order for four of these machines.

Could you inform the Board when you commenced to erect the engines at Harris-street power-house? We started about the 1st April, but it was only in a small way, as we had great disadvantages to contend with.

What were the character of those disadvantages? In the first place the building was not ready.

Were the other contractors in your way? I would not say they were in the way; they had to get their work done before I could go ahead with mine.

They had not finished the foundations for your machinery? No.

Was not one of the foundations completed on 1st April? Yes; two of them were finished when we made a start. The machinery was at one end of the building and the completed foundations were at the other end, and we could not get the machinery across without getting in the way of the other contractors. I simply started the work in order to facilitate matters. I really started four months sooner than I should have done—that is, to do the work on an economical basis, which, of course, is a matter of importance to our firm.

Do you mean that you incurred extra expense in commencing the work of erection of the machinery before the foundations were sufficiently advanced in order to obviate delay? Yes. It cost our firm about 30 per cent. more to do this contract than any other work I know of which has been done by the E. P. Allis Company.

And that extra expense was incurred through your commencing before the building was ready? We started before we ought to have done, to facilitate the completion of the whole work, and it cost us considerably more by doing so.

What time would your firm require to erect four engines similar to those in Harris-street power-house under ordinary circumstances? We could do a similar piece of work in five months; we would not exceed six months at most. That would be without turning the wheels. We have no objection to running our engines without turning the wheels. I know of machines we put in years ago, the wheels of which are not turned yet.

When do you consider that you will have the four engines fully complete for the Railway Commissioners to take over the work—that is, so far as your part is concerned? Sometime next month; I cannot say to a day. I have about three weeks more work on the last engine; the other engines, outside a few adjustments, are all in running order. I may be ready in a fortnight's time, but I would not say definitely.

You have still something to do to the crank-pin of the other engine? I do not know that I have anything to do to it.

Have you measured the others? Yes; but I have not yet tested them with the line.

Have you anything further to say? I am anxious, as I previously stated, to get the work done as quickly as possible. We are running into expense and loss of time. With regard to the other contracts I have nothing whatever to say. It appears to me that neither the Railway Department nor the Public Works Department can reasonably claim that there has been a loss of time. As to our contract alone, I have made up more than a month's time in working both day and night, and even on Sundays, notwithstanding that there was no obligation on me to do so, as far as my time was concerned, for the completion of the work.

You say you have been working both night and day, and even on Sundays? Yes.

Have you any other information you would like to give to the Board? No; except that I would like it to be understood that the Allis Company will see that everything in connection with their work is put right and in good running order before they ask that the engines be taken over. They have no desire to shift their responsibility on to anyone.

J. J. Kelly,

J. J. Kelly, electrical engineer, representing the General Electric Company, examined:—

J. J. Kelly.  
1 Nov., 1899.

*Chairman*: You are in charge of the electrical generators and other parts of the electrical machinery at the Harris-street Power-house? Yes; the generators and switch-board, and the operation of the generators.

Are your machines all ready to be driven by the engines? Yes, as far as I can tell. It is very difficult for anyone to state the condition of the machines until they have been running. It is only then that any defects which may exist can be discovered.

How long do you consider the machines should be running before any defect can be discovered? The possibility of any slight defect in the machines should not prevent the engines from running and putting the machines into practical service, as, should any trouble arise in the working of the machines, it can be easily removed without causing any delay.

Do you know of your own knowledge whether you will be in charge of the machines after they start running for any length of time? I shall be in charge of them until I receive orders not to continue. If the Railway Commissioners accept the plant, then, of course, I shall return to America, unless I receive instructions to remain in Sydney.

You are merely waiting here until the Government accept the plant? Yes.

Is the switchboard fully complete? Yes, as far as my work is concerned. I cannot say if the Government have done their part; they had to do the connecting up from the machines to the switch-board.

Do the Government also make the connections with the lines? Yes; the electrical apparatus for the lines has been ready for some time.

Your work has been ready waiting for the engines to run? Yes.

The fourth machine will take a day or two longer perhaps before it is ready? The fly-wheel has to be turned up.

You are apparently ready to start your machinery as soon as the engines are fit to drive it? Yes, as I stated before, I am ready at any time with my machinery. I may yet have a little trouble—one cannot foretell what may arise in its working—but so far as I am at present aware everything is quite ready for action.

Do you refer to the dynamos that are said to have become wet? No. We have not yet tried the fourth machine. It has been in the condition it is in at present for some considerable time. The whole of the machines got more or less wet after they were unpacked from the cases.

Do you anticipate that any difficulties will arise in consequence of their becoming wet? Not now. We have built up three machines to voltage, and I may say that when they are built up to voltage they are ready for action as far as practical work is concerned. In regard to the high voltage test that is a matter which need not cause any delay, as it can be made while the machines are working the lines.

Have you any objection to making the 2,500 volts test when the machines are dry, which you anticipate will only require about a month to accomplish? We have no objection. If they are working constantly they will no doubt be dry in about a month. That will not interfere with the running of the trams. We have three machines quite fit for work now; the fourth is not yet ready. This machine may have to be dried in the same manner as we dried the other three, on a short circuit.

Have you been running these machines against rheostat? We have been drying them on short circuit instead of sending a current through the line. The current simply went round the machine with a very low pressure.

*Mr. Wallach*: Would you care to make a statement in respect to the storage of the dynamos, and the treatment they received from the time they were landed at Sydney till the time of their erection? They received unusually bad treatment owing to their having been built up while the roof was not finished sufficiently to cover them.

*Chairman*: Do you consider that any serious damage has been done to them in consequence of the bad storage? It is very difficult to tell if any damage has been done by mere observation; that is a thing that can only be discovered after the machines have been in operation.

Have you had them already in operation? Yes; and they appeared to be in good working order.

And because they worked satisfactorily you drew the inference that no serious damage was done by the weather;—is that correct? I really do not think they received any serious damage. All that is injurious is that they take a considerable time to dry out.

You say you ran them on short circuit to dry them;—is it because they built up their voltage that you think no serious damage has been done to them? Yes.

*Mr. Wallach*: Could you briefly trace the history of the dynamos for the information of the Board from the time they arrived, when two were taken to Garden Island and two left on the railway trucks, up to the present time? That happened before I arrived in Sydney.

*Chairman*: Did you arrive in Sydney a short time after the machines were landed? I came to Sydney with Mr. Libby, on the 18th November, and I commenced work on 20th March—that is, I was preparing for the erection of the machines and getting them in from the yard. My work should under ordinary circumstances have been complete in four months from the date of commencement, and with three months' operation of the machines, seven months should be ample for the whole of the work to be done—that is, so far as the practical part of the work is concerned. The machines we put up were practically finished before we started the switchboard, which was owing to the gallery not being erected. It is not uncommon for us to do both pieces of work at the same time.

You have been delayed in the completion of your work in consequence of the building not being complete? Yes.

Supposing the building had been finished, and you had the crane in as well, you could have got in the machinery much easier, and its erection would have been considerably facilitated? Yes; I had to spend a lot of time in covering and uncovering the electrical apparatus with tarpaulins, owing to the heavy rain-storms; and at that particular time we were having successive rains. I had to press one armature on the shaft, and during a rain-storm, as it would not be advisable to stop after a start had been made.

*Professor Pollock*: When you arrived in Sydney two of the machines were stored at Garden Island and two left on the trucks;—did you consider Garden Island a suitable place for the storage of electrical

J. J. Kelly, electrical machinery? I should consider that any place is suitable which affords proper covering to the machinery.

1 Nov., 1899.

*Mr. Wallach*: Would you have any objection to their being exposed to the sea air? They were in a building, and I do not know how they could be seriously damaged, with proper cover, by the sea air. For instance, they are in a building at Harris-street, where they are erected for operative purposes; and that is almost, if not right, alongside the sea air.

*Professor Pollock*: Are we to understand that the armatures remained in the cases in which they were packed until you were ready to erect them? I unpacked them as soon as I had the opportunity to press them on the shafts.

Were they unpacked then, and mounted in the building before the roof was on, and was that done with your concurrence? Yes; they were all mounted before the roof was on.

Was that not unfair treatment to the machines? It was to a great extent.

*Chairman*: Did you cover them with tarpaulins? I did as best I could. I put on three tarpaulins one upon the other, and the machines then did not escape the damp. After they were mounted they got damp, doubtless from the water which was in the cellar at the time.

Did one of the dynamos have portion of the armature standing in the water? Yes, that of No. 1 machine. I had to put it down the cellar, as the crane was not ready. It was set up on blocks, and covered with tarpaulins, but the rain was so heavy that it soaked through everything. That machine was the last I put on the shaft.

Was it because of the temporary arrangement that it became exposed to the weather? Yes.

Is that machine built up yet? Yes; and it appears all right as far as actual working is concerned. The test proposed might be applied when the insulation is high enough, but that will take time.

You estimate it to take about a month to dry out, with constant work? Yes; it is very difficult to figure it out.

*Professor Pollock*: Was it necessary that you should put the machines up in the wet? If I had refused to make a start the work to be done by Mr. Libby would also have to be deferred. We have, as a matter of fact, to do our work together. Mr. Libby commences certain work first, and then I follow on with a portion of mine before he can proceed further, and if I refused to go on with my work it would mean stopping the whole of it.

*Chairman*: Then you really commenced your work sooner than it ought to have done merely to work in with Mr. Libby, and push on the work. Yes; it is necessary to do that in connection with direct coupled machines. I may explain that I have to put the armature of my machine on to the shaft of the engine, and Mr. Libby has then to put it in the bearings. We have to get the field pieces in the bottom before the shaft goes in, as in this particular instance there was not room enough to leave that to be done afterwards.

*Professor Pollock*: How did you account for the field coils being so wet? They were exposed to the weather in the same way as the armature; in fact, they were more exposed than the armatures. They were first covered with the tarpaulins, but this cover was not waterproof; we had to keep taking the tarpaulins off, to work on the machinery, and as they were put in the cellar they no doubt absorbed the dampness caused by so much water being around them. They had not the chance to dry out that the armatures had.

*Chairman*: Do you say that there was water standing in the cellar? Yes.

What depth was it? The water from the rains collected there; I suppose there was sufficient to wet one's feet while standing there.

*Professor Pollock*: Have you ever before in your experience known machines to be as wet as these? It is my first experience in drying out machines. On one occasion I dried out five machines of very high voltage (1,200), to ensure against any trouble which might arise from dampness.

*Chairman*: Were you in charge of that work to which you have just referred? I merely did the switchboard there.

Is it a usual thing to commence working the generators before the roof is properly fixed over them? No. This is the first case I know of.

*Mr. Wallach*: Did the Public Works Department hurry you on at all with the work? No; I was as anxious to get finished as anyone. Not unlike the engine people and others we are expected to do our work as quickly as we can. There are delays at times which are unavoidable, such as one having to wait for the other in the work.

*Professor Pollock*: Do you anticipate any permanent damage through the wetting the machines got? No; I do not.

THURSDAY, 2 NOVEMBER, 1899.

Present:—

PROFESSOR WARREN (CHAIRMAN).  
PROFESSOR POLLOCK, | MR. B. WALLACH.

Andrew Herbert Byron, engineer and architect, appeared to be examined:—

A. H. Byron.

2 Nov., 1899.

*Chairman*: I believe you wish to give some evidence upon the George and Harris Street electric tramway? Yes.

What are your qualifications? I am an engineer and architect; I have been twenty-nine years at the profession.

Where were you trained? In the Phoenix Foundry at Ballarat.

That foundry only makes locomotives, does it not? Yes.

Do they make any electrical machinery? They did not in my time—that is twenty years ago.

Does your evidence bear upon the electrical part of the work? Yes, in respect to the charged overhead wire; I consider that that wire should be circular according to the curb rail.

Do you only wish to give evidence in regard to that wire? Yes; I wish to explain how to get over the curves. I have an instrument in hand which cost £18,000, and I have the same thing on it that is

wanting

wanting on the tram-cars. In the first place you want the circle where the pulley leaves the wire; it cuts the current through.

I would like to point out to you that the point you are explaining has nothing to do with the object of our inquiry, which is to go into the design, the cause of delays and failures;—can you give us any information on any of those questions? No.

Then I am afraid that we cannot entertain any other evidence which you may desire to give to the Board.

A. H. Byron.  
2 Nov., 1899.

FRIDAY, 3 NOVEMBER, 1899.

Present:—

PROFESSOR WARREN (CHAIRMAN).  
PROFESSOR POLLOCK, | MR. B. WALLACH.

Henry Deane, Engineer-in-Chief, Railway Construction Branch, further examined:—

*Chairman*: Could you inform the Board whether, when you altered the generators from the 800 K.W. to 850 K.W., you also altered the engines? Yes; they were altered. That was a very important matter, and when Mr. Fischer, my assistant, was instructed to leave for America it was arranged that he should get the new dimensions, because we could not get on very far without them.

H. Deane.  
3 Nov., 1899.

Until the plans for the foundations were prepared you could not start with the engines and the dynamos? We could not get on very far. I was busy getting out sketches for the roof, girders, and columns.

Did you know the span of the roof? Approximately we knew what space we had.

And you got on with the work of the roof? Yes; we made good headway with it; we could not exactly fix upon the spacing of the principals. It was supposed that we could get them about 20 feet apart, taken very much upon the width of the space occupied by the engines. It was a difficult matter, much more difficult than it appeared at first sight. In looking back over the spacing, I found that we made a mistake, as we had everything 6 inches too small, and if it would be found afterwards that the tail rods would not work without becoming foul with the columns it would have been a very serious matter indeed.

Are we to understand, as seen by the papers, that you are not alone responsible for ordering these generators, or for fixing the time for their completion? If it is agreeable to the Board, I should like to make a short statement:—After the Bill authorising the George-street and Harris-street electric tramway was passed the public were informed that about a year or fifteen months would be sufficient to complete the construction of the tramway. Nothing was ever said of any alterations in the plan which were being considered and were only decided upon in June, 1897—that is, nine months after the passing of the Act. The reasons why the public were not informed are briefly these, and I only discovered later that the Railway Commissioners had obtained a vote for the conversion of the tramways amounting to £150,000, which was obtained on certain conditions, namely, that the money should not be touched until the George-street electric tramway was open for traffic. The Premier promised that this condition would be carried out, and I presume it is one of the reasons why the Government would not explain to the public the extent of the works which were in course of construction. The Government, although doing the right thing, would be charged with spending money without authority. To show that I had no doubt whatever that the £150,000 vote would be drawn upon, it was so stated in the report of the Board of Reference which recommended to the Minister that these generators should be ordered; that fact was important. The Minister had the recommendations passed through his hands, and he must have made a similar assumption. I mention that because the Railway Commissioners later on denied that they had ever given any consent to the £150,000 being used for the purpose. The Board will find this in the papers. *Hansard*, however, will show under what conditions the £150,000 were voted. I knew nothing of them; I was not in the House at the time, and it was not my business to read *Hansard*, even in regard to the votes for my own work, and certainly not in the matter of votes for the Railway Commissioners. Presumably the late Chief Commissioner knew all about it, and had probably arranged with the Premier that the bar to it should be removed, and the matter explained, if necessary, to the House. He knew that there was no other money but what was provided for in that vote to devote to the purpose, that is, for the erection of the power-house, and I have not the slightest doubt that Mr. Young, the late Minister, knew that too. We had no other vote; we obtain votes for general tramway construction, but they are mostly for such amounts as £25,000 or £50,000, and there are no large votes like the George-street and Harris-street vote, unless they have been approved after the investigation required by the Public Works Act. All works involving an expenditure of more than £20,000 which are to be carried out by the Public Works Department have to be first submitted to the Public Works Committee. On the other hand, if the Railway Commissioners have large works to carry out they never have to send them to the Public Works Committee. They had also obtained an Act of Parliament to authorise them in putting up the overhead wiring and poles in the city of Sydney.

Where did the money for the overhead wires and the new permanent way come from? For George-street and Harris-street, money was obtained from the special vote of £130,500 for other lines. It was supposed to come out of the £150,000; but they have received a further vote. The Act to enable them to put up the overhead wires in Sydney was simply an enabling act, which permitted them to carry out such works in the public streets. On the loan estimates of 1896 the Commissioners obtained £150,000 for expense in connection with the conversion of the steam-power to electricity.

Have they used it for the conversion work, or has it been used for the new work? I have had £70,000 of it, by arrangement between the Commissioners and the Minister for Works. This has been spent, and the rest of the money wanted for the power-house has been taken out of other tramway votes.

So that your Department and the Railway Commissioners have practically worked together in this matter? Yes.

The Commissioners have really found the money? Yes; I know that that £150,000 was obtained on a low estimate by Mr. Elwell, and not long afterwards he made a further estimate very much higher, of £300,000, which he reckoned would be the cost of converting the whole system.

Was

H. Deane.  
3 Nov., 1899.

Was that estimate to cover the total cost of the business? Yes. About £300,000 or £350,000 was, I believe, his estimate for the whole conversion; that would necessarily be inclusive of the power-house.

*Professor Pollock*: Was there any special vote for the George and Harris Street electric trams? Yes. There was a vote of £130,500, and that included about £18,000 to provide electrical plant for the work.

That amount, together with the £70,000, which you obtained from the Railway Commissioners, is the actual sum that has been spent on the work? We have used a good deal more than that. There are other votes for tramway construction, which have been also brought into use.

*Chairman*: The total amount, then, is over £200,000? Yes; I think it will go up to about £260,000, or a little more.

Will that £260,000 which you estimate include the whole cost of the power-house, and the other work in connection with the tramway? Yes.

Does it include rolling stock? Yes; so far as it is gone. About £23,200 has been provided out of the George-street and Harris-street vote for rolling stock.

That is providing every equipment? Yes; everything necessary for the tramway. The late Chief Commissioner evidently knew the money would be forthcoming, and he was prepared to spend it by commencing the conversion immediately. He was very anxious that the four generators should be ordered at once, and to show you that he was determined that the conversion of the whole system from steam to electricity should be taken in hand without delay, and pushed through with the utmost speed, I might call attention to the arrangement that had been made in relaying Phillip-street and Elizabeth-street, and electric bonding in connection with the duplication of the Glebe Point tramway.

Was that done in Elizabeth-street? I particularly call attention to Elizabeth-street, because it must be remembered that the idea of the Railway Commissioners is at the present time to work the western suburbs scheme first, and, after conversion, they would all converge on to George-street; but the fact that Phillip-street and Elizabeth-street would be connected with the eastern suburban system, eventually shows their intention to proceed with the whole scheme, and carry it out without delay. They would not go to the trouble of electric bonding a road if they were going to wait five or six years before using it.

The work that was actually done in Elizabeth-street was putting down heavier rails and laying joints like channel bars, was it not? Yes.

Did the cost of that work also come out of the tramway vote? I cannot say out of what vote it had been paid.

Does it show clearly that the Commissioners contemplated an immediate conversion of the system? Yes. The late Chief Commissioner displayed great anxiety to obtain all the engines at once, so that there should be no delay, and I would like to call attention to the joint report on the selection of the design made by Mr. Thow, the late Mr. Elwell, and myself.

Was that on the 15th June? Yes; in June, 1897. We recommended, after having consulted the Commissioners, and the Minister for Public Works, that tenders giving the lowest time should be accepted. The late Chief Commissioner knew perfectly well, within certain limits, what the expense was going to be; he at least knew it was going to be very large. I remember distinctly telling him that the power plant would cost between £60,000 and £70,000, to which would have to be added the car-shed, power-house, and other necessary works.

Was the chimney extra? Yes; the engines cost about £40,000, and then there are the boilers, and all the pipes and pumps, and other arrangements.

The amount, then, was more than £70,000? Yes; that amount was not intended to be accurate. I have a distinct recollection, however, of pointing out the cost, and the late Chief Commissioner was perfectly acquainted with the fact.

Did that include the building? No.

Do you say that you had about £70,000 for the machinery, and about £30,000 for the building? The buildings cost about £20,000 odd. I think the extras are only about £3,000; but I am not certain at the present moment. There are a lot of extras, due largely to the matter of the foundations.

Does that make the power-house, with all the machinery, cost about £100,000? Yes; and then there is the car-shed, and all the outside appliances, and the chimney, which cost several thousand pounds, must not be forgotten; altogether about £30,000.

Have you any other information? I should like to point out to the Board that I was in communication with the late Chief Commissioner more than any other official except, possibly, the late Mr. Elwell. He discussed all these matters with me, and frequently Mr. Elwell, who was present. Mr. Eddy knew perfectly well what he was about. He was a very capable man, and would carry through anything he took in hand. I do not think anyone will question that; but, unfortunately, he died at Brisbane soon after he had put his approval to the joint report. He had been in the habit of looking after all these details personally, and did not worry his colleagues about them, not until the whole thing was complete. After he died, Mr. Oliver had to go into the matter, but was greatly handicapped from not knowing exactly what Mr. Eddy had done. He cannot be blamed for that. I was placed in a somewhat false position, because he did not really know what had been done. I well remember how the late Chief Commissioner and the Minister urged that the work should be accomplished in the shortest possible time. I think the report shows that this was so. Mr. Thow and Mr. Elwell were no doubt in communication and consultation with the late Chief Commissioner, and he and the Minister for Works (Mr. Young) had various consultations, which are mentioned in a minute of Mr. Young's, which I will point out to you among the papers.

The Board would like to have that document which you say shows that the Minister, Mr. Young, was also responsible for urging the rapid delivery of the engines and generators;—do you propose to put that in? That, of course, is seen by the Minister's approval of the minute of the Board of Reference; I cannot say if there is anything else which shows it; Mr. Young, however, acknowledges on the minute I mentioned that he had been in consultation with the late Chief Commissioner on these matters, and knew also that it was a question of very great expense. The late Chief Commissioner and the Minister, as I have already stated, urged that the shortest possible time should be used, and if the public were led to believe that the work would be finished in a shorter time than was really possible I beg to disclaim any responsibility for that.

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There is, naturally, an anxiety on the part of the Minister to please the public, and that often leads to holding out a promise of completion of a work in an impossible short space of time. I have often reluctantly had to give a time estimate, which I felt was most unreliable. It is a great pity that such time estimates should be published as if they were really accurate. H. Deane.  
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In carrying out the works, and the whole of the design in connection with this matter, I think it is important to state that under arrangement between the Railway Commissioners and our Department I always had the late Mr. Elwell to assist me in coming to conclusions upon electrical matters. I consulted him at all times, and I believe that on every point in connection with the electrical design of the engines and the plant generally, and also with regard to mechanical details, Mr. Elwell has been consulted. Each item has been carefully discussed and a conclusion arrived at.

Nothing whatever has been done without Mr. Elwell's entire concurrence. We have had considerable discussions on various points, and where we did not absolutely agree we made a compromise; but nothing has ever been done contrary to Mr. Elwell's opinion. Mr. Elwell and I were always on the best of terms, and I mention this because, in going through some of the papers, the Board might conclude we were not so. I emphatically assert that we have never had any unpleasantness in our business relations, and that we have always been good friends. I have looked to him at all times for assistance in matters where electricity was concerned, as well as mechanical matters, and we perfectly understood each other. Even supposing that no arrangement of the kind mentioned existed between Mr. Elwell and myself—that is to say, if the Railway Commissioners had not expressed their desire that I should confer with Mr. Elwell, I should have done so just the same; because I think it is only fair that the man who has to take over the work finally, and be responsible for its working, should know fully what he is going to take over, and should be consulted in the matter of designing. I have done that in the case of tramways, and also in the matter of railways. It has been my practice throughout. As regards the electrical work done by my Branch, I have Mr. Fischer and Mr. Goodman. Mr. Fischer has a very good knowledge of electricity, and Mr. Goodman was taken on specially as a thoroughly trained electrical engineer. Of course, as to mechanical details, I have often to leave them to the officers of my staff; but I go into details myself as far as possible, and as my time allows. There are a great many things I have not time to look at, which I have to leave to my assistant, Mr. Fischer. I have a very high opinion of Mr. Fischer's qualifications, and I have satisfied myself that he can be trusted in such matters.

Have you any further information you would like to give the Board? I shall be very glad to explain any point which may be put to me on which any member of the Board wishes further information.

*Professor Pollock:* In view of the short time specified for the completion of the engines and generators, do you think everything that was possible was done to forward the building and the powerhouse to completion? I think everything that seemed possible at that time was done. Looking back on one's experience, I would certainly have made different arrangements. I would probably have insisted upon the plans being got out before the engines were ordered. I would also have insisted on a longer time being given for the delivery of the engines. I quite acknowledge that I did not reckon it would take such a long time to get the plans ready, and that is, to my mind, the only thing to be complained of in the whole business. At the same time, I was very much taken up by other matters when getting the orders out and fixing the shortest possible time. Amongst other things the City Railway Inquiry was going on.

*Chairman:* Do you consider that you had to wait extra long for the plans to arrive from America giving the size of the generators? Yes.

That was the first serious delay, was it not? Yes. They might, I think, have telegraphed for the dimensions. In the meantime, however, I was not idle, because, in order to save time, I started to get the excavations done and the top material levelled down to the rock. I was much surprised later on, when we commenced the building, at having to put up such a terrible lot of foundations for the generators, in consequence of the unreliability of the rock and the depth we had to go to get to the rock foundation.

Did you put down any borings to ascertain the nature of the foundations? No; it seemed solid rock.

Had you done that you would have known that it would have taken longer? It might have been so, but I doubt it. In boring you might put down a bore in one place and think it sound, while at another point, at no great distance from the first bore, you might get altogether different results.

When the particulars arrived from America did it necessitate five months to prepare the drawings which included the roofs and offices;—could not the offices have been done first? I wanted to get the roof attended to. The offices were not so material. There was a delay of a month in getting approval to the office accommodation and the coaling line. I really thought everything would have been fixed up months before.

Had you all the particulars to start with in January, 1898, for completing the drawings for the roof? Yes. A great many sketches and designs were prepared prior to this, but turned out inadequate, and were put on one side. Designs were got out, and contracts let for car-house, permanent way, &c.

And it took five months before you could call for tenders, and another month to get tenders? Tenders were called on the 23rd May, so it is evident they were only finished in May. From that you might deduct a month as the time occupied by the Railway Commissioners in coming to a decision. On the 19th March I submitted the plans to the Railway Commissioners in accordance with clause 28 of the Railway Act. I thought at the time it would simply be a formal matter, and that I could get their immediate decision and be in a position to proceed.

That was in 1898? Yes, in March, 1898.

Had you the drawings finished then? Yes, practically, with the exception of some details. After considerable discussion they arrived at a decision on 13th April, 1898. Tenders were called on 23rd May, 1898. When the drawings were pretty well finished specifications were prepared: we were very short-handed at the time, and I was very much dissatisfied with the progress that was being made. I had repeatedly urged Mr. Fischer on—I do not wish to blame him in the matter—to get on with these as quickly as possible. I am sure he did his best. We had other works going on at the same time, and it was not as if we had these works in hand alone. Eventually I instructed Mr. Barker, the Chief Draftsman for Railway Designs, and asked him to draft out the specifications, which he did. I may state that in our Department we have always been very short-handed, and it has been most difficult to obtain the right class of assistance.

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Could you inform the Board how it is that you were not supplied with the necessary assistance, seeing that the work was of an urgent character. It is very difficult to get draftsmen or qualified men. To show this I will mention that on the 12th May, 1897, I asked for the appointment of a good survey draftsman and a junior draftsman, to enable the whole of the time of the existing staff to be devoted to professional work. My application was forwarded to the Public Service Board by the Under Secretary on the 17th May, 1897, and the paper came back on 11th August, 1897. I was notified on 14th August, 1897, that the Board had appointed Mr. H. S. Smail engineering draftsman and Mr. S. B. Hall junior draftsman. Neither of these gentlemen took up their work, the Board having also appointed Mr. Smail to a position under Mr. Darley, at a higher salary, and Mr. Hall refused to take up his duties at the salary offered, namely, 8s. per day. Eventually Mr. J. Bowman was appointed in lieu of Mr. Smail, and commenced his duties on 1st September, 1897, and Mr. E. P. St. John was appointed in lieu of Mr. Hall, and commenced his duties on 6th September, 1897. On the 15th January, 1897, I applied for a draftsman with mechanical and electrical knowledge, and on the 27th January I was notified of the appointment of Mr. W. G. Goodman, who took up his duties on the 1st February, 1897. On the 16th April, 1898, I recommended the appointment of Mr. W. T. Moffitt as a first-class mechanical draftsman, and on the 7th May, 1898, I was informed that the Public Service Board had approved of the appointment of Mr. W. T. Moffitt, who took up his duties on the 9th May, 1898.

*Chairman*: Were you not considerably inconvenienced in this particular work through not having good draftsmen? I was. I was always shorthanded. You cannot get good men at a moment's notice, and if you find you are shorthanded you really have to make the best of it.

And you would have to wait for the approval of the Public Service Board, and go through all the formalities, which would take almost as long as to get out the drawings? Yes. In the first case mentioned it was a most exceptional delay. I have never experienced such serious delay at any other time, and it is at the beginning of the work that you feel the necessity of the proper assistance. Under the old régime, if I required a draftsman, and one was to be had, I could get him to work in three days.

In the case of retrenchments in the Service, new men, if required, are not appointed very quickly, and I should like you to inform the Board whether that had anything to do with the time occupied in getting out the drawings. You appeared to have taken altogether five months, inclusive of the period taken by the Railway Commissioners for their approval? Yes. It occupied a much longer time than one could have imagined; no doubt there was a great deal of work to be carried out which was in the charge of Mr. Fischer, and I was consequently urging its completion. Mr. Fischer maintained that it was expedited as much as possible under the circumstances. There was an immense amount of detail to arrange as was seen in the drawings.

Do you consider the time taken in preparing the drawings was unnecessarily long considering the magnitude of the work you had to deal with? It certainly was long; but there was a tremendous lot of detail to work out which necessarily takes time.

Do you consider that the time occupied by the Railway Commissioners, namely, a month, rather unreasonable? I could not understand why such a long time was required for their approval; it appeared to me to be a mere formal matter.

If you finished your drawings on the 19th March, and the Commissioners finally approved of them on the 13th April, that was nearly a month, was it not? Yes.

*Professor Pollock*: Are we to understand that Mr. Fischer was responsible for the preparation of these drawings, and not yourself;—was not Mr. Fischer in America at this time? He was not there in the beginning of the year. I got the dimensions sent me as soon as they were altered. That has been the real cause of the delay; due to the recommendation for an alteration in the type and size of the machines. If it had not been for that we could have got things fairly ready in the time mentioned. We could at least have got the foundations ready unless some other hitch had occurred.

Would it not have given you another six months? Yes.

When you accepted the tender for the generators, you had afterwards to prepare your drawings;—could you not have commenced your drawings immediately after giving the order to the successful tenderer? Yes; we could have started the drawings at once.

*Chairman*: If the original plan of the generators and engines had been adopted, the drawings could have been proceeded with immediately after the tender was let;—is that so? Yes, immediately after the approval was given.

The date of that is the 12th July, 1897, whereas you could not actually commence work until January, 1898? That is correct—six months.

*Professor Pollock*: I should like to put the question I asked you relative to Mr. Fischer in another way;—in view of the fact that Mr. Fischer would be in charge of the drawings and the design for the power-house, was it not unwise to allow him to proceed to America, anticipating, as you may have done, that the dimensions would arrive in Sydney long before he came back? It is very easy to be wise after the event. I was very loth to let Mr. Fischer go. I did not see any reason for his not going, and I talked the matter over with Mr. Thow, and he seemed to think that it would be as well for Mr. Fischer to go to America, seeing that certain alterations were asked for, and to make sure that we got the quality of work we were used to, and also to arrange about the entire inspection of the machinery. I have not the slightest doubt that we could have saved a lot of time, and that if the 850 K.W. machine did not more than proportionately measure more than the 800 K.W. machine, it would be far better for Mr. Fischer not to go, and we could have proceeded with the 800 K.W. machine; but I think the Board will see two very good reasons why he should have gone. The 850 K.W. machine is supposed to be a more modern and better type, and better in proportion than the 800 K.W. machine, and worth waiting for; and, as I said before, I was only one of the Board who determined upon the machine to be used, and who strongly recommended that the 850 K.W. should be obtained, and the late Mr. Elwell urged that we should get the newest type. I quite agreed with him in this, but, as explained, it involved considerable delay.

*Chairman*: Considering the great improvements which are rapidly being made in electrical machinery it was very natural that the 850 K.W. machine should be adopted in preference to the 800 K.W. machine—that is to say, that supposing you have a type of machine which is considered to be the best,

best, and you afterwards become aware that there is a machine much more modern and giving better results, it is desirable, I suppose, that this improved machine should be if possible obtained? Yes. It would have been very difficult for me to have stood out against that opinion, if I had felt inclined to do so. H. Deane.  
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Have you any other information? I should like to point out that it might be said that we had divided responsibility. I am quite prepared to take my share of responsibility, but in making a joint report I do not see why I should take more than one third of the responsibility. It was probably looked at that if there was a delay it need not have been a very serious one, and if the generators arrived we could put them under cover. I would like to say that I did not think we would have to deal with packages between 20 and 25 tons in weight which would have to be stored somewhere. The armatures in the cases were a tremendous size, and the package measured about 20 feet long by about 10 feet wide, and weighed about 22 tons. I should like to add that I never thought there would be much difficulty about storing the generators supplied. They did come too soon, but I am confident that they have not suffered in the least.

*Professor Pollock*: When the drawings were being prepared, did you seem to realise that the generators would be mounted in a few months? That could have been done. If the drawings were hurried up it would have only been a difference of about a month. Supposing that we had started in July, 1897, one might have anticipated that it would take two or three months to get the drawings out, which would have brought it up to the end of September, 1897; there would then have been plenty of time to get the building and foundations ready for a pair of the generators. I do not think that the calculations were far out in the first instance. If the Board wishes I should like to say something about Mr. Stewart's evidence.

Before leaving the point you have just spoken upon, which does not seem to have been the cause of much delay, the date of the acceptance of Messrs. Stewart's tender was the 30th June, 1898, but the engines and generators were to have been here a few weeks after that—is that correct? Yes; there was all that delay in the first place in the commencement of the plans.

*Chairman*: Ought Stewart & Co.'s contract to have been completed on 29th December, 1898? Yes; but I notice that Mr. Stewart said that the time was too short.

Mr. Stewart informed the Board that, in view of the extra work in the foundations, he felt entitled to the extra time—is that so? I do not think that he ought to have the extra time in view of the foundations, although I must admit that that work was very much heavier than was anticipated. It is all bulk work, and it only required the employment of more men.

Had Stewart & Co. to build foundations for the engines and machines? Yes; they had to do the work for them as well. That is where the extra cost on the contract comes in.

*Professor Pollock*: With regard to the delay between the time of letting the contract for the generators and the erection of the power-house, did the Railway Commissioners seem to have realised that the necessary machinery was going to be landed in a few months when they delayed their decision on the plans for a whole month? Yes, I presume so.

Do you think a great mistake was made in giving such a short time for the building of the engines and generators, which necessitated working overtime and sending out generators by mail steamer? It turns out that it was so. I do not think it was looked upon at the time as a great mistake. The matter was very carefully considered, not only by the Board, but by the Chief Commissioner for Railways, who was consulted; and I know that Mr. Young, the late Minister, was very anxious that the date should be made as near as possible. I wish to add that I do not see that the Company incurred any extra cost through sending the engines *via* Vancouver.

Did you anticipate having the power-house built and covered in before the generators arrived in Sydney? Yes, originally.

*Chairman*: I take it that you approved of the drawings on the 15th March, 1898, and that you obtained the Railway Commissioners' approval on the 13th April, 1898, which prevented the completion of the drawings for the front building? It was arranged that the forty-six weeks allowed should date from the arrival of Mr. Fischer in Milwaukee—that was the 3rd September, 1897, so that the proper date for the completion of the contract would be 20th July, 1898.

That was forty-six weeks allowed from the 3rd September? Yes.

*Professor Pollock*: Do you say that you anticipated having the power-house completed, and the roof ready for the generators, which were expected to arrive here in May? They would want to put them down a couple of months before that date. The power-house would be so far completed so that they could start and get them about two months before that, which would be the 20th May, 1898.

*Chairman*: Are we to understand that the generators were actually in Sydney when the Railway Commissioners were considering the plans? Two of them arrived in May; the others arrived later.

*Professor Pollock*: Do you consider that everything was done that it was possible to do at that time to push on the work? As I previously stated, we were delayed by the alterations in the plan and getting the dimensions. I wrote to Mr. Fischer, telling him to point out to the General Electric Company that we should not be ready for the generators, and that they need not hurry them on; but Mr. Fischer informs me that he did not receive the letter.

*Chairman*: We have been informed that the Electric Company incurred a great amount of extra expense in hurrying on the machines? I suppose they did.

Can you say who sent for Mr. Libby, engineer for the Allis Company, and Mr. Kelly, who represents the General Electric Company? Mr. Allen, of H. H. Kingsbury & Co., wired for Mr. Kelly to come out. He said, "I am going to wire for the electrician to come out; I have got some work that will take him a month or two to do before he starts on the generators"; and when the General Electric Company received his wire for Mr. Kelly to come out they sent Mr. Libby too. So far as I know, Mr. Libby was not wired for.

The Government here are not responsible really for the expenses of these men? No, not at all; we had not given them any intimation that we would be ready. The Milwaukee firm evidently came to the conclusion that if one was wanted the other was wanted. We employed Mr. Libby in putting up the electric cranes.

*Professor Pollock*: Did you sanction the erection of the generators before the roof was completed? I was very anxious that we should get the frames in position.

The engines and generators are built together, are they not? Yes.

*Mr.*



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*Mr. Wallach*: When the generators arrived in Sydney were they unpacked and examined, or the insulation tested? They were left in their cases.

While the generators were being erected were the parts of the machines protected from the moisture of the atmosphere? I think so.

Were they well covered over with the tarpaulins? I could not say. No doubt those in charge of the erection would take every precaution in that way.

*Chairman*: Are the crank-pins out of line as far as you know? I have not tested them myself.

Can you say how the engines have been running? They heated up on one occasion, but I do not think they have done so since.

Has a full load yet been tried? I do not think so. I understand that the load was to be put on this morning.

Can you say if the loop is all right? Yes, I believe so.

There is no doubt about the successful running of the trams? No; none whatever.

Are the wheel bases so long as to cause sticking of the cars on curve? I do not think so. It is about 45 feet, or 70 links radius—that was the radius agreed upon with the Railway Commissioners. There is no difficulty in getting the cars round. The Traffic Department saw them going round. The curve is laid out as asked for by the Railway Commissioners.

The Board have been informed that the trolley-wheel is likely to leave the overhead wire in passing round the curves? That is not correct. The only likelihood of the trolley-wheel leaving the overhead wire is at the junction near the car-shed, and, if it did become displaced, there would be no delay in adjusting it. I understand that everything is right now in that way. The practice is to fix up the wire temporarily at first to see how it works, and afterwards to adjust it.

*Chairman*: Do you wish to make any reference to the evidence given by Mr. Thow? No, except to call attention to the joint report. I am quite sure he went into the design of the engines, a point which he must have forgotten. [*Copy of Minute attached, marked "A."*]

Is there any other evidence given by any of the witnesses who appeared before the Board that you would like to refer to? I was very much surprised at a good many remarks made by Mr. Brain, Acting Electrical Engineer. In answer to a question asking him if, from what he had been told, he had assumed that the generators had been badly treated in allowing them to get wet, he said, "It is because of that that the manufacturers' representative urged the test should not be carried out." I wish to say that there is no foundation for this statement. It is most uncalled for. The manufacturers' representatives have not urged that as the reason why this test should not be carried out. They stated that such tests were quite unusual; but Mr. Kelly told me that he would have no objection to having the test made when they were dried out, although it was a most unusual thing and rather risky to put the high voltage on.

Mr. Kelly informed the Board, when giving evidence, that he would have no objection to making the test when the generators were thoroughly dry, and he believed they would be dried out after running continuously for a month? Yes. I notice also a question put to Mr. Brain to this effect: "Assuming they were wet, have you made certain recommendations for drying them out?" to which he replied "Yes." Well, I have never had any conversation with Mr. Brain on the subject. What information I have received has been given me by Mr. Kelly and our own men. In answer to another question, Mr. Brain says, "If they are informed that certain tests are a guarantee that the machines are in a certain condition, they (that is the Railway Commissioners) will then decide. I should not presume to dictate to them as to what risks they would run, or to what degree of safety should be insured before they are used for traffic." I should like to know what an engineer is for if he is going to make the Railway Commissioner responsible for a technical matter. What is the good of having a man in that position at all. Later on Mr. Brain says, in answer to this question, "That test (that is the 5,000 volt test) could not be supplied without putting the armature on its shaft, and inserting it in position in the yoke?" "No." That is not, in my opinion, correct—I mean the test could practically be applied, because the shaft is not necessary. The armature is fixed on the spider, and if that insulation between the coils and the spider is tested practically the insulation between the coils and the shaft is tested. Another question put to Mr. Brain was, "So that the test could not have been made unless it was built up?" to which he answered, "No." I may say that everything that was usual to be done was done, and the test of the insulation between the coils and the core was carried out.

Do you mean between the two coils—the series coil and the shunt-field? Yes.

*Mr. Wallach*: Would they not require to be built up to do that? Yes; I have not the slightest doubt that they were. Everything that was to be put up together would have doubtless been put together in the shops. The inspecting engineer reported that the usual tests were made.

*Chairman*: Is there anything further you wish to speak upon? With regard to the high potential test, I have not the slightest objection to these tests being made so long as the manufacturers will take the responsibility. I will not take the responsibility of insisting of their being made, and I will not advise that they should be made before the machines are put on the traffic; but if Mr. Kelly, who represents the General Electric Company, has no objection to their being made, I shall have none either. I have asked Mr. Kelly if he would have any objection to the 2,500 volts being made, and he replied that he would not when the machines were dry. There is a letter also from Mr. Lee Murray, which is before the Board, in regard to the matter. I was so annoyed with what had been said that I asked Mr. Badger, and also Mr. Murray, to give me their views, and they endorsed the position I took up. I should like the Board to understand that this 5,000 volts test had nothing to do with Mr. Jones, the representative of the General Electric Company. He never proposed it to me, nor did anyone else; it is understood to be the general practice of the General Electric Company. The condition has been inserted in the specification of the generators at Rushcutter's Bay, Willoughby, and in other places; it was in the specification before these George-street motors were ordered. I find, on referring to the contract for supplying the generators at Willoughby, it was entered into on the 7th May, 1897, that was before the tenders for the large generators came in.

Did you make any tests? No tests were made; the late Mr. Elwell did not ask for any tests, nor did we make any at Rushcutter's Bay. What Mr. Badger and also Mr. Lee Murray say I have not the slightest doubt is correct—that is, that it is not usual to make these tests; they are tests which are only taken in the manufacturer's workshop. Machinery might be brought a distance of a thousand miles, and by applying a test of this kind you may do it more or less damage. I had a conversation with Mr. Brain on this subject,

subject, and I am rather surprised that he should be of the opinion that these tests would be necessary, because I gathered from him that in his experience he had found it to be a dangerous thing to overtax the insulation; that there is a possibility if the slightest flaw existed in the insulation of its greatly increasing. In putting on these high tests you might overtax a particular part, and the result would be that in course of time you would have to get the machine rewound or renewed.

With regard to the matter of the pump, it was said by Mr. Brain that he thought the pump was running a fortnight at 500 or 600 volts? I do not know what argument can be made out of that. No doubt Mr. Fischer could give you fuller information on that point. I am unable to give you any particulars myself. There is another question on which I should like to say a word, because I think it very unfair to allow the remarks which have been made to pass by. I am quite sure that if the late Mr. Elwell were alive to-day he would admit that he said nothing of the sort. The following question asked by your Chairman is the one producing the reply to which I refer:—"You are perfectly satisfied from your own knowledge that they (the generators) were damp?" The reply was, "Yes, I was very much afraid from the first that owing to the anxiety of the Public Works Department to get the trams started as soon as they were found to stand 600 volts without breaking down, they would want the Railway Commissioners to rush the traffic on them; and with a view to avoiding any supposition on the part of anyone that the Commissioners would adopt that course, Mr. Elwell gave an intimation, as early as possible to the Department, that the Commissioners would require an insulation test, chiefly because we had an idea from general reports that these machines had been allowed to get very wet." Now, Mr. Elwell's recommendation to me was contained in one of a series of letters which I received from him from time to time, and one that I had expected from him, as he always had given me his views and opinions in every such instance. He said nothing whatever as to what the Railway Commissioners might require. Mr. Elwell spoke as Consulting Engineer in this business, and he did not mention in his letter that special care should be taken on account of their getting damp, nor did he even hint in any way that he was anxious because the Public Works Department wished to get the trams started before the generators were dried out. This statement is most unjustifiable for Mr. Brain to make, and is excessively foolish. I may say that, as a member of the Institute of Civil Engineers, and as an engineer practising a great number of years in this country, I do not think that any engineer of any standing here would believe that I would sanction any steps of that kind—that is, to endeavour to pass over to the Railway Commissioners machines which were not in a proper condition for running. It would be a stupid act to attempt, and to work machines before they were in a proper condition must naturally bring retribution in its train.

How long do you propose to keep Mr. Kelly here? Until the machines are running satisfactorily—until all the tests have been made. I do not see how he could possibly get away before then. I do not propose to hand over the machines finally, unless the Railway Commissioners are prepared to take over every responsibility and relieve me of looking after the maintenance.

Do you expect to have charge of them even after the traffic is open? There are three months' maintenance which I can hold the contractors to, and as to authorising the Commissioners to take over the machines in a complete state immediately, it is absolutely ridiculous in the face of that three months' maintenance.

Are we to understand that you will not expect the Commissioners to take the responsibility for these machines even after the commencement of traffic? Not finally.

You will not, then, have necessarily given up your responsibility? No; and neither will the contractors have given up their responsibility. But it is quite clear that the Railway Commissioners will have to take them over before that maintenance period has expired. It commences only when the traffic has been started, and lasts three months.

They are not ready for traffic yet until the engines are running properly? No; not until they can bear a load without heating.

Can you give an opinion now in regard to that matter? I hold the contractors responsible if they delay the thing in any way. If they fail to get the machines to do proper work it is their fault and not mine. That also brings to my mind the remark by Mr. Brain in his evidence in answer to this question, "The dynamos have given out the power they were expected?" He says, "Yes; they have not failed so far, but they have to give 25 per cent. overload for half an hour." The stipulation is, I think, that they have to give 25 per cent. for an hour and 50 per cent. for a short time. Then, again, he is asked a question following upon that, as follows:—"Over 850 kilowatts?" to which he replied, "Yes; but I think they would not give it for that time." Now, I think that a very unfair remark, and one which he is not in any way justified in making. He may be right and he may not be right. Again, Mr. Brain speaks of the trolleys leaving the overhead wire. I understand that the trolley wires are all right. It will be remembered that I previously mentioned they were put up temporarily at the car-shed entrance, so as to try them when the cars were on the line; but I think they are all right now. At any rate, it is one of those things with which you are apt to have always a little trouble at first.

*Mr. Wallach:* Was the permanent way completed with feeders? In connection with these feeders, there is a minute which I would like the Board to peruse. It is a letter I wrote on the 18th September as to the tests, and the opening of the line. Mr. Lee, the late Minister for Works, put a note on the minute that he wished the line to be opened on the 18th September, and admitted that I had full power to take any steps I liked in the matter. I had previously pointed that the date could not be definitely fixed. I told him that one of the engines would be put to work for trial about the 1st September, and that was done, and that a week after that another engine would be ready. I pointed out that the engineer in charge of the machinery wanted about a fortnight to dry out the generators; consequently, if that was correct, it would bring the date beyond the 18th September, providing no other hitch occurred and the Railway Commissioners were anxious to get their men at work. I was always of the opinion that the line would be open for traffic about the 1st October. I never anticipated the difficulties which arose afterwards, nor did I expect that the shunt coils would take so long to dry out. I did not expect either that the crank-pins would heat in any way. The minute to which I refer is as follows:—"With reference to the minute of the Railway Commissioners, of the 14th instant, forwarding reports of Messrs. Thow and Brain, I wish to place on record my surprise at the tone exhibited in portions of the correspondence on this subject; but, as Mr. Thow has been instructed to confer with me on the subject of the probable date for commencing traffic, I refrain from making any further

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further remarks upon it." I have never recommended any particular date for opening the line for traffic nor have I urged that the work should be handed over to the Railway Commissioners in an incomplete state, much less recommended that the generators should be put to work on the ordinary traffic before proper tests have been made. On the contrary, I have pointed out to the Minister the difficulties of the case and the objection there was to fixing a date. The Minister fixed the date on his own responsibility, and I merely undertook to do my best to get his wishes carried out properly. It is idle to say that the floors and all finishing work must be completed before traffic can be started. It would, of course, be more convenient for the Railway Commissioners and the engineering staff, but it is by no means necessary, and works of all kinds throughout the world have put into use before final completion so long as the requisite plant has been available and in good order." (When I went to see Mr. Thow he quite acknowledged that. I asked him, "Could not these pipes have been packed up sectionally in a temporary manner?" and he acknowledged that they could. I said that we should put the permanent packing underneath and then take the temporary ones out, instead of taking the temporary ones out first and then putting the permanent ones in.) "I wish to add that from the commencement of this work, when the sole responsibility of carrying it out was placed upon me by Mr. Secretary Young, until recently, when the late Mr. Elwell's illness became so acute, I conferred with Mr. Elwell on all points with reference to mechanical and electrical detail, and everything that has been done has been previously discussed with him and received his entire concurrence. The only point on which we failed to come to an agreement, and his decease intervened and prevented our doing so, has been the question of the time when the severe insulation tests should be made. My right, as engineer under the contract, to have an opinion in the matter can scarcely be disputed, I think." The reason why I put the last sentence in was because the Railway Commissioners wrote to say that they could not understand the obstruction and want of harmony that had been exhibited by the Department of Public Works.

*Chairman* : Have you anything to say with regard to the junction boxes? It was reported to me that the test insulation did not quite agree with that of the Kelvin instrument; that the cutter did not seem to be quite sensitive enough, the tests made with 40 volts current and 550 volts showed a considerable difference.

*Professor Pollock* : Have you any comments to make upon the evidence given by the contractor for the building—Mr. Stewart? I consider that Mr. Stewart has been a very long time over his work. In regard to certain matters, I can quite sympathise with him, because he has had extra work, and has no doubt experienced many difficulties in getting his material. My experience is that where a work is suitable for carrying out on the day-labour principle, and this is not such a one, that we could get the work done very much quicker than if it were given to a contractor, as we would not have to go haggling about with merchants and contractors. It is far better to pay a little extra and have the work done promptly by a good man than to give it to some one who will do it slowly.

Is it true that Mr. Stewart had great difficulty in getting the ironwork? He should have ordered the ironwork himself. Instead of doing that he sub-let the work to Messrs. Tulloch & Co.

Mr. Stewart informed the Board that he went personally with Tulloch's representative to Messrs. Cameron & Co.? My impression is this: That when a man tenders for a job he ought to know where he is going to get his material before sending in his tender, and what price he is going to pay for it. He, therefore, should have made preliminary arrangements for obtaining the material before he sent in his tender. Had that been done there would not have been anything like the delay which has occurred. I will admit that at the time the engineers were on strike in England, and America was involved in the Spanish War, and the delays no doubt were easily accounted for. Still I think there was a greater delay than there was any justification for.

*Chairman* : Mr. Stewart informed the Board that the Tee-iron size 5 x 4 was not a market size, and that he could not get it out of stock, and that it had to be specially rolled;—is that correct? I do not think so. I gave instructions, which were duly carried out, to take the sizes out of the manufacturer's catalogue.

Although the sizes may have appeared in the catalogue, is it not possible that they would not be procurable at the time from stock? What were we to do? It may be an excuse for the contractor not being able to get the material, but there is no blame attached to us for using them in design.

Would it not have facilitated matters very much if you had stipulated for fewer sections? Yes, if it had been possible.

You would doubtless have increased the weight, but would you have been just as likely to save money by doing so? I do not think that very much could have been done in that way. In speaking of the extra work, I notice from Mr. Stewart's evidence that he says, "The foundations were all solid rock, and were considered most satisfactory. Before we started to erect the roof we received an order for a separate contract to put up the electric travelling cranes." That was not to erect cranes, but simply to use his cranes to put them in position. It is really a matter not worth mentioning. Then he is asked the question, "Could you not have ordered the material for the roof in the meantime?" to which he replied, "It was all ready." The roof material, I may tell the Board, did not all arrive till the following March. Then again he says, "There is another item in a separate contract amounting to £453, to which I should like to refer," and when asked what that was for, he answered, "That was for making a tunnel through the centre of the building to William Henry Street. I mean the main conduit." That was foreign altogether to his other work, and being quite out of the way, could not interfere with its progress. Supposing a man has a contract and you want a little extra work done in the ground alongside him, you arrange with him to do it at a certain price and he makes no complaint about his contract being delayed. His contract is not delayed, as it only means putting on an extra gang of men—not men taken from his other work, but a fresh lot of men for that particular work. In another part of his evidence Mr. Stewart says, "In fact the floor was quite strewn with materials, and it was quite impossible to get at it. The basement of the floor could not be proceeded with until recently owing to the steam-piping not having been completed." I have never complained about the main floor not being completed, or at least delaying the engines. In the finishing parts of his work we certainly would not be hard upon him or any other contractor. What we were anxious to have ready was the main structure, and particularly the roof. Mr. Stewart no doubt tries to justify his delay. I do not wish, as I said before, to be hard on him or any contractor who has been longer than he ought to have been. Then, again, in  
reference

reference to the switch-board gallery, he was asked if the erection of that was extra, and he replied, "No, it was not extra, but I had to write to the Department on that matter. The delay in its construction was also due to fixing up the machinery. The people erecting the machinery had to use a very large hydraulic press. They had to fix it up on the floor, and the result was that it blocked the whole of that portion of the work." I never heard of any complaint on that ground. Certainly there was a hydraulic press used in the erection of the machinery, but it was a small affair, as most hydraulic presses are, and it is very powerful at the same time.

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*Chairman*: Mr. Stewart informed the Board that in putting on the roof he experienced great difficulty through having to do first one side and then another—that is, that the ironwork could not be easily brought across to one side? I told Mr. Stewart that he would have to arrange when doing the work of the roof not to interfere with the other contractors more than possible. If he had been up to time he would have had no delay to experience in that matter, nor would he have had the other contractors in the way. I notice that in speaking of the boilers he said, "I had necessarily to go a bit slow on account of the steam-piping. The Department had to check my progress with the boilers to enable their piping to be worked at the same time." There is nothing new in the arrangement that when a man takes a contract he must work in with those who are doing other parts of the work; the contract provides for it. He had the contract for the building, and he must have known very well that he could not finish all the floors and so forth until the machinery was in its place. It is one of the things that contractors generally keep in view in works of this kind. In answer to another question, Mr. Stewart says, "I sublet the two iron roofs on the authority of the Government." That authority he got eight months after he had done it. If I had known that he proposed to sublet this work in the way he did, I should certainly have objected to it. I am quite sure he could have made a much better arrangement. I will not deny that he is not entitled to every consideration, and certainly the four months extra, but not the rest.

*Chairman*: Did he finish in that four months? No; he did not finish till June; he ought to have finished in April. I notice that he says in his evidence "the roof was commenced during the end of April and the whole completed by the end of May." I suppose he meant the walls and rafters, because it was not covered in. The reports will show that it was not covered in at that date; I think it was about the end of June.

*Mr. Wallach*: Mr. Stewart informed the Board that the roof was commenced during the month of April, and the whole completed by the end of May. Are we to conclude from that that the whole building was covered in? I notice in his evidence that he says, "It was finished, as I say, by the end of May"; that was in answer to the question asking if "the building was completely roofed in." I may say that the temporary end was left open for a long time. What I have always known the practice of energetic contractors to be is that they all make their arrangements, in order to avoid loss of time, before sending in their tender. They arrange that if they get the contract the merchant should be in a position to cable for the material at once.

*Chairman*: Mr. Stewart informed the Board that he paid away a lot of money in cables? Yes, he also told me that; but that was afterwards, when there was some difficulty about the sections. He also says in his evidence, when asked if the other contract interfered with his work, "I could not approach that part of the work under three months after I signed the contract." That should not have interfered with him; and arrangement of some kind might have been made by him.

With reference to the supply of bricks, I must admit that I do not think there is any process more aggravating than dealing with brickmakers, and in this I quite sympathise with Mr. Stewart. It is well known that the brickmakers form rings, and during this contract there was a ring that interfered with him very much. I notice Mr. Stewart says, "Of course, in additional work one always gets an extension of time." That is not always the case. In all contracts the schedule of additional works to be paid for at schedule rates is attached. There is no extra time allowed as a rule, but in the case of any very large extra work he would naturally get an extension. The excavation work at Ultimo was certainly very much heavier than was expected. If bores had been put down it would not have helped very much. We thought we had got to solid rock, but bad joints made their appearance.

*Professor Pollock*: Could you say if Mr. Stewart used every effort to push on the work immediately he received the material? I think he urged on the framing of the roof, but he seemed very long in covering it with galvanised iron, and in also covering in the end. I complained very much about the time occupied in covering in the end, as the rain was blowing in. He was also very dilatory in carrying out the boiler-setting contract.

*Chairman*: Was any delay caused through the boilers not being finished? Until the boilers were finished we could not fire up, nor could we complete the piping.

Do you know if the arrangements in regard to the coaling are now complete? The permanent coaling arrangements are not quite complete; the temporary arrangements are very good—in fact, they are as good as the permanent arrangements in most cases.

Have you anything else you would like to refer to? I should like to refer to the minute I spoke of in connection with the expenditure. I pointed out that the Railway Commissioners threw all the blame on the Works Department in respect to not having provided for the £150,000, and the minute which I wrote is as follows:—

With regard to the large expenditure entered upon to provide for the conversion of the tramway system by the Railway Commissioners, it has been verbally stated that it was the duty of the Works Department to see that the money was available. I wish to point out that it was always understood by the Department that this would be supplied out of the £150,000 vote of the Railway Commissioners. To assume that the late Chief Railway Commissioner did not realise the largeness of the expenditure would be to impute to him an inability to grasp the position, which was quite contrary to his character. I had many interviews with Mr. Eddy, and I know that he thoroughly understood that the expenditure would be very large, and that it would mean a considerable drain on the Railway Commissioners' vote; but he always acted as if the money were available, and I fail to see that it was in any way the duty of the Department to question the power of the Railway Commissioners to provide it, seeing that there was an actual vote for the purpose. That there was any bar against the use of the aforesaid £150,000 was not known to me, nor was it until recently that I was made aware that such was the case.

The Railway Commissioners, of course, know that this Department cannot undertake any large expenditure on their own account without first submitting a proposition for inquiry to the Public Works Committee. On the other hand, the Railway Commissioners had obtained an Act which authorised them to use electric power for traction purposes, and a vote providing money for the conversion of the present tramway system.

H. Deane.

3 Nov., 1899.

To that minute the Minister for Works (Mr. Young) put the following :—

May be forwarded to the Railway Commissioners. I had several consultations myself with the late Chief Commissioner on this subject, and am sure that he entirely understood that, as we were constructing a power-house, and providing for power immensely beyond that required for the George-street tramway, and with the intention of providing the necessary power to work the other tramways when converted, only a reasonable proportion could be charged to the George-street tramway vote, and the balance from funds at the disposal of the Railway Commissioners.

J.H.Y., 24/3/98.

It was then submitted to the Railway Commissioners, who added the following :—

The facts of the matter, so far as they are known to the Railway Commissioners, have been placed before the Right Honorable the Premier and Minister for Railways, and a copy of the minute is enclosed for the information of the Honorable the Minister for Works.

C.O., W.M.F., D.K., 25/3/98.

The minute referred to there was written before mine, and is, therefore, not in answer to it.

*Chairman* : Are the Board to understand that Mr. Eddy, Mr. Thow, Mr. Elwell, the Minister of the day, and yourself, were jointly responsible for ordering these generators at the time? Yes; that is correct.

Is there any other information you wish to give to the Board at this stage? There is nothing further that I can at present remember.

## A.

George-street Electric Tramway.

Public Works Department, Railway Construction Branch, 15 June, 1897.

Memorandum to the Secretary to the Railway Commissioners,

I FORWARD herewith, for the consideration of the Railway Commissioners, the result of an investigation into the tendering for the engines and generators for Harris-street by Mr. Thow, Mr. Elwell, and myself. It will be seen that we recommend the acceptance of one of Messrs. H. H. Kingsbury & Co.'s tenders with certain modifications set forth in the report, and I should be obliged if you would submit the same for the approval of the Railway Commissioners, so that their decision may be communicated to me with the least possible delay.

H. DEANE,

Engineer-in-Chief.

Endorsed. The recommendations of Messrs. Deane, Elwell, and Thow approved.—E.M.G.E., W.M.F., 17/6/97.

George-street and Harris-street Electric Tramway.—Contract No. 3.

*Report on Tenders for Steam-engines and Generators.*

TENDERS have been received from the following firms :—

Name of firm.	No. of tenders received.
1. Messrs. Edge and Edge.....	1
2. Allgemeine, E. G. ....	1
3. Electric Construction Co. ....	1
4. Crompton Co.....	1
5. Messrs. Siemens Bros. & Co.....	1
6. Messrs. H. H. Kingsbury & Co. ....	30
7. The Brush Electrical Engineering Co. ....	3

Details as to the highest amount tendered in each case being shown in attached statement "A."

At an early stage of the investigation we decided that tenders Nos. 2, 3, 4, 5, and 7 need not be further considered, as the amount in each case was considerably higher than those of Nos. 1 and 6, and there was nothing contained in their offers to show adequate value for the higher price.

Before comparing these two tenders it became necessary to select from the varied number of offers received from Messrs. H. H. Kingsbury & Co. the one considered most advantageous to the Department, and, after careful investigation, we came to the conclusion that tender "B," with time of completion in forty-six weeks, would most economically and satisfactorily fulfil the requirements of the case.

Comparison was then made between the tenders of Messrs. Edge and Edge and Messrs. H. H. Kingsbury & Co. (B 46) on a purely money basis, as shown on attached statement "B." In this comparison we deducted the cost of the collector rings, a price for which was asked in order to comply with a suggestion made by Professor Forbes; but which, according to most recent experience, would be found an undesirable adjunct to a railway generator. As there is also a difference in the size of the generators proposed to be supplied by the two firms, a proportional reduction had to be made from the tender of Messrs. H. H. Kingsbury & Co. As both firms proposed to supply engines of the same make, the comparison of the tenders was an easy one; the only other adjustment necessary being for foundation, &c., which Messrs. Edge and Edge had not included as specified; and, further, to make a deduction from their tender for the less expensive fly-wheel recommended by Messrs. H. H. Kingsbury & Co., and approved by ourselves, the result shows that the cost of supplying four 800 K.W. sets by Messrs. H. H. Kingsbury & Co. is £1,832 less than that of Messrs. Edge and Edge. It should also be pointed out that the time of completion for Messrs. H. H. Kingsbury & Co.'s tender is forty-six weeks, while that of Messrs. Edge and Edge is fifty-four weeks.

We have, therefore, no hesitation in recommending the acceptance of one of Messrs. H. H. Kingsbury & Co.'s ("B") tender, with some modifications set out below, to supply General Electric Company's generators with Allis Corlien engines, and we are strongly of opinion that the one offering the shortest time of completion is the most advantageous.

After investigating the details of the engines, we recommend certain alterations which will, in our opinion, greatly improve the working of them. In the first place, the increased size of cylinders as recommended by the General Electric Company, and for which they quote a price. This will add £1,000 to the total cost.

Some other details were pointed out to the agent of the General Electric Company, who was asked to submit prices for these alterations, particulars of which are on attached statement "O," and of which we recommend the acceptance of the following items :—

2. Stuffing-boxes .....	£ 80
3. Pistons .....	32
4. Crosshead .....	48
5. Connecting-rod .....	88
6. Piston-rod .....	60
10. Fly-wheel .....	32
	<hr/>
	340
Deduct item 9 .....	284
	<hr/>
Net increase of tender .....	£56

This,

This, of course, still leaves items 7 and 8 to be determined, which will require consultation with the makers. The cost of this should not, on any account, exceed £500.

The total value of the contract is, therefore, as under :—

Amount of "B" tender .....	£ 37,888
Deduct value of collector rings .....	1,320
	<hr/> 36,568
Add £125 to each cylinder for value of increased horse-power.....	1,000
	<hr/> 37,568
Add value of alterations, &c., as above .....	56
	<hr/> 37,619
Maximum amount likely to be required for alterations to governor gear .....	500
	<hr/> £38,119

In accepting the tender of Messrs. H. H. Kingsbury & Co., provision should be made that in case of their not completing to time they be paid at the lower rate set out by them for the longer period of delivery, instead of inflicting only the penalty of £100 per week as originally included in the general conditions attached to specification.

(Signed) H. DEANE.  
W. THOW.  
P. B. ELWELL.

Sydney, 15th June, 1897.



1899.  
(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

GEORGE AND HARRIS STREETS ELECTRIC TRAMWAY.  
(REPORT OF THE BOARD APPOINTED TO INQUIRE INTO THE DELAY OF OPENING.)

*Printed under No. 11 Report from Printing Committee, 23 November, 1899.*

WE have been asked to report on the following matter :—

- (1.) The question of design.
- (2.) The various steps taken from time to time to complete the work in a businesslike and satisfactory manner, and the delay which has occurred in opening the line.
- (3.) The failures which have taken place in carrying out the necessary tests.

BRIEF SUMMARY OF CONCLUSIONS.

In regard to—

- (1.) We consider the design to be excellent, and it is in accordance with the best modern practice in electrical tramways.
- (2.) We consider that the various steps taken from time to time to complete the work were not businesslike, for the reasons fully dealt with in the report, viz. :—
  - (a) The early ordering of the generators, and urging the contractors to expedite delivery without at the same time making adequate arrangements for the completion of the buildings in which they were to be erected.
  - (b) The letting of such a large number of contracts, thus dividing the responsibility and rendering it difficult to avoid the various contractors interfering with each other.

*Delays.*

- (c) The primary cause of the delay in opening the line was the adoption of the complete scheme at Ultimo, which is over five times greater than that originally contemplated merely for the George and Harris Streets tramways.
- (d) The alteration of the unit from 800 k.w. to 850 k.w., which caused six months' delay in consequence of the necessary dimensions of the larger machinery not being supplied with the tender. Until these particulars arrived from America it was impossible to proceed far with the plans and specifications for the power-house. We consider, however, that, in view of the rapid developments in electrical machinery, the alteration of the unit was wise, but that the time taken to send the particulars was excessive.
- (e) The delay in letting the contract for the power-house buildings after the particulars referred to in "d" arrived from America, caused by the time occupied in the preparation of the plans and specifications and in their consideration by the Railway Commissioners, we consider is mainly due to the system under which the work was controlled rather than to any of the individuals concerned.
- (f) The delay caused by Messrs. J. Stewart & Co. in regard to their inability to complete the buildings in a reasonable time.

As a result of this delay the erection of the engines and generators could not be carried out in contract time; the generators were exposed to the weather, the roof not being covered in, thus requiring a much greater time for drying them out than would otherwise have been necessary.

- (3.) (a) Up to the time of sending in this report the plant was not in a condition to warrant the application of the tests required by the specification. The engines had failed repeatedly to develop full power, owing to heating of the crank-pin bearings. Two of the engines and generators were loaded up to full power on November 8th without heating, and, as far as we could ascertain, were ready for service.
- (b) With regard to the permanent-way, the feeder junction boxes have developed defects in insulation which are at present being remedied by the contractors; the design of those boxes and the method of insulating the joints is defective.
- (c) The switches at cross-over roads did not work smoothly during the trial trip, but these may improve with traffic.
- (d) The loop at Circular Quay can be traversed by the tram-cars without difficulty.
- (e) The methods adopted in wiring behind the switchboard are not in accordance with the best practice, in view of risks from fire.
- (f) We consider that it would not be advisable to apply the insulation tests recommended by the Railway Commissioners—namely, 2,500 volts—until the generators have been running under load for at least a month and are thoroughly dry.

Finally, although a considerable amount of work yet remains to be done at the Ultimo power-house before it is completely finished, we are unable to see any reason why this work should not be in a fit condition, and the feeder junction boxes rectified, so that traffic may be safely commenced in three weeks' time—that is to say, December 1st at latest.

W. H. WARREN,  
On behalf of the Board.





1899.  
(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

GEORGE AND HARRIS STREETS ELECTRIC TRAMWAY.  
(OBSERVATIONS BY THE ENGINEER-IN-CHIEF FOR RAILWAY CONSTRUCTION UPON THE SUMMARY OF REPORT OF THE BOARD APPOINTED TO INQUIRE INTO THE DELAY OF OPENING.)

Printed under No. 12 Report from Printing Committee, 30 November, 1899.

Summary of Report by the Board of Inquiry

Public Works Department, Railway Construction Branch, Sydney, November, 1899.

THE summarised conclusions of the Board, of which Professor Warren was Chairman, having been laid on the Table of the House and published in the daily papers, I beg to make the following observations:—

In the first place I refer to my detailed report of the 13th instant.

1. I submit that I have shown that all the delays in the completion of the work, without exception, have directly or indirectly resulted from the change and enlargement of design, by which an authorised expenditure of £130,500 has been doubled.

2. I have shown that the early ordering of the generators was recommended conjointly by three officers—Messrs. Thow, Elwell, and myself; that the matter passed afterwards through the hands of the Railway Commissioners, Mr. Fischer, and the Board of Reference, and was finally approved by the Minister for Public Works, and that therefore no blame can be attached to any one individual. I further submit that if it had been such an unwise and ill-considered act some one or other of those who had it under review would have raised the question of its wisdom at the time. On the contrary, it appeared then to all to be a desirable step to take. As regards stopping delivery by cable, this certainly did not appear necessary to Mr. Elwell, who was acting in conjunction with me, and on whom I was largely relying in electrical matters. He was to have charge of the whole plant when finished, and was not likely to countenance any action or treatment that would injure the generators. No harm whatever has resulted from the early ordering of the machines that have been got ready and are now in splendid condition.

3. No information was asked from me by the Board during the progress of the inquiry as to the large number of contracts, otherwise the matter could have been explained. There were thirty-three in all. This is not a large number, considering the magnitude of the work. The majority of these contracts could not possibly interfere with one another, and many of them were quite distinct as to location even, while others were for material only, properly ordered from the manufacturers or their responsible agents. I give an analysis of the contracts, so that the matter may be better understood.

*Permanent-way and outside Electrical Works.*

No. of Contract.

4 and 5. Roadway—permanent-way materials supplied by the Department—No. 4, George-street; No. 5, Harris-street.

- |                                                                                                                                                                                                                                                                                                                                     |   |                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>1. Plastic bonds.</li> <li>2. Hannesman poles.</li> <li>6. Tracks at car-house entrance.</li> <li>6a. Points and crossings.</li> <li>13. Ironwork for poles.</li> <li>16. Feeder-cables and junction-boxes.</li> <li>22. Return feeders.</li> <li>23. Material for cross bonding.</li> </ul> | } | Materials only ordered from manufacturers direct or through their recognised agents. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--------------------------------------------------------------------------------------|

*Overhead Work.*

- 11. Overhead materials.
- 24. Trolley wire.

*Buildings distinct from Power-house.*

- 14. Car-shed.
- 27. Store and repairing shop.
- 31. Offices and W.C. accommodation.
- 19. Portable offices.

*Power-house Buildings.*

- 20. Excavation.
- 21. Chimney.
- 12. Power-house and offices.
- 8. Boiler-setting.
- 25. Steel columns and crane girders (materials only).
- 18. Water-conduit between power-house and Darling Harbour.

Power

*Power Plant.*

## No. of Contract.

3. Steam engines and generators.
10. Accumulators.
7. Boilers.
9. Switchboard and connections.
15. Travelling cranes.
17. Circulating and feed pumps.
26. High-pressure steam piping (steel).
28. Station wiring (material only).
29. Low-pressure steam piping.
- 30 and 30a. Covering for steam piping.

The practice of the Department has always been, for economical reasons, to let separate contracts for each class of work. It is apparent that machinery obtained through contractors for buildings and other works would cost considerably more, as the contractor would expect profit and commission for the transaction. The question is scarcely worth discussion. On the other hand, it is out of the question to suppose that the machinery contractors with their headquarters in America, or elsewhere outside of Australia, could undertake the contracts for the buildings.

There are 10 contracts in connection with permanent way and outside electrical work, 2 with regard to overhead materials, 4 for buildings quite distinct from the power-house and engines, or 16 in all out of the 33. These could not have been profitably reduced in number. In connection with the power plant, there were eleven contracts—steam engines and generators, the accumulators, switchboard and connections, travelling cranes, circulating and feed pumps, and steel high-pressure steam piping, all properly ordered from the manufacturers of these specialities through their local agents. The low-pressure steam piping was a local contract. The covering for steam piping, which can only be put on after steam is admitted into the pipes, and therefore hindered no one, was divided into two contracts to suit local manufacturers, and the boilers were made a separate contract, as is usual and proper. It is clear that any grouping of the above contracts would not have resulted in economy.

The remaining contracts are those in connection with the buildings, first the general excavation by which the site was prepared for the subsequent contractors, thus saving time. The chimney, power-house and offices, water conduit between the power-house and Darling Harbour, are works quite distinct in themselves, and, being on different sites, could not interfere with one another. The boiler-setting was made a separate contract, because it was convenient to do so. The manufacture and delivery to the building contractor of the steel columns and crane girders was made a separate contract, and by this means a great saving of time was effected, for, had the supply of these girders and columns been included in J. Stewart & Co's. building contract, then, judging by the dilatoriness displayed with regard to the roof work, they would scarcely have been in place before May this year, instead of being ready in November, 1898.

4. Delays due to alteration of design.—This was inevitable, owing to the wider policy of the Government of the day and the late Chief Railway Commissioner.

5. I have shown that the only delay—in my report of 13th November—in preparation of plans that can be attributed to the officers of this branch is about one and a half months, and, considering the very complicated nature of the work, I think this extra time was quite justifiable.

6. Drying out of Generators.—No unreasonable delay occurred here, that is so far as any blame can be attached to the Department. All generators and fields absorb moisture during transport and erection. The General Electric Company expect this, and there was nothing very uncommon in the state of the machines. The larger the machine the more drying out it requires, and the shunt coils especially, which are composed of many coils of fine insulated wire, require careful and slow drying out. Neither generators nor coils were exposed to the weather, except to the very limited extent pointed out in my report of the 13th instant.

7. Delays by Contractors.—These include non-completion of the buildings, the accident of heated bearings, difficulties due to failure of joint boxes, the blame for which was in no way chargeable to departmental action.

8. Wiring behind switchboard not in accordance with best fire practice.—I subjoin a report by Mr. Goodman, from which it appears that the completed portions are stated by Mr. Webb, Electrical Engineer to the Fire Underwriters' Association, to be quite in accordance with the best practice.

To conclude: In the Board's summary three lines are devoted to the excellence of the plant; nearly all the rest is taken up in discussing delays and the reputed unbusinesslike management. Not a word is said as to the amount of thought and care devoted to the design and execution of the work, nor to the enormous amount of work involved. The public can judge for themselves by a visit to Ultimo, when they will see an electric installation for traction purposes which, until a few years ago, would have been scarcely surpassed in the world, and has even now only been exceeded in size and scope by some of the enormous schemes being carried out to accommodate the traffic of the giant cities of the United States. They can then decide whether or no too much blame and too little credit has been bestowed on work initiated and carried out by the late Chief Commissioner, Mr. Elwell, myself, and staff.

Two of the engines have successfully passed the load test specified in the contract. The power developed during an hour's 25 per cent. overload test has been 1,553 h.p. in each machine, and this has been done without undue heating of any of the bearings or of the armature and coils. In fact, the machines are in splendid condition and quite up to their work. A third engine is nearly ready.

The feeder junction boxes have been finished and are now being tested.

Everything is practically ready for starting the traffic.

H. DEANE,  
Engineer-in-Chief for Railway Construction.

1899.  
(THIRD SESSION.)  
—  
LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

## OCEAN-STREET CABLE TRAMWAY.

(RETURN RESPECTING.)

*Printed under No. 1 Report from Printing Committee, 3 August, 1899.*

RETURN to an *Order* made by the Honorable the Legislative Assembly, dated the 18th April, 1899, That there be laid upon the Table of this House, a Return showing,—

- “(1.) The number of ropes that have been used in the King-street section of the Ocean-street cable tramway since its construction, and including the one now working.  
“(2.) By whom supplied, and on what terms.  
“(3.) The total life and mileage of each rope.  
“(4.) The cost per mile run of each rope.  
“(5.) The number of ropes on hand or ordered for this section, from whom ordered, and on what terms.”

(*Mr. Whiddon.*)

### OCEAN-STREET CABLE TRAMWAY.—RETURN SHOWING—

The number of ropes that have been used in the King-street section of the Ocean-street cable tramway since its construction, and including the one now working.	By whom supplied, and on what terms.	The total life and mileage of each rope.		The cost per mile run of each rope.	The number of ropes on hand or ordered for this section, from whom ordered, and on what terms.
		No. of days.	Miles run by rope.		
Eight .....	No. 1. Whitecross Co.—Unguaranteed	214	26,534	d. 6·89	There are no ropes on hand, but there are two on order— one from Bullivant & Co. and one from Craddock & Co. Both £30 per ton. Unguaranteed.
	2. Do do ..	177	23,332	7·79	
	3. Bullivant and Co. do (a)	413	52,234	3·23	
	4. Whitecross Co.—Guaranteed to run for 43 weeks (b) ...	430	54,483	3·54	
	5. Whitecross Co.—Guaranteed to run for 10 months (c) ...	214	27,160	6·26	
	6. R. S. Newall and Sons—Unguaranteed (d) ...	91	12,840	11·75	
	7. Whitecross Co.—Unguaranteed (e) ...	119	16,983	10·67	
	8. Whitecross Co.—Unguaranteed	Still running.		.....	

#### REMARKS.

- (a) A piece of this rope was afterwards used in North Shore extension section, giving an additional life of 161 days, and another piece was used in the Ocean-street section, where it ran for 124 days.  
(b) Afterwards made use of in Milson's Point section, where it ran for 85 days.  
(c) Two pieces were subsequently used on the Ocean-street section, giving lives of 76 and 46 days respectively.  
(d) Afterwards used in Milson's Point section for 47 days.  
(e) Purchased from the Melbourne Tramway and Omnibus Company, to whom the rope was guaranteed under their conditions.  
No. 5 cable failed to give the guaranteed life by 90 days, and the Contractor forfeited £104 5s. 4d. in consequence.



1899.  
(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

---

CASE OF JAMES COOK AND OTHER EMPLOYEES OF  
THE TRAMWAY DEPARTMENT.

(PETITION FROM JAMES ROBERTS, TRAMWAY MANAGER, PRAYING TO BE REPRESENTED BY  
COUNSEL OR ATTORNEY, OR IN PERSON, BEFORE SELECT COMMITTEE ON.)

---

*Received by the Legislative Assembly, 19 December, 1899.*

---

To the Honorable the Speaker and Members of the Legislative Assembly of New South Wales, in  
Parliament assembled.

The Petition of James Roberts, of Sydney, in the Colony of New South Wales,—

HUMBLY SHOWETH :—

1. That on the fourteenth day of December, in the year of our Lord one thousand eight hundred and ninety-nine, your Honorable House appointed a Select Committee to inquire into and report upon the conduct of James Roberts, Tramway Manager, in relation to James Cook and other employees of the Tramway Department.

2. That your Petitioner humbly prays that he may be represented by counsel or attorney, or in person, before the Select Committee appointed to inquire into and report upon the said matter, with the right to call witnesses and adduce evidence, and to examine and cross-examine such witnesses as may give evidence before the Select Committee.

And your Petitioner, as in duty bound, will ever pray.

JAMES ROBERTS,  
Tramway Manager.



1899.

(THIRD SESSION.)

---

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

---

PROGRESS REPORT FROM THE SELECT COMMITTEE

ON

CASE OF JAMES COOK AND OTHER EMPLOYEES  
OF THE TRAMWAY DEPARTMENT;

TOGETHER WITH THE

PROCEEDINGS OF THE COMMITTEE.

---

*Printed under No. 15 Report from Printing Committee, 21 December, 1899.*

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SYDNEY : WILLIAM APPLGATE GULLICK, GOVERNMENT PRINTER.

1900.

[3d.]



1899.

(THIRD SESSION.)

---

EXTRACTS FROM THE VOTES AND PROCEEDINGS OF THE  
LEGISLATIVE ASSEMBLY.

---

VOTES No. 54. WEDNESDAY, 13 DECEMBER, 1899.

16. CASE OF JAMES COOK AND OTHER EMPLOYEES OF THE TRAMWAY DEPARTMENT:—Mr. Watson moved, pursuant to Notice,—
- (1.) That a Select Committee be appointed to inquire into and report upon the conduct of James Roberts, Tramway Manager, in relation to James Cook and other employees of the Tramway Department.
- (2.) That such Committee consist of Mr. Lyne, Mr. Cook, Mr. Wilks, Mr. McGowen, Mr. Millard, Mr. Dugald Thomson, Mr. Wright, Mr. Kidd, Mr. McLean, and the Mover.
- Debate ensued.  
Question put and passed.
- 

VOTES No. 55. TUESDAY, 19 DECEMBER, 1899.

3. CASE OF JAMES COOK AND OTHER EMPLOYEES OF THE TRAMWAY DEPARTMENT:—Mr. E. M. Clark presented a Petition from James Roberts, Tramway Manager, representing that the House had appointed a Select Committee to inquire into and report upon his conduct in relation to James Cook and other employees of the Tramway Department, and praying that he may be represented by counsel or attorney, or in person, before the said Committee, with the right to call witnesses and adduce evidence; and to examine and cross-examine all witnesses that may give evidence before such Committee.
- Petition received.  
Ordered to be referred to the Select Committee.
- 

VOTES No. 56. WEDNESDAY, 20 DECEMBER, 1899.

4. CASE OF JAMES COOK AND OTHER EMPLOYEES OF THE TRAMWAY DEPARTMENT:—Mr. Watson, as Chairman, brought up the Progress Report from, and laid upon the Table the Minutes of Proceedings of, the Select Committee for whose consideration and report this subject was referred on 15th December, 1899, a.m.
- Referred by Sessional Order to the Printing Committee.
- 

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1899.  
(THIRD SESSION.)

CASE OF JAMES COOK AND OTHER EMPLOYEES OF THE TRAMWAY  
DEPARTMENT.

---

PROGRESS REPORT.

---

THE SELECT COMMITTEE of the Legislative Assembly, appointed on 15th December, 1899, a.m., “to inquire into and report upon the conduct of James Roberts, Tramway Manager, in relation to James Cook and other employees of the Tramway Department,” and to whom was referred, on 19th December, 1899, a Petition from James Roberts, “praying to be heard by Counsel, or Attorney, or in person, before the Select Committee,”—have agreed to the following Progress Report:—

Your Committee, having taken into consideration the lengthy list of witnesses submitted by Mr. James Cook, and the probability of numerous other witnesses being called to give rebutting evidence, together with the statement of the Chairman that Mr. Cook, the Railway Commissioners, and Mr. James Roberts (who has already petitioned your Honorable House on the subject) desire to be represented by Counsel,—have decided that, in view of the early prorogation of Parliament, and the necessarily short time at their disposal, it would be against the interests of the inquiry to initiate the taking of evidence.

Your Committee therefore, in view of the foregoing, beg to recommend that the Committee be reappointed as early as possible next Session.

J. CHRIS. WATSON,  
Chairman.

No. 1 Committee Room,  
Legislative Assembly,  
20th December, 1899.

---

PROCEEDINGS OF THE COMMITTEE.

TUESDAY, 19 DECEMBER, 1899.

MEMBERS PRESENT:—

Mr. Cook,		Mr. Millard,
Mr. McGowen,		Mr. Dugald Thomson.
	Mr. Watson.	

Mr. Watson called to the Chair.

Entry from Votes and Proceedings appointing the Committee read by the Clerk.

Committee deliberated.

Resolved (*on motion of Mr. McGowen*),—That the Chairman prepare a Draft Progress Report.

[Adjourned till to-morrow, at 12 noon.]

WEDNESDAY, 20 DECEMBER, 1899.

MEMBERS PRESENT:—

Mr. Watson in the Chair.

Mr. Cook,		Mr. Wilks.
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Entry from Votes and Proceedings, referring the Petition of James Roberts to the Committee, read.  
by the Clerk.

Chairman submitted Draft Progress Report.

Same read and agreed to.

Chairman to report to the House.

1899.  
(THIRD SESSION.)

—  
LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

---

# R E P O R T

OF THE

# DEPARTMENT OF PUBLIC WORKS,

FOR THE

YEAR ENDED 30 JUNE, 1899.

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*Printed under No. 15 Report from Printing Committee, 21 December, 1899.*

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1899.  
(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

THE DEPARTMENT OF PUBLIC WORKS.

(ANNUAL STATEMENT—1898-9.)

*Printed under No. 15 Report from Printing Committee, 21 December, 1899.*

The Under Secretary for Public Works and Commissioner for Roads to  
The Honorable Edward William O'Sullivan, M.P., Secretary for Public  
Works.

Department of Public Works, 18 December, 1899.

Sir,

I do myself the honor to submit, for your information, the Annual  
Statement relating to the operations of this Department during the year ended  
30 June, 1899.

FINANCIAL.

The gross expenditure for the year amounted to £2,165,818 14s. 11d., of  
which the sum of £813,809 11s. 5d. was provided from the Consolidated Revenue  
Fund and £1,352,009 3s. 6d. from Loan Funds. This expenditure was distributed  
as under :—

*Summary of Expenditure, 1898-9.*

Head of Service.	Revenue.	Loan.	Total.
	£ s. d.	£ s. d.	£ s. d.
Establishment* ... ..	26,366 14 0	.....	26,366 14 0
Railway Construction ... ..	2,188 11 5	177,293 12 4	179,482 3 9
Tramway Construction ... ..	.....	174,605 16 8	174,605 16 8
Harbours and Rivers ... ..	57,069 13 1	475,015 17 1	532,085 10 2
Dredge Service ... ..	78,937 18 0	.....	78,937 18 0
Country Towns Water Supply ... ..	1,464 17 6	41,324 10 1	42,789 7 7
Water Conservation and Irrigation ... ..	1,582 7 10	12,084 7 6	13,666 15 4
Government Architect ... ..	75,212 3 9	195,777 2 6	270,989 6 3
Roads and Bridges ... ..	565,009 4 11	79,059 1 7	644,068 6 6
Sewerage Construction ... ..	5,978 0 11	196,848 15 9	202,826 16 8
TOTALS ... ..	£ 813,809 11 5	1,352,009 3 6	2,165,818 14 11

\* Includes Ministerial, Clerical, Accounts, and General (Messengers, &c.) Staffs.

\*382—A

Compared

Compared with the preceding year, these figures show an increase in Revenue Expenditure of £590 17s. 5d., and in Loan Expenditure of £305,751 1s. 7d., making together a total increase of £306,341 19s. over last year's disbursements.

The number of persons or firms, exclusive of officers and wages-men, with whom the Department had financial transactions during the year, was 5,138, while the pay vouchers dealt with totalled, after being summarised, 42,767.

The following tabulated statement shows the distribution of the year's expenditure under the heads of contracts, wages, salaries, materials, &c. :—

Head of Service.	Contracts.			Wages.			Salaries.			Materials, Miscellaneous, Incidental.			Totals.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Establishment .....							26,366	14	0				26,366	14	0
Railway Construction .....	43,100	8	8	28,775	14	9	15,840	16	1	91,765	4	3	179,482	3	9
Tramway Construction .....	65,372	5	7	9,281	1	2	3,042	9	10	96,910	0	1	174,605	16	8
Harbours and Rivers .....	169,606	8	5	163,106	5	9	21,172	8	1	178,200	7	11	532,085	10	2
Dredge Service .....	97	16	6	50,215	12	5	3,648	0	0	24,976	9	1	78,937	18	0
Country Towns Water Supply .....	9,904	11	5	10,199	3	6	2,055	0	2	20,630	12	6	42,789	7	7
Water Conservation and Irrigation ...	1,093	18	9	3,471	16	2	5,004	17	5	4,096	3	0	13,666	15	4
Government Architect .....	173,378	15	7	41,224	18	2	16,523	3	7	39,862	8	11	270,989	6	3
Roads and Bridges .....	359,089	0	7	161,832	12	4	38,701	14	9	*84,444	18	10	644,068	6	6
Sewerage Construction .....	157,171	4	10	17,632	6	9	11,269	3	7	16,754	1	6	202,826	16	8
TOTALS .....	£ 978,814	10	4	485,739	11	0	143,624	7	6	557,640	6	1	2,165,818	14	11

\* Includes road subsidies to Municipalities, amounts issued to Trustees, and officers' equipment and travelling expenses.

In addition to the foregoing expenditure, the Department executed works to the value of £28,813 15s. on behalf of other Departments, who defrayed the cost of same out of their own votes.

The number of contracts entered into during the year was 5,053, of an aggregate value of £948,064 7s. 1d. They were distributed as follows :—

Head of Service.	Number of Contracts Let.	Value.		
		£	s.	d.
Railway and Tramway Construction ... ..	93	97,173	18	2
Harbours and Rivers ... ..	103	104,568	16	7
Country Towns Water Supply... ..	12	5,811	2	5
Water Conservation and Irrigation ... ..	3	589	19	6
Government Architect ... ..	424	180,212	8	3
Roads ... ..	4,127	315,952	0	7
Bridges ... ..	260	96,943	13	11
Sewerage Construction ... ..	31	146,812	7	8
TOTALS... ..	5,053	948,064	7	1

At the close of the financial year the number of Contracts in progress was 693, carrying liabilities to the amount of £438,920 6s. 10d.

Summarised

Summarised statements of the operations of the Head Office Banking Accounts will be found in the Appendix.

Before closing this review of the Department's financial transactions during the year, I invite attention to the following tabulated statement of the expenditure disbursed, year by year, during the period of ten and a half years, ended 30 June, 1899 :—

Year.	Loans.	Revenue.	Total.
	£ s. d.	£ s. d.	£ s. d.
1889 ... ..	1,014,153 13 8	984,818 13 9	1,998,972 7 5
1890 ... ..	780,016 10 11	1,149,514 14 3	1,929,531 5 2
1891 ... ..	1,590,122 12 5	1,535,494 6 8	3,125,616 19 1
1892 ... ..	1,886,845 7 7	1,336,649 14 7	3,223,495 2 2
1893 ... ..	1,532,679 2 10	1,025,228 12 1	2,557,907 14 11
1894 to 30 June, 1895 (18 months) ...	1,342,662 18 1	1,243,259 7 7	2,585,922 5 8
1895-6 ... ..	757,461 12 1	1,015,024 0 5	1,772,485 12 6
1896-7 ... ..	856,669 8 2	835,500 15 8	1,692,170 3 10
1897-8 ... ..	1,046,258 1 11	769,780 11 2	1,816,038 13 1
1898-9 ... ..	1,352,009 3 6	813,809 11 5	2,165,818 14 11
Totals ... ..	£12,158,878 11 2	£10,709,080 7 7	£22,867,958 18 9

These figures, which show an average annual expenditure of £2,177,900, exhibit in a striking form the magnitude of the undertakings carried out by the Department.

#### CONSTRUCTION.

The reports from the heads of Branches, appended hereto, set forth in detail the various works completed or in hand during the year, and supply a large amount of varied and interesting information respecting the progress and development of the Colony.

#### RAILWAYS AND TRAMWAYS.

The one new railway line completed and opened for traffic during the year was the Berrigan to Finlay extension, 13 miles 72 chains in length, bringing up the total mileage of existing lines as at 30 June, 1899, to 2,705 miles. The cost of this extension has been £31,653, or about £2,277 per mile.

The following lines were under construction at 30 June, 1899 :—

- Tamworth to Manilla, length 29 miles 42 chains.
- Moree to Inverell, length 95 miles 60 chains.
- Extension to Darling Island.

The first named has since been completed and opened for traffic.



Acts have been passed sanctioning the construction of the undermentioned lines, and preparations are being made to carry out these works by means of day-labour :—

Koorawatha to Grenfell	...	...	length, 28 miles 28 chains.
The Rock to Green's Gunyah	...	„	24 „ 52 „
Byrock to Brewarrina	...	„	57 „ 60 „

The Survey Staff has been kept fully employed in making trial surveys, inspections, &c., of a number of proposed lines.

The completion and opening for traffic (on 4 October, 1898) of the Rose Bay Electric Tramway, which extends from the terminus of the Cable Tramway at Ocean-street to Rose Bay wharf, a distance of 1 mile 23 chains, single track, was reported in my previous statement ; but several improvements found to be necessary in consequence of the, at times, heavy traffic, have been carried out during the year. The cost of this tramway, including the generators, which also provide power for the Double Bay Sewerage Pumping-station, has been £19,800.

The hope expressed in my last report that the then current financial year would witness the completion of the George-street to Harris-street Electric Tramway, was not realised. It is, however, pleasing to be able to now report that this important line was completed and open for traffic on 8 December, 1899. The delays that have taken place in connection with this work have been caused by the radical change made from the original design.

The original intention was to run this tramway by means of electric power supplied from Rushcutters Bay Power-house, and the Act authorising the work was passed in September, 1896. Soon after this the Railway Commissioners, having in contemplation a scheme of converting all the tramways to electric traction, decided that the George-street to Harris-street Tramway should form only a section of one complete system. With this object in view, a sufficient area of land was secured at Ultimo, close to the Darling Harbour Station-yard, whereon could be erected buildings and machinery capable of supplying power to the extent of 20,000 horse-power. The arrangements for running the George-street line are accordingly but a small part of a large scheme for the conversion to electric traction of the whole of the existing steam and cable tramways. The magnitude and exceptional character of the works, now partially completed, are described in Mr. Deane's report, which shows that very special demands have been made upon the resources of the branch in connection with this exceptionally large electric-power installation.

#### IMPROVEMENT, MAINTENANCE, AND CONVENIENCE OF NAVIGATION.

The multifarious works undertaken by this branch are outlined in the accompanying report from the Engineer-in-Chief for Public Works.

It will be seen therefrom that good progress continues to be made with the schemes for improving the entrances to our northern rivers.

At

At the Richmond, the construction of the South Breakwater is being pushed on by night as well as by day, an electric light installation having been established for this purpose. The work already accomplished at this river entrance has practically done away with the delays to shipping that used frequently to occur in former times.

On the Clarence, the building of the Goodwood Island Training-wall and the maintenance of the Southern Breakwater have been the principal works in hand during the year. The opening out of the Woodford Island new quarry is proceeding, and, when completed, should help to materially reduce the cost of the Clarence River works.

Improvement works are being steadily carried on at all the river entrances and harbours north of Newcastle. About 600 men are constantly employed, 400 directly by the Government, and the remainder by contractors.

Dry Docks are in course of construction at the Tweed, Richmond, and Clarence Rivers, of a more substantial character than any hitherto built outside of Sydney, being excavated in rock and lined where necessary with concrete. They will be of sufficient size to take in the large dredges and tugboats, and will thus be the means of effecting a considerable saving, both in time and money, in cases where vessels would otherwise have to be towed to Sydney.

An increase is noticeable in the amount of work done in Newcastle Harbour as compared with the preceding year. Substantial progress has been made with the breakwaters and guide-wall, and the rock excavations and crushers have done good work in deepening the channels and wharf frontages.

One of the more prominent works now in progress is the construction of the "new basin." When finished the new basin will enclose an area of 90 acres, and provide some 6,000 feet of wharf frontage. A cattle-shipping wharf has already been completed, and work has begun on the construction of a coal-loading wharf which will be fitted with six hydraulic cranes.

In Sydney Harbour, demands for increased wharfage accommodation continue to come in. Contracts have been let for the construction at Woolloomooloo Bay of an additional 800 feet of berthing space with the necessary cargo sheds and stores. At Darling Island the concrete wharf wall is being pushed on, and has now been extended to a length of 1,100 feet.

In connection with the dredging operations which are so necessary in all our rivers and harbours, special attention may be drawn to the great success attending the work of the new dredge "Antleon." This dredge is unique in its design, and has more than fulfilled expectations. It will be invaluable in the work of removing the shallow sea bars which obstruct the entrances of most of our rivers.

In the South Coast District an important work has been the erection of Point Perpendicular Lighthouse, which takes the place of the old Cape St. George Light. It is fitted with a first-order dioptric revolving white light, the focal plane of which is 304 feet above high water. Quarters have been provided for a principal light-keeper and two assistants, and the total cost has been a little over £16,000.

A large

A large amount of new and repairing work has been executed at the Fitzroy Dock establishment; special mention may be made of the construction of two new tug-boats, "Phoenix" and "Dooribang," and of a wooden screw steam launch, the "Sol."

The docking facilities afforded by the Sutherland and Fitzroy graving docks have been largely availed of during the year. Including Imperial warships and the Government boats, 155 vessels, aggregating 206,230 tons measurement, have made use of the docks.

#### WATER SUPPLY.

The work of duplicating the 6-foot pipe-line between the Pipe Head Basin and Potts Hill Reservoir, a distance of  $4\frac{3}{4}$  miles, is approaching completion.

New water supply works have been provided for the municipalities of Mudgee and Picton, and extensive additions have been made to existing works at Cootamundra and Forbes. Schemes for supplying Kiama and Wollongong have been prepared.

#### WATER CONSERVATION AND IRRIGATION.

The operation of the Water Rights Act forms a noteworthy portion of the duties entrusted to the Department.

The map which forms an appendix to this report shows that the great majority of the works dealt with are in the Central and Western Divisions, being most numerous in Riverina, and in the dry districts on the Lower Lachlan, and north-west of the Darling.

The fact is often overlooked that the benefits resulting from these works, whether constructed by the Government or by private enterprise, are out of all proportion to their inconsiderable size and cost. Wanting these works, the land in many places would be practically valueless. As an instance of their great value the Willandra Weir, on the Lachlan River, constructed by the Government at a cost, including all subsidiary works, of less than £10,000, diverts water in flood time through 360 miles of channel in one of the driest districts in the Colony. The Middle Billabong Weir, although not quite completed, during a recent moderate rise in the Lachlan diverted a supply of water to a distance of nearly 100 miles. Again, the improvements carried out on the Yanko Creek, at a comparatively small cost, have resulted in providing permanent water to several hundred miles of frontage, even in the driest seasons.

The power vested in the Minister by the Act to make arrangements for the more equal distribution and beneficial use of the available supply of water is one which demands the utmost care in its exercise. Full and accurate data have to be procured and maintained respecting every river that is likely to be drawn on to any extent. Rules have also been framed under which the Minister's powers will be preserved, while at the same time protecting and encouraging private enterprise.

It is gratifying to be able to report that opposition to the granting of licenses for private works not objected to by the Department has almost ceased. The strife which raged for forty years regarding dams on the Yanko, Colombo, and Billabong Creeks,

Creeks, is practically ended. The conditions regulating the use of the waters of these creeks have been accepted by all parties concerned, and works of a higher class are now being constructed.

The severe drought which has for so long a period affected a wide area in the Central and Western Divisions has clearly shown that the equitable distribution of the available supply of water in our rivers is a question of growing importance, and on its satisfactory solution will depend, in a great measure, the extension of settlement and the development of the interior of the Colony.

Under the provisions of Section 4 of the Water Rights Act, works may be constructed by the Government for the use of landowners who are prepared to pay interest on the expenditure incurred. The utility of this section is becoming better known, and several proposals for works to be constructed under its provisions are now being dealt with.

The scheme, which was approved by Colonel Home, for the construction of a system of irrigation canals from the Murrumbidgee River, has been ready for some time to be submitted to the Parliamentary Standing Committee on Public Works. It provides for a storage reservoir of an estimated capacity of nine thousand million cubic feet of water, which would serve to keep up the supply in the river during the summer months. The estimated cost of the scheme is £650,000.

Other schemes which have occupied the attention of the Branch during the year are, the locking of the Darling River from Bourke to Menindie; the survey and estimate of a canal from the Murray River; and the survey and estimate for the diversions of an increased supply of water into Lake Cudgellico.

While I am of opinion that the importance of conserving water in the arid districts of the Colony cannot be over-estimated, I, however, cannot help thinking that the time has not yet arrived for carrying out very large schemes, involving an expenditure of many hundred thousand pounds. There is not, I think, sufficient population to warrant such works at the present time, especially when it is taken into consideration that most of the waters so conserved would have to be pumped from the canals to be used for irrigation purposes. The policy of the Department at the present stage should, to my mind, be in the direction of making small inexpensive dams, somewhat on the lines of those erected by pastoralists and others, on stock routes and other public thoroughfares, as well as in proximity to small centres of population. These dams would meet the existing and immediate demands, and induce settlement, and, in due time, would be followed up by the larger and more important works.

#### GOVERNMENT ARCHITECT.

Mr. Vernon reports that the past year has been a busy one, the total expenditure by his Branch—viz., £281,137 10s. 3d., including costs of services for other Departments—being greater than for any year since 1892. There has been a general improvement in building operations throughout the colonies, and the increased prices for labour and materials have no doubt contributed to the larger expenditure.

The

The new buildings completed comprise :—

	£	s.	d.
13 Police Buildings ... .. Costing	13,014	14	6
5 Post Offices ... .. „	10,591	3	10
7 Court-houses ... .. „	9,457	11	6
New Gate Lodge, &c., University ... .. „	1,952	0	0
Bourke Lands Office ... .. „	3,735	6	5

The more important buildings under construction at 30 June, 1899, were:—

Custom-house ... ..	Additions and alterations.
General Post Office ... ..	„
Treasury Buildings ... ..	„
Coast Hospital, Little Bay ... ..	„
Government House ... ..	„
Kenmore Hospital for Insane ... ..	New building.
Water and Sewerage Board's Office, Newcastle	„
Botanic Gardens—Buildings, &c. ... ..	„

Extensive works in the way of remodelling, improving, and adding to the first-class gaols of the Colony, which were rendered necessary by the altered methods of treating prisoners, have also been carried out during the year. Many of them have been provided with complete electric light installations.

At Kenmore Hospital for Insane, all the buildings intended to be erected for the present on the women's side of this institution have been completed, and a contract has been let for the erection of the corresponding buildings on the men's side.

In connection with the large amount of urgent repairs to public buildings and furniture, which require to be executed often with great expedition, the permanent workshop and store attached to this branch have proved eminently useful and economical.

Two comprehensive schemes for the erection of additional office accommodation—firstly, on land at the junction of Phillip and Hunter Streets, and, secondly, on the vacant land at the junction of Phillip, Bridge, and Young Streets,—were prepared and submitted to the Parliamentary Standing Committee on Public Works. The Committee reported against the first scheme, and decided to postpone the second until the Under Secretary for Lands and myself reported on the existing accommodation in the Works, Lands, and Mines Offices.

In view of the early accomplishment of Federation, Mr. Vernon points out that for the credit of the State it will be desirable to have all those buildings, such as Post Offices and Custom-houses, that will be transferred to the Federal Government, placed in good repair before such transfer takes place. The funds hitherto placed at his proposal for the repair of public buildings generally are quite inadequate for the purpose, and it will be necessary to give this matter early and earnest attention.

## ROADS AND BRIDGES.

The Principal Assistant Engineer, Roads and Bridges, furnishes a concise summary of the valuable work done by this branch towards the opening up of the country for settlement.

During the year 1,139 miles of new roads were cleared or wholly or partially formed; 33 new bridges were opened; 38 old structures were replaced; and 2,573 culverts, aggregating  $4\frac{1}{3}$  miles in length, were constructed.

The following table shows the total roads mileage and the aggregate length of bridges and culverts at 30 June in each year since 1896, and the total expenditure of the Branch for the same periods:—

Date.	Roads. Mileage.	Bridges.		Culverts.		Total Expenditure for the year.*
		No.	Length in feet.	No.	Length in feet.	
30 June, 1896 ... ..	38,952	2,771	260,519	31,073	461,578	£ 776,400
30 June, 1897 ... ..	39,874	2,842	267,964	32,671	486,907	676,210
30 June, 1898 ... ..	41,040	2,881	272,996	34,731	511,393	616,097
<b>30 June, 1899 ... ..</b>	<b>42,179</b>	<b>2,914</b>	<b>275,994</b>	<b>36,158</b>	<b>535,342</b>	<b>645,569</b>

\* Includes expenditure on new bridges completed and in progress.

It will be seen that the length of roads and bridges under control of the Branch continues rapidly to increase. There has been a slight increase in expenditure as compared with the preceding year, but it is essential, in order to keep the public roads of the Colony in fairly good trafficable condition, that large additions be made to the at present limited funds at the disposal of the Branch. The applications for grants amount to millions of pounds every year, and the most rigid economy has to be exercised in the attempt to meet reasonable claims.

The monthly average number of workmen regularly employed by the Branch was 1,046, while an additional 566 received temporary and intermittent employment. The number working under contractors averaged 5,684.

The contracts let during the year numbered 4,387, of an aggregate value of £412,895. Considering the large number of contracts dealt with, it is pleasing to report that in no instance has a contractor exercised his right of appeal to legal process, and in very few cases has it been found necessary to reverse at Head Office the decisions arrived at by the officers in charge of the works.

The advantage of linking the South Coast tourist district with the Blue Mountains by road has been recognised for some time. Last year the first step was taken by the construction of a road through the Macquarie Pass, connecting the coast with the southern table-lands. This year the Wombeyan Caves are being made accessible, and extensive improvements are being arranged for on the existing route

from Jenolan to Mount Victoria. The final step will be the opening of a road between the two great cave centres of the Colony, and when this has been done a tourist route of over 300 miles by road and rail, passing through magnificent scenery almost its entire length, will be available.

In providing access to new country, as yet sparsely populated, but giving fair prospects of development, the policy of the Department has been to select routes capable of permanent adoption and gradual construction as the traffic expands. In the early years roads were not infrequently constructed on such steep gradients that it has been found necessary to wholly or partially abandon them. In all new works every effort is being made to avoid this error, and, in addition, on long-established roads, the steep lengths are being gradually cut out by deviation; and it is hoped by this policy to gradually improve the traffic routes of the Colony and at the same time reduce the cost of maintenance.

On the Northern rivers a problem presents itself which has had the serious attention of the Branch. As nearly all the rich cultivated land adjoins these rivers, while that more remote is low-lying, swampy, and unsuitable for road-making, many of the leading arteries of traffic necessarily run along the river banks. The soil is friable, and its continual erosion has been a source of great expense. In many places the roads have been partly, or wholly, destroyed by floods, and by ordinary wave-action, resulting from steamer traffic, &c. Either protective works or costly resumptions have, therefore, from time to time been found necessary. Hitherto each case of erosion has been dealt with as it occurred, and consequently in some cases the quickest method of reopening traffic has had to be resorted to irrespective of its permanent efficiency. It has long been recognised that the problem should be dealt with in a more systematic manner, and steps are now being taken in that direction. Last year a small sum of money was provided on the Estimates for river-bank protection, and a commencement has been made in its expenditure on lines which it is thought will combine the maximum of efficiency with the minimum of cost. The importance of this work cannot be over-estimated.

In previous reports attention has been repeatedly drawn to the necessity for legislation dealing with the width of tires, and I desire again to urge immediate action. I have no hesitation in saying that, if broad tires were made compulsory, many thousands of pounds could be saved in maintenance every year, and the light traffic would be immensely benefitted without unduly interfering with the interest of waggon owners. On the many roads throughout the Colony on which metalling is impracticable, a few heavy loads, run on narrow tires, are sufficient to ruin them for lighter vehicles, and the many have to suffer for the mistaken prejudices of the few. It has been proved beyond question that on most soils broad tires are an advantage, even to the heavy traffic itself, as the roads are not rutted, and greater loads can be carried with equal tractive power.

In my report for the year ended 30 June, 1896, I called attention to the bad state of the roads in the vicinity of country towns. Most, perhaps all, country municipalities are burdened with an excessive area, and their chronic want of funds debars them from undertaking any work of road repairs except on the short sections passing through the more thickly-inhabited streets. The result is that a long stretch of good road, under control of the Department, is spoilt by a few miles of bad road  
lying

lying within a municipality, and much irritation and delay are caused thereby. It is clear that under existing conditions municipalities are unable to maintain their portions of the roads in proper repair, and a remedy for this evil is urgently called for.

The Assistant Engineer for Bridges (Mr. de Burgh) reports the completion of 71 new bridges at a cost of £59,585 16s. 7d., 38 of which replaced previously existing structures which had become unfit for traffic. The total length of the 71 bridges is 9,791 feet, consisting of 265 timber beam spans, and 14 timber truss spans.

The more important bridges completed were the following :—

The renewal of the timber viaduct in approach to the iron bridge over the Murrumbidgee River at Gundagai, having a total length of 2,719 feet, and consisting of 78 timber beam spans :

Union Bridge over the Murray River at Albury, having a total length of 323 feet, consisting of two timber truss spans of 110 feet each, and three timber approach spans :

Bridge over the Bega River at Bega, having a total length of 433 feet, consisting of four 90-foot timber truss spans, and two 35-foot timber approach spans,

At the close of the year under review there were in course of construction 37 new bridges, estimated to cost £89,950. Of these, the more important are—

Kempsey Bridge, the completion of which may be looked for early in 1900 ; this bridge consists of four timber truss spans of 154 feet each, on cylinder piers, with 305 feet of approach spans, the width of deck being 22 ft. 6 in. throughout :

Dunmore Bridge, Paterson River, which will be completed at an early date :

Hinton Bridge, Paterson River, which completes the line of communication between Morpeth, Hinton, and northwards *via* Phoenix Park, in connection with the bridge over the Hunter River at Morpeth :

Murwillumbah Bridge, Tweed River, the construction of this bridge being rendered necessary by the opening of the railway from Lismore to the Tweed, which has its terminus on the south side of the river, opposite Murwillumbah.

In connection with the Hinton and Murwillumbah bridges, attention may be called to the improved machinery for raising the lifting span, by the adoption of a system of wire ropes in lieu of shafting overhead, a considerable saving in the cost of construction being effected thereby.

Three other bridges in course of erection deserve special notice on account of certain features in their design.

Queanbeyan Bridge, which should be finished early in 1900, is, with the exception of the bridge over the Lachlan at Cowra, the first erected in New South Wales of the composite type, in which steel is used in the bottom chords, and iron-bark for the compression members of the truss. I am of opinion great economy in maintenance may be expected from the use of this type of truss, as experience with timber trusses shows that the lower chords, which are the most difficult portion of the



the structure to replace, are, when constructed of timber, the first parts to decay. The Queanbeyan Bridge has three of these composite truss spans of 91 feet each; but longer spans of the same type will probably be found efficient and economical for the wider rivers.

At Moruya Bridge an important departure has been made in the use of cast-iron piles sunk by the hydraulic process. The old bridge was a very light timber structure, 850 feet in length, erected in 1875, and now quite past service. The river at this place is a sandy estuary, the depth to rock from high water varying from 9 feet at the shore to 46 feet in the centre. It was considered advisable that the piers of the new bridge should be of a permanent character, but the depth to rock made the sinking of cylinders a very costly matter. Piers consisting of three cast-iron piles, each 12 inches in diameter, and having a specially formed shoe  $18\frac{3}{4}$  inches in diameter, have been adopted, the piles after fixing being joined together with steel bracing. These piles are sunk to a depth of 20 feet by means of a powerful jet of water, which, entering the top of the hollow piles and passing through orifices in the shoe, displaces the sand and causes the pile to sink to the required depth.

There can be little doubt that the success which has attended the operation of sinking the foundations of the Moruya Bridge will enable many similar cases to be dealt with more effectively and cheaply than hitherto.

Cockle Creek Bridge is also worthy of notice by reason of the use there of cylinders built on the Monier system instead of cast-iron (whereby a saving of £264 5s. was effected on two small piers alone), and of Monier coverings to protect the timber piles from the attacks of the cobra. The system, which is fully described in the report and illustrated by plate, is very efficient and capable of extended use.

Existing bridges to the number of 642 were overhauled and repaired during the year for an expenditure of £46,107 6s. 2d. All repairs have, as was the case in the previous year, been carried out by the Branch without the intervention of contractors, and further experience of the system has confirmed the anticipations of its suitability. The largest work in the way of repairs undertaken during the year was the restoration of traffic on the Denman Bridge, Hunter River, a great portion of which had been destroyed by floods. Three new piers were constructed (the most important being an iron cylinder pier) and the damaged superstructure rebuilt at a cost of £3,707 12s. 2d.

The duty of inspecting all timber exported to the order of the New Zealand Government, and also certain Harbour Boards, devolves upon this Branch; and whatever views may be held as to the advisableness of sending away large quantities of our best timbers, it is desirable that all such exports should be properly inspected and classed.

In the month of August, 1898, the New Zealand Railway Department placed orders in the Colony for the supply of about 4,000,000 superficial feet of hewn and sawn timber, and about 35,000 lineal feet of round piles (£43,500 worth), and at the request of the New Zealand Government arrangements were made for inspection before shipment by the officers of this Branch. In addition to the services of one inspector (Mr. Kane) sent to the Clarence from New Zealand, this work has required the undivided attention of three officers, as well as the constant supervision of the  
Department's

Department's timber inspector. Up to 30 June the following had been supplied:— 25,000 lineal feet of round piles, 1,250,000 superficial feet of squared and sawn timber, the money value of which, delivered in New Zealand, is £15,000, and it is satisfactory to note that the New Zealand Government state that their views have been met as to the quality of the timber sent forward.

In connection with the new steam ferry punt to carry vehicular traffic at Grafton, condensing engines are being used for the first time, and it is hoped that the public will appreciate the absence of the noise caused by the exhaust in the high-pressure engines in use heretofore.

At Ryde some experiments which have been conducted in the use of oil-engines for the propulsion of ferry-punts are so far satisfactory as to warrant their more general adoption.

Two steam-launches of a somewhat novel design have been built for passenger traffic and towage purposes on the Hunter and Clarence Rivers. These launches are each double-ended, 70 feet long, 15 feet beam, 5 feet depth, with hardwood keel and Oregon side-planking. They are propelled by compound surface-condensing engines, with 8-inch and 16-inch cylinders, 9-inch stroke. The engines indicate 50 horse-power, at 300 revolutions per minute. The boilers are return tubular boilers, 6 feet long, 7 feet diameter, wholly constructed of steel, and designed for a working pressure of 115 lb. per square inch. Propellers are fitted at either end of each launch, 3 ft. 3 in. diameter, 4 ft. 6 in. pitch, which drive the boat at a speed of  $9\frac{1}{2}$  knots per hour. An electric light installation is fitted up, supplying side and mast-head lights, in addition to the lights for deck and engine-room. The launches are provided with coal-bunkers, water-tanks, and cabin for the crew, and have seating accommodation for more than 100 passengers each.

I have commented at some length, in this review of the Roads and Bridges Branch, not only on the work done, but also on the means adopted to carry it out, with the object of showing that the necessity of keeping in touch with modern improvements and adopting the best methods is not lost sight of.

In a new country no improvement in railway or water communication can be availed of to its full extent unless the roads, which feed these lines of communication, advance with them. In this Colony the bridges and ferries form a most important part of the roads. When, by the adoption of improved methods, such as those described in connection with the composite bridge at Queanbeyan, bridges at Hinton and Murwillumbah, the Monier system at Cockle Creek, and the hydraulic sinking at Moruya, present or ultimate economy is effected without loss of efficiency, the usefulness of the Department in opening up the country is increased in a corresponding degree.

#### SEWERAGE CONSTRUCTION.

It will be seen from the exhaustive report of Mr. Davis, Engineer-in-Chief for Sewerage Construction, that good progress has been made during the year by this Branch. The total expenditure on works completed and in progress amounted to £202,826 16s. 8d., while drawings were prepared for thirty-nine contracts representing works valued at £307,414.

The

The year under review marks the completion of the main northern branch of the Western Suburbs system, terminating in Leichhardt near the eastern shore of Long Cove, and of the greater portion of the main western branch, extending from Premier-street, Marrickville, to Bland-street, Croydon. The last section of the western branch, which provides for the sewerage of Burwood, Strathfield, and parts of Ashfield and Concord, is now in course of construction.

The sewers draining the north-western and south-eastern slopes of the Municipality of Balmain have also been completed.

The drainage of Kensington and West Randwick is being provided for by an extension, to the north-west corner of the racecourse, of the intercepting sewer which discharges into the sea at Coogee.

The outfall works at Willoughby Bay, which dispose of the sewage by a process of precipitation and filtration, have been in active operation for some months past, and the results obtained have fulfilled expectations.

Contracts are now in progress for sewers which will serve the greater part of the southern slopes of Mosman and the whole of Neutral Bay district. Designs for the sewerage of Middle Harbour slopes are being prepared, and tenders will shortly be invited for the construction of the first section.

It has been decided to treat the Willoughby and Chatswood sewage by means of septic tanks and Dibden filters, and the plans for the necessary works are in hand. Meantime active progress is being made with the outfall and reticulation sewers. These should be available at an early date for carrying away the slop-waters of the borough to a point where their accumulation will no longer be a menace to the health of the residents.

Treatment works on the septic tank and Dibden filter principle at Rookwood Asylum are nearly completed.

The reticulation of Manly is in a forward state.

The Quarantine Station grounds are being sewerred, and, when the works now in progress are completed, the anxiety which exists with respect to the sanitary condition of the station will be removed.

During the year under review the attention of the Branch has been largely concentrated on the low-level area comprised in the foreshores of the harbour stretching between Double Bay and Balmain. The drainage of Double Bay on the Shone system is completed; that of Balmain is well under way, while contracts have either been let or are in preparation for the drainage of the foreshores stretching between these two points. Tests have been made as to the efficiency of the Shone system at Double Bay, and satisfactory results obtained.

It is gratifying to be able to report that all the municipalities in the metropolitan area, with few exceptions, have, or are in a position to have, the reticulation pipes connected with main sewers. In Strathfield, Homebush, and Concord the main sewers are under construction; those for Five Dock, Canterbury, Enfield, and Drummoyne are in the initial stage of design. It is, however, safe to predict

predict that within the ensuing twelve months all the more thickly-populated districts throughout the whole of the metropolitan area will be enjoying the benefits resulting from the completion of a comprehensive and efficient sewerage system.

A scheme of sewerage for the Illawarra suburbs is being prepared, and will on an early date be submitted for the consideration of the Councils interested.

The scheme designed for Newcastle has been referred to the local authorities.

Newcastle Pasturage Reserve, which comprised an area of 7,782 acres of swampy land, has been successfully drained.

The drainage of some of the more important country towns has occupied the attention of the Branch, and several schemes are now either being constructed, designed, or reported upon. It is found that towns possessing a proper water supply soon feel the necessity of some system of drainage to carry off the waste water.

#### LAND VALUATION.

The subjoined tabulated statement shows the amounts paid during the year in settlement of claims in respect of land resumptions :—

Branch.	Compensation.	Interest.	Costs.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Roads and Bridges ... ..	2,024 13 10	106 19 4	161 6 5	2,292 19 7
Harbours and Rivers ... ..	76,769 9 2	11,143 16 4	323 19 0	88,237 4 6
Government Architect ... ..	3,189 4 0	70 8 8	57 13 10	3,317 6 6
Railway and Tramway Construction.	18,506 2 4	1,284 4 8	645 12 6	20,435 19 6
Sewerage ... ..	3,103 1 6	181 8 10	170 9 6	3,454 19 10
Water Conservation and Country Towns Water Supply.	213 3 7	11 16 10	17 12 4	242 12 9
Totals ... ..	£ 103,805 14 5	12,798 14 8	1,376 13 7	117,981 2 8

The above expenditure shows a heavy increase—£76,871—over that of the preceding year, which is mainly accounted for by the large payments that required to be made on account of the lands resumed in connection with the electric powerhouse at Darling Harbour.

The report of the Government Land Valuer submits in a concise form the voluminous land transactions dealt with during the year. The principal matters occupying his attention have been the exchanges and resumptions of lands in connection with the new railway lines.

WATER

## WATER AND SEWERAGE BOARDS.

The annual reports of the Metropolitan and Hunter District Water and Sewerage Boards have already been submitted to you and laid before Parliament. Both reports record extensive developments and improvements in the Water, Sewerage, and Drainage systems. The financial results are fairly satisfactory, and there is good reason to expect that within a comparatively short time the large amount of capital invested in these schemes will yield a highly remunerative return.

## GENERAL.

In conclusion, I desire to bear testimony to the energy and zeal displayed by the staff—professional, clerical, and general—in the performance of their varied and important duties, and to express my obligations for the valuable assistance rendered by all in carrying on in a satisfactory manner the enormous business of this Department.

ROBT. HICKSON, M. Inst. C.E.,  
Under Secretary for Public Works and Commissioner for Roads.

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Map of New South Wales Railways.
Map of New South Wales, showing positions of Water Conservation Works.

# Railways and Tramways.

I.

## Report of the Engineer-in-Chief for Railway Construction.

Department of Public Works, Railway Construction Branch,

Sydney, 28 August, 1899.

Sir, I have the honor to report upon the work carried out in the Railway Construction Branch during the year ended 30 June, 1899:—

### RAILWAY SURVEYS.

The following work was carried out by the Railway Survey Office Staff, from the 1 July, 1898, to the 30 June, 1899:—

Explorations have been made, and reports, accompanied by diagram plans submitted, in connection with the following projected railways:—

Narromine to Coonamble.  
 Coonamble to Bomera.  
 Culcairn to the Upper Murray.  
 Wellington to Werris Creek.  
 Thirlmere to Burragorang.  
 Casino to Tenterfield.  
 Glen Innes to South Grafton.  
 Guyra to South Grafton.  
 Fairfield to Smithfield and Prospect.

The following inspections and examinations of trial and permanent surveys and one existing tramway were made:—

Temora to Gunbar.  
 Byrock to Brewarrina.  
 Wyalong to Hillston.  
 Parkes to Peak Hill and Narromine.  
 Narrabri to Walgett and Collarenebri.  
 Koorawatha to Grenfell (two inspections).  
 Bullock Creek to Bulbodney.  
 The Rock to Green's Gunyah.  
 Tarrawingee Existing Tramway.

The whole of the field work, and a portion of the drafting, &c., in connection with three permanent and four trial surveys were completed and three trial surveys were in hand but not finished, at the close of the year. For particulars see Appendix.

The plans and sections of the following proposed railways have been under review in connection with the preparation and revision of the estimated cost of construction:—

Bogan Gate to Bulbodney.  
 Dubbo to Parkes.  
 Belmore to Liverpool.  
 Moree to Inverell (Deviation *via* Kelly's Gully).  
 Grenfell to Wyalong.

The necessary drawings, viz., working plans and sections, proclaimed and police district plans, books of reference, land resumption notices, tracings and heliographic copies thereof, have been prepared for the 2nd and 3rd parts of the Moree to Inverell line, and the lithographic copies in book form of the working plans and sections have been completed.

The drawings in reference to the authorised railways, Koorawatha to Grenfell, Byrock to Brewarrina, and The Rock to Green's Gunyah, were, at the close of the year, in a forward state.

A considerable quantity of mathematical work has been done, in calculating the bearings and distances of the boundaries of land resumptions, and connections to same, for descriptive purposes, many of the boundaries being very irregular.

The officers of the Railway Commissioners Branch have been supplied with plans and compilations of county and parish maps, for use whilst inspecting and reporting on projected railways, proposed station sites, &c.

The drafting staff, during the period under review, has barely been sufficient to cope with the current office work, and the arrears of necessary, but less urgent, work have consequently not been diminished.

The staff of the Railway Survey Office consisted on an average of 29 officers, divided as follows:—  
 1 Principal Assistant Engineer, 1 Supervising Engineer, 11 Surveyors, and 16 Draftsmen.

The following tables show the aggregate of each field operation carried out by the field staff during the past year in connection with the trial and permanent surveys:—

### TRIAL SURVEYS.

Preliminary Exploration.	Preliminary Traverse.		Preliminary Levels.		Staking.		Levels.		Check Levels.		Cross Levels.		Details.		Inspection.
m.	m.	c.	m.	c.	m.	c.	m.	c.	m.	c.	m.	c.	m.	c.	m.
1,840	608	58	425	42	458	28	471	65	113	70	89	11	269	70	492

### PERMANENT SURVEYS.

Staking.		Levels.		Check Levels.		Cross Levels.		Details.		Inspections and Examination.
m.	c.	m.	c.	m.	c.	m.	c.	m.	c.	m.
221	70	128	14	116	32	84	74	157	16	110*

\* Includes Tarrawingee Tramway, 40 miles.

## DETAILS OF TRIAL SURVEYS.

Title of Line.	Total Length.	Date of Commencement.	Date of Completion.	No. of Surveyors.	Length Surveyed during year.	Length completed.	Remarks.
Bogan Gate to Bulbodney .....	m. c. 75 5	29 May, 1898	10 Dec., 1898	2	m. c. 81 76	m. c. 81 76	Includes deviations.
Narrabri to Walgett, <i>via</i> Eurie .....	.....	17 Feb., 1899	.....	2	65 40	.....	" "
Narrabri to Collarendabri.....	.....	29 Dec., 1898	.....	1	61 60	.....	" "
Temora to Gunbar.....	135 18	12 April, 1898	10 Jan., 1899	2	123 58	139 18	" "
Wellington to Werris Creek ...	29 23	7 Feb., 1899	.....	1	29 20	.....	" "
Wyalong to Hillston .....	111 74	21 June, 1898	2 June, 1899	1	95 74	111 74	" "
City extension.....	2 68	5 April, 1899	23 May, 1899	2	2 68	2 68	" "

## DETAILS OF PERMANENT SURVEYS.

Title of Line.	Total Length.	Date of Commencement.	Date of Completion.	No. of Surveyors.	Length Surveyed during year.	Length completed.	Remarks.
Koorawatha to Grenfell .....	m. c. 28 28	1 June, 1898	29 April, 1899	2	m. c. 19 70	m. c. 28 28	
The Rock to Green's Gonyah ...	24 52	28 May, 1898	18 " 1899	2	11 58	24 52	
Byrock to Brewarrina .....	57 60	1 Feb., 1899	21 June, 1899	2	57 60	57 60	

## RAILWAY CONSTRUCTION.

The following works have been in progress during the year ended 30 June, 1899:—

## Parkes to Condobolin.

The capital expenditure during the year on this line, which had been opened for traffic on 1 March, of the previous year, was only a small amount; the total to date covered by this report being £117,433 7s. 6d., or about £1,871 per mile.

## Nevertire to Warren.

The capital expenditure for the year on this line, which had been opened for traffic during the previous year, was £12,142 7s. 5d., making the total to 30 June last, £36,706 0s. 10d., or about £2,954 per mile.

## Berrigan to Finley.

This line, which was in course of construction, generally by day labour, under the supervision of Mr. F. H. Small, when the previous year closed, was opened for traffic on 30 September, 1898.

In addition to the small contracts mentioned in last year's report, the following were let in 1898-99:—Trucking yards to C. Baker; pumping machinery to Bennie, Teare, & Co.; engine shed to C. Baker.

The expenditure for the year was £15,210 14s., and the total expenditure, £31,653 6s. 10d., or about £2,277 per mile.

## Tamworth to Manilla.

The main line, including a steel bridge of three 60 feet spans with timber approaches over the Peel River, is being carried out under contract by Mr. T. Williams, entered into 29 November, 1897. Some small contracts were entered into during the year under report, as under:—

Trucking yards	...	...	...	...	...	J. Allibone.
Station buildings	...	...	...	...	...	J. Allibone.
Sleepers	...	...	...	...	...	J. Adams.
Pumping machinery	...	...	...	...	...	Bennie, Teare, & Co.
Pumping engine house	...	...	...	...	...	J. Allibone.

On the 30 June the bridges, including the Peel River Bridge, were nearly complete, and the road laying was practically finished; the station work and buildings were well advanced; and the water supply works at Manilla started.

The expenditure during the year was £10,289 18s. 10d., and the total to 30 June, £43,200 4s. 7d.

This line is expected to be open for traffic in September.

## Extension of Railway to Darling Island.

That part of the construction which was let to Messrs. Bromley & Holloway in 1897, with the considerable additions made to it, was completed in September, 1898. A large portion of the work has been done by day labour, under the supervision of Mr. F. E. Wickham. This consisted of the levelling of about 16 acres of resumed land, making of road approaches, fencing, draining, and the ballasting and laying of nearly 2½ miles of sidings.

Two small contracts for sleepers and blue metal were let.

The footbridge, giving access across the yard to the ferry wharf, and some other small works, remain to be done.

The expenditure for the year was £14,204 4s. 6d., and the total to date, £18,686 0s. 11d.



### Moree to Inverell.

This line which is, as regards the general works, being carried out by day labour under Messrs. W. Hutchinson and F. H. Small, was begun early in the year under review. Contracts for sleepers and bridge timbers having been already let, as referred to in last report.

The earthworks are practically complete for about half the length from Moree towards Inverell. The timber bridges are built for about 33 miles from Moree, and pile driving up to Gravesend, while material is being delivered for some distance beyond Warialda. Some of the material for the Gwydir River Bridge piers have been ordered.

The road has been laid to about 33 miles from Moree, including station sidings, except those of Moree.

The following contracts have been let in connection with this line—

241,000 sleepers to various contractors.

Ironwork to A. H. Brown.

Hardwood timber to six firms.

Piles to five firms.

Gwydir Bridge steel superstructure—Supply and erection to Messrs. Mountney & Co

Sheep and cattle yards to J. Neylan.

Station buildings to E. Rowland.

Wrought iron tank to Pope, Maher, & Co.

Pumping plant to Bennie, Teare, & Co.

### Byrock to Brewarrina.

Tenders were accepted for 147,430 sleepers.

### Permanent-way Material.

Tenders were called for 10,000 tons of 60-lb. steel rails and fastenings from America, and these, as well as the 15,000 tons referred to in the previous report, were under delivery.

### Staff.

The officers employed in the supervision of the above works in the field were three supervising engineers, one resident engineer, and four assistants, and one cadet.

Inspectors and sub-inspectors and time-keepers have been employed as required.

The office staff consisted of one supervising engineer, one chief draftsman, and ten draftsmen.

### TRAMWAY CONSTRUCTION.

Works in connection with the following tramways have been in progress during the year:—

George-street and Harris-street Electric Tramway, 3 m. 20 c. (double track); erection of Car House, Power House, and Machinery in connection with the conversion scheme of the City Tramway system, and the George-street and Harris-street Tramway; and the Rose Bay Electric Tramway of 1 m. 23 c. (single track) has been completed, and was opened for traffic on 4 October, 1898.

Permanent surveys have been completed and working plans and sections prepared for the tramway from Falcon-street to the Gore Hill Cemetery, a distance of 1 m. 15 c. (single track).

Surveys are in progress for the extension from George-street to Miller's Point, *via* Dawes Point, 56 chains, and the Neutral Bay Tramway, 70 c. (single track).

Trial surveys, estimates, and reports have been made of the following proposed tramways:—

	Miles.	Chains.	
Rose Bay to Watson's Bay ... ..	3	20	Single Track
Manly to Narrabeen and Newport ... ..	12	0	"
Liverpool-road to Ashfield Station ... ..	0	7	"
St. Peter's Bridge to Cook's River ... ..	2	0	"
Botany to La Perouse ... ..	3	50	"
Leichhardt to Callan Park Asylum ... ..	0	50	"
Willoughby Terminus to Gordon-road, Chatswood ... ..	1	3	"
" " Smith-street, Willoughby ... ..	0	40	"
Enfield to Bankstown, <i>via</i> Pipe Line and Dean-street ... ..	7	30	"
Military-road to the Spit ... ..	1	30	"
Enfield to Mortlake ... ..	4	20	"

### Rose Bay Electric Tramway.

This tramway commences at the terminus of the King-street and Ocean-street Cable Tramway, at Ocean-street, and runs along the New South Head road for a distance of 1 mile 23 chains (single track), terminating at the Rose Bay Wharf.

The following list gives particulars of the contracts in connection with the construction of this tramway:—

Contract.	Contractors.
Plastic bonds ... ..	Noyes Bros.
Generators ... ..	H. H. Kingsbury & Co.
Driving gear ... ..	J. J. Wood.
Accumulators ... ..	Gibson, Battle, & Co.
Overhead material ... ..	Noyes Bros.
Supply of poles ... ..	Stanley R. Booth.
Permanent way ... ..	W. Ewart & Co.
Switchboard and connections ... ..	H. H. Kingsbury & Co.
Accumulator room ... ..	G. T. Savage.
Feeder cables and junction boxes ... ..	J. O. Callender.
Waiting room ... ..	J. M. Wilson.
Ironwork for poles and brackets ... ..	Joyner Bros.

The Edison-Brown Plastic Bond was used for the permanent way.

The

The generators are installed in the Rushcutter's Bay Cable Tramway Power House, and consist of two of the multi-polar belt-driven type, designed to give an output of 150 kilowatts each, viz., 270 amperes at 550 volts. The size of these generators was decided after giving due consideration to the power, which, by arrangement, was to provide for working the air compressor pumps of the Double Bay Sewerage Station. They were manufactured by the General Electric Company of Schenectady, and supplied and erected by H. H. Kingsbury & Co.

The driving gear for the generators, which is driven by belting off the main engines by counter shafting, was manufactured by Messrs. Hudson Brothers (in liquidation, J. J. Wood, contractor), the link belting being manufactured and fixed by Messrs. Ludowici and Sons, of Sydney.

The accumulators are of chloride (the R type) with a capacity of 220 ampere hours. They are placed in a corner of the engine-room of the Rushcutter's Bay power-house, partitioned off with wood and glass construction, and forming a room 22 ft. x 22 ft., the erection of which was let to G. T. Savage. The plates, which number 240, are in glass boxes and ranged on benches in double tier.

The switchboard and connections were supplied and erected by H. H. Kingsbury & Co. The switchboard, which is 8 ft. 8 in. wide by 7 ft. 11 in. high, consists of five panels of slate with enamelled fronts moulded in frames of angle-iron. Raised platforms are provided at the front and back, with a door at each end.

The overhead wiring for single line, including the erection of the poles, was carried out by day-labour, the trolley wire being of the figure 8 section, equal to No. 000 B. and S. gauge, and of specially hard drawn copper of 98 per cent. conductivity (Mathieson's standard).

After starting the traffic, which proved very large at times, it was found desirable to put in extra loops and a double overhead conductor.

The overhead material, supplied by Messrs. Noyes Bros, is of Billings and Spencer's make, and the poles are of tallow-wood. The brackets and other ironwork are similar to those used at Willoughby, and were supplied by Messrs. Joyner and Sons.

The permanent way, the laying of which was entrusted to W. Ewart & Co, contractors, consists of 83 lb. grooved girder rails in 30 feet lengths laid on sleepers, twelve sleepers to each 30 feet of track. The ballast is blue metal throughout, with clay binding; the rail-joints are fitted with Pullen's patent joint-boxes. Three crossing-loops and one loop at the terminus at Rose Bay wharf have been provided.

Owing to the exceedingly sharp curvature of a portion of the road, a deviation, involving the forming of a bank comprising some 9,250 cubic yards of earth, was carried out.

The feeder cables and junction-boxes were supplied by Mr. J. O. Callender, contractor.

The feeder cables start from the terminal box at the power-house. They consist of one feeder for the tramway, and one for the sewerage pumping. They are conveyed in a trench under the footpath to the terminal pillar near Ocean-street, from which point to the pumping station at Double Bay the cable is carried overhead.

The junction-boxes, which are of cast-iron and provided with an inner watertight cover and heavy outer cover are placed about  $9\frac{1}{2}$  chains apart. The terminals are mounted upon bases of porcelain.

The cost of this tramway, including £3,000 to provide the power required for the Double Bay sewerage pumping station, was £19,800. It was opened for traffic on the 4 October, 1898.

### George-street and Harris-street Electric Tramway.

The route of this tramway was described in last year's report.

The following list shows the contracts in connection with the construction of this tramway, and the progress at the close of the financial year:—

No.	Contract	Contractor	Remarks
1	Plastic bond . . . . .	Noyes Bros. . . . .	Completed.
2	Mannesmann poles . . . . .	Foreign Agency Co. . . . .	" "
3	Steam-engines and generators . . . . .	H. H. Kingsbury & Co. . . . .	Being erected.
4	George street permanent-way . . . . .	Wilmott and Morgan . . . . .	Practically completed.
5	Harris-street " . . . . .	J. McSweeney . . . . .	" "
6	Tracks to car-house entrance . . . . .	H. H. Kingsbury & Co. . . . .	Completed.
6a	Points and crossings, King and George Streets . . . . .	H. W. Peabody & Co. . . . .	" "
7	Steam boilers . . . . .	G. and C. Hoskins . . . . .	" "
8	Boiler settings and mountings . . . . .	J. Stewart & Co. . . . .	Work proceeding.
9	Switchboard and connections . . . . .	H. H. Kingsbury & Co. . . . .	Material delivered.
10	Accumulators . . . . .	W. Adams & Co. . . . .	" "
11	Overhead material . . . . .	Various orders . . . . .	" "
12	Power-house and offices . . . . .	J. Stewart & Co. . . . .	Completed.
13	Cast and wrought ironwork for poles . . . . .	J. J. Wood . . . . .	" "
14	Car-house . . . . .	J. Stewart & Co. . . . .	" "
15	Travelling cranes . . . . .	H. W. Peabody & Co. . . . .	" "
16	Feeder cables and Junction-boxes . . . . .	Noyes Bros. . . . .	" "
17	Circulating and feed pumps . . . . .	H. P. Gregory & Co. . . . .	Material delivered.
18	Water conduit . . . . .	J. McSweeney . . . . .	Practically completed.
19	Portable offices . . . . .	C. Shuker . . . . .	Completed.
20	Excavation, power-house site . . . . .	C. McClure . . . . .	" "
21	Chimney . . . . .	Phippard Bros. . . . .	" "
22	Return feeders . . . . .	C. Kolling . . . . .	" "
23	Material for cross-bonding . . . . .	W. Hoskins & Sons . . . . .	" "
24	Trolley-wire . . . . .	C. Kolling . . . . .	Erection proceeding.
25	Steel columns and crane girders . . . . .	R. L. Scrutton & Co. . . . .	Completed.
26	Steam piping, high pressure . . . . .	Peabody & Co. . . . .	Material delivered.
27	Store and repairing-shop . . . . .	T. E. Spencer & Co. . . . .	Work proceeding.
28	Station wiring (cables) . . . . .	Indiarubber G. P. & T. W. Co. . . . .	Material delivered.
29	Steam piping, low pressure . . . . .	H. Vale & Sons . . . . .	" "
30	Covering for steam piping (large) . . . . .	W. Adams & Co. . . . .	" "
30a	" " (small) . . . . .	E. L. Renwick & Co . . . . .	" "
31	Office and W.C. accommodation, Circular Quay . . . . .	Eaton Bros. . . . .	Tenders called for.
32	Small valves, high pressure . . . . .	J. Milne . . . . .	Drawings in hand.

All the permanent-way has now been completed, with the exception of the cross-overs and balloon hoop at Circular Quay, where the Railway Commissioners, on further consideration, found it necessary to make some alterations in their original requirements to allow of more accommodation for shunting purposes.

The rails which are being used on this tramway are of the girder type, 83 lb. per yard, 30 feet in length, and of specially hard steel. They are laid on concrete, 10 inches deep, and kept to gauge with wrought-iron tie-rods. All joints rest on bed-plates, and are provided with fish-plates with six bolts and Pullen's Patent Joint Boxes.

On opening up the streets it was found that certain lengths of the concrete-bed was sound and strong enough for the tramway. In these places it was therefore made use of. For the greater part of the length, including the whole of Harris-street and from Queen's Wharf to Bathurst-street, the concrete was too thin laid in the first instance to afford the required support.

As the wood-blocking outside the limits of the tramway at several places along the route was badly worn and decayed, it was found necessary to arrange for the entire renewal of some portions, and the extensive patching of others. This work, which to a large extent was not anticipated, as the extent to which the wear had progressed was not noticeable, caused a serious additional expenditure.

#### *Outside Electrical Work.*

The poles have, with the exception of those required at the Redfern Junction and approach, been erected, and all the underground electrical work has been completed.

The Edison-Brown Plastic Bond, the materials of which were supplied by the contractors, Messrs. Noyes Brothers, is practically completed. Particular attention has been paid to the bonding as this tramway will act as the trunk line for the whole of the Western Suburbs, and consequently there will be a heavy return current. As a supplementary return a copper cable, having a sectional area of 45 square inches, is laid between each track from Circular Quay to Redfern. Each cable is connected to alternate rails on either side so that every car will be connected direct to the cable. These cables are laid against the inner rails of their respective tracks and are cross connected every 60 yards, the connection between the cable and inner rail being made with a special gun-metal clip-bolt. At the intersection of Liverpool-street and George-street nine cables are taken direct underneath, the Callender-Webber casing carrying the return current to the Power house at Ultimo, a distance of 900 yards. There are also from Engine-street two cables, and from Harris-street along William Henry-street four cables which carry the return current.

The copper cables for the return feeders were supplied by Messrs. Koebling & Sons, and consist of No. B.S.W.G. soft drawn copper wire of not less than 100% conductivity (Matthiessen's Standard) stranded together with a suitable lay.

The trolley wire, supplied by Mr. Charles Kölling, was manufactured by J. A. Koebling & Sons, of Trenton, N.J., U.S.A. The sectional area is 167,803 circular miles (equal to No. 000 B. & S.) hard drawn copper of 100% conductivity (Matthiessen's Standard) of figure 8 section. This wire is about to be erected.

The time has now arrived when the generating plant may be described in detail.

#### *Power plant.*

The original intention was to supply the power for the George-street and Harris-street Tramway from Rushcutters' Bay, the estimated cost of doing this as given to the Public Works Committee was—

Power ... ..	£11,150
Feeders ... ..	6,000

No provision was made for additional building, it being considered that the accommodation provided in the existing building was ample.

The power required to work the George-street and Harris-street tramway, taking into consideration the Railway and Harris-street traffic alone, is estimated at about 540-h.p. Forty cars were to be provided, so that taking thirty-six cars as being constantly in active service during the busy time of the day, this would mean an average of about 15-h.p. per car. There is sufficient reserve power in the engines at Rushcutters' Bay to provide for this, so that, by adding electric generators driven by a system of shafting, the whole could have been economically arranged. The proper provision to make would be three generators of, say, 300-h.p. each, so as to provide a small surplus and one machine in reserve. But even suppose it had been found more suitable to leave the reserve power at Rushcutter's Bay for the Rose Bay or other extensions, engines and generators of a total of 900-h.p. could be provided at a cost of £9,000, leaving the balance to defray the cost of two additional boilers and other contingencies that might arise.

The George-street and Harris-street Tramway Act was assented to on 14 September, 1896.

Soon after this the Railway Commissioners came to the conclusion that as the conversion of the whole of the tramways to electric traction was contemplated it would be wise to make George-street and Harris-street Tramway part of the complete system and commence the installation of the power at one spot. The matter was discussed between the Minister for Works and the late Chief Commissioner, with the result that it was in the end decided to secure land in Ultimo, in contiguity to the Darling Harbour Station-yard, where eventually power to the extent of 20,000-h.p. could be laid down as well as accommodation for 200 cars.

As part result of the conference between the Minister for Works and the late Chief Commissioner, it was decided that the work of providing buildings and power for the conversion of the tramways should be carried out by the Railway Construction Branch. It was eventually decided that this power and accommodation on this line should be provided, and that the work should be carried out by the Railway Construction Branch.

The power plant provided consists of four sets of Allis-Corliss horizontal cross compound engines, manufactured by the E. P. Allis Co., of Milwaukee, U.S.A., each direct coupled to an 850-k.w. generator of the General Electric Company's manufacture, with the necessary surface condensers of the Wheeler type, together with Blake air-pumps, feed-pumps, and circulating-pumps. The high-pressure steam piping and valves are manufactured by the Crane Manufacturing Company of U.S.A., and the low-pressure by Messrs. H. Vale and Sons, of Sydney.

The high-pressure cylinders are 26 inches in diameter, and the low-pressure 48 inches, and the stroke of the engine 48 inches, which work with a boiler pressure of 130 lb. per square inch and at a speed of 100 revolutions per minute. The valves are of the Reynolds-Corliss type, both steam and exhaust being made in a single piece free from springs or other complications. The main bearings are 20 inches in diameter and 36 inches long, fitted with top, bottom, and side shells, and lined with babbitt metal. The pistons are fitted with followers, bull ring, and packing ring, so designed that they can be examined without removing the pistons from the cylinders. Between the high and low-pressure cylinders a receiver with suitable traps is fixed in the basement below the engine-room floor. Between each two sets of engines a Wheeler condenser, having a cooling surface of 3,400 square feet, also a Blake air-pump of the latest twin-marine type, are fixed. The engines are so piped that any one of the four can be connected to either condenser and air-pump, this arrangement being much more economical, both in first cost and working, than fitting a separate condenser to each engine. The fly-wheel is 20 feet in diameter and weighs 45 British tons. It is built up out of mild steel plates, and constructed in the latest American practice. All the connecting bolts are of steel, and the wheel is keyed on to shaft by small steel keys.

The generators, of which there are four, were built by the General Electric Company of America. They are of the multipolar type, and designed to be operated at a speed of 100 revolutions per minute, and to give an output of 850 kilowatts each. Each generator is capable of delivering 1,545 amperes at 600 volts for short periods of time.

The switchboard, which is 40 feet long and 7 feet 6 inches high, has been delivered by the contractors, H. H. Kingsbury & Co., and the work or erection is about to commence. It will be placed on a gallery 90 feet long overlooking the engine-room 14 feet above the floor. Provision has been made so that the switchboard can be extended as may be required.

The fourteen steam-boilers, each measuring 16 feet long by 7 feet diameter, of 300-h.p., were manufactured by Messrs. G. and C. Hoskins. They are arranged in two batteries of seven each. All have been delivered and tested, and seven have been placed into position. The boiler setting and mountings are now being carried out by J. Stewart & Co., contractors.

The three centrifugal circulating-pumps, and the two plunger feed-pumps, supplied by H. P. Gregory & Co., contractors, were manufactured by the Blake Manufacturing Company of New York, and are about to be erected.

The centrifugal pumps, which are electrically driven, are made entirely of salt-resisting composition, and are capable of raising water up to a level of 36 feet with a discharge and suction nozzle of 12-inch diameter.

Each pump is coupled direct to two general electric motors. The motor armatures are of the standard G.E. 1,000 railway motor type. Each motor is complete with hand-starting rheostat and rheostat for regulating fields within 10 per cent.

The electrically-driven triplex feed-pumps are each capable of delivering 135 British gallons per minute against a boiler pressure of 140 lb. per square inch. The discharge and suction nozzles of this pump are 4 and 5 inches respectively.

In order to expedite the completion of the power-house, a contract for the supply of the steel columns and crane girders was let to Messrs. R. L. Scrutton & Co., and the work has been completed.

The contract for the high-pressure steam piping has been let to Messrs. Peabody & Co., and that for the low pressure to Messrs. Vale and Sons. All the material for both contracts has been delivered at the power-house, and is now being erected by day labour.

The covering for steam piping has been let in two contracts; that for the large pipes to W. Adam & Co., and for the small, to E. L. Renwick & Co. This work will be commenced almost immediately.

The accumulators, which were supplied by W. Adams & Co, contractors, and manufactured by the Electrical Power and Storage Company, have been delivered, and are about to be erected. These are of the E.P.S. (K type) cells. There are two batteries of 300 cell each in glass boxes. The capacity of the larger battery at a discharge rate of 80 or 90 amperes hours, and the smaller at from 15 to 20 amperes, will be 125 amperes hours. Spare parts will be provided for each battery.

#### *Car-house.*

The tracks to the car-house entrance, which were supplied by H. W. Peabody & Co., contractors, were manufactured by Wharton & Co., of Philadelphia; these have been placed into position and the work completed, this portion of the work being carried out by day labour.

The contract for the car-house has been let to J. Stewart & Co., contractors, and the work has been completed.

This car-shed, which measures 275 feet by 120 feet, and is all under one roof of the saw-tooth design lighted from the south, has twelve tracks with pits between the rails to enable cleaners and repairers to get at the rolling gear. This building also contains quarters for motor men and conductors. There is accommodation, under cover, for 108 full-sized cars, and the building can be further extended to contain an additional seventy-two cars.

Rolled joists are fixed the full length of the three bays to carry travelling cranes, and both the entrances and back opening are fitted with steel spring-roller shutters.

The contract for the Store and Repairing Shop has been let to Messrs. T. E. Spencer & Co., contractors.

This building, which measures 171½ feet by 43 feet and adjoins the car-house at the rear, has under its roof, also of the saw-tooth design, a store 36 ft. x 40 ft., workshop 90 ft. x 40 ft., armature winding room 30 ft. x 40 ft., drying-room 10 ft. x 40 ft., and a smithy 14 ft. x 40 ft. This work is being carried on with all possible speed by the contractor.

#### *Power-house.*

The contract for the excavation to the power-house site was let to C. M'Clure, contractor, and has been completed.

The erection of the power-house and offices is being carried out by J. Stewart & Co., contractors. This building, which is 200 ft. by 100 ft., can, if required, be extended to accommodate an additional 15,000-h.p., sufficient land being available.

The

The contract for the chimney has been let to Messrs. Phippard Brothers, contractors, and the work has been completed. This stack is 200 feet above the flue level and contains some 890,000 bricks, and is capable of carrying off the furnace gases produced up to 5,000 h.p.

The contract for the conduit from the boiler-house to Darling Harbour has been let to Mr. Justin McSweeney and the work is practically completed.

This conduit, which is 950 feet long, has been built for supplying water for condensing purposes.

The rolling-stock, consisting of forty motor cars and trailers, is being supplied by the Railway Commissioners at a cost of £23,200.

It will be seen (from the foregoing) that the arrangements for supplying power to the George-street and Harris-street Electric Tramway, forms only a small part of a large scheme for converting the Sydney Steam Tramways to electric traction, and for the supply of electric power not only to them but also to the conversion of the North Sydney cable tramway, and the supplying to the whole system on that side of the harbour of electricity.

The staff employed during the year under review on Tramway construction, inclusive of office work, comprised—

- 1 Principal Assistant Engineer,
- 2 Resident Engineers,
- 2 Assistant Engineers,
- 1 Engineering Assistant,
- 7 Draftsmen,
- 6 Inspectors,
- 6 Sub-Inspectors.

The work in connection with the George-street and Harris-street Electric Tramway being of quite a special nature, some difficulty has been experienced in obtaining suitable engineers and draftsmen to design and carry it out. The staff employed during the year has been insufficient to cope with the amount of work required of it, so that several matters of minor importance have been made to stand over. In spite of temporary assistance by the loan of officers from other branches all have been kept going at high pressure.

H. DEANE,

Engineer-in-Chief for Railway Construction.

## II.

### RETURN of Expenditure on Public Works by Railway Construction Branch from 1 July, 1898, to 30 June, 1899.

Work.	When commenced.	Expenditure from 1 July, 1898, to 30 June, 1899.			If unfinished, amount of expenditure to 30 June, 1899.			If finished, actual amount of expenditure.		
		£	s.	d.	£	s.	d.	£	s.	d.
Albury to the River Murray .....	1899	33	6	8	33	6	8	.....	.....	.....
Berrigan to Jerilderie .....	1895	2,975	0	7	.....	.....	.....	42,166	15	1
Berrigan to Finley .....	1897	15,209	14	0	.....	.....	.....	29,652	6	10
Byrock to Brewarrina .....	1899	411	6	9	411	6	9	.....	.....	.....
City Extension .....	1883	780	10	6	5,766	2	2	.....	.....	.....
Cootamundra to Gundagai .....	1881	1,338	6	1	.....	.....	.....	269,422	19	5
Cootamundra to Temora .....	1899	5	13	9	.....	.....	.....	5	13	9
Dubbo to Bourke .....	1899	303	12	10	303	12	10	.....	.....	.....
Goulburn to Cooma .....	1881	50	7	8	.....	.....	.....	1,374,699	4	10
Goulburn to Wagga .....	1899	137	4	3	137	4	3	.....	.....	.....
Homebush to Waratah .....	1881	759	19	10	.....	.....	.....	2,146,237	6	11
Inverell to Glen Innes .....	1899	1	0	0	.....	.....	.....	1	0	0
Kiama to Nowra .....	1883	21	15	0	.....	.....	.....	361,427	2	7
Lismore to Tweed .....	1883	34	16	0	.....	.....	.....	903,151	10	9
Land Resumptions .....	1896	1,001	18	4	5,000	18	8	.....	.....	.....
Land Claims—Old lines .....	1898	425	12	0	425	12	0	.....	.....	.....
Murrumburrah to Blayney .....	1899	493	13	7	493	13	7	.....	.....	.....
Molong to Parkes and Forbes .....	1883	478	8	0	.....	.....	.....	383,310	0	0
Marrickville to Burwood Road .....	1890	53	8	0	.....	.....	.....	186,559	1	2
Moree to Inverell .....	1897	74,943	6	9	78,210	14	1	.....	.....	.....
Narrandera to Jerilderie .....	1897	595	4	1	595	4	1	.....	.....	.....
Narrabri to Moree .....	1883	10,494	11	4	.....	.....	.....	142,612	0	11
Nevertire to Warren .....	1897	12,142	7	5	.....	.....	.....	36,706	0	5
Parkes to Condobolin .....	1895	449	13	1	.....	.....	.....	117,431	8	6
Rock to Green's Gully .....	1899	1	3	9	1	3	9	.....	.....	.....
Rookwood Cemetery Extension .....	1895	0	7	6	0	7	6	7,106	17	0
South Grafton to Glen Innes .....	1883	29	19	10	11,818	13	4	.....	.....	.....
St. Leonards to Milson's Point .....	1895	15	0	0	.....	.....	.....	344,477	16	11
Sydney to Wollongong and Kiama .....	1899	238	3	9	238	3	9	.....	.....	.....
Trial Surveys (a) .....	1899	14,581	14	6	.....	.....	.....	.....	.....	.....
Tamworth to Manilla .....	1897	39,286	6	6	72,196	12	3	.....	.....	.....
Salaries, Equipment, Establishment Salaries, Increase cost of living, Allowance to Officers .....	1899	2,188	11	5	.....	.....	.....	.....	.....	.....
Services of other Departments .....	1899	4,987	7	11	.....	.....	.....	.....	.....	.....
<b>Total .....</b>	<b>£</b>	<b>184,469</b>	<b>11</b>	<b>8</b>	<b>175,632</b>	<b>8</b>	<b>2</b>	<b>6,344,967</b>	<b>4</b>	<b>11</b>

(a) For details see Statement attached.

## DETAILS of Expenditure on Trial Surveys from 1 July, 1898, to 30 June, 1899.

Work.	Expenditure from 1 July, 1898, to 30 June, 1899	Work	Expenditure from 1 July, 1898, to 30 June, 1899
	£ s. d.		£ s. d.
Byrock to Brewarrina .....	1,452 14 11	Narrabri to Pilliga .....	3 3 0
Bogan Gate to Bulbodney .....	1,492 0 2	Narrabri to Walgett, <i>via</i> Eurie .....	874 12 7
Bomera to Coonamble .....	28 13 7	Narrabri to Collareendabri .....	701 13 10
Cobar to Wilcannia .....	113 2 2	Narramine to Coonamble .....	57 17 0
Coolamon to Ariah .....	33 6 8	Parkes to Narramine .....	36 12 4
Culcairn to Upper Murray .....	77 17 4	Rock to Green's Gunyah .....	2,220 11 4
Coonamble to Werris Creek .....	15 10 0	Temora to Hillston .....	7 15 9
Darling Island .....	67 8 6	Temora to Gunbar .....	2,050 0 7
Dubbo to Coonamble .....	130 6 6	Tenterfield to Casino .....	91 3 6
Dubbo to Parkes .....	81 10 0	West Maitland to Taree .....	4 7 6
Dubbo to Werris Creek .....	4 1 10	Woolabra to Collareendabri .....	12 0 0
Fairfield, <i>via</i> Smithfield, to Prospect .....	0 4 4	Wyalong to Hillston .....	1,343 8 4
Guyra to South Grafton .....	143 7 4	Wellington to Werris Creek .....	424 15 11
Grenfell to Wyalong .....	318 12 6	Young to Grenfell .....	7 8 10
Koorawatha to Wyalong .....	328 14 11		
Koorawatha to Grenfell .....	2 369 13 11		
Mudgee to Coonamble .....	88 19 4		
			£ 14,581 14 6

## RETURN of Expenditure on Tramway Construction from 1 July, 1898, to 30 June, 1899.

Work	When com- menced.	Expenditure from 1 July, 1898, to 30 June, 1899	If unfinished, amount of expenditure to 30 June, 1899	If finished, actual amount of expenditure
		£ s. d.	£ s. d.	£ s. d.
Ashfield to Drutt Town .....	1890	.. ..	.. ..	12,985 5 11
Alterations to Car-house, North Sydney .....	1897	520 1 3	1,970 6 10	.. ..
Alexandria to St. Peters .....	1892	.. ..	.. ..	1 10 0
Bondi Extension .....	1889	.. ..	.. ..	12,919 4 11
Balmain to Gladstone Park .....	1891	.. ..	.. ..	3,088 12 0
Balmain to Drummoyne .....	1891	.. ..	.. ..	22 3 4
Balmain to Forest Lodge .....	1890	5 13 0	.. ..	2,036 11 11
Botany to La Perouse .....	1890	.. ..	.. ..	9 6 10
Bourke-street, Botany .....	1891	.. ..	.. ..	8 18 0
City Cable .....	1890	.. ..	.. ..	96 15 3
Conversion Scheme .....	1897	71,158 8 9	72,026 7 4	.. ..
Campbelltown to Appin .....	1892	.. ..	.. ..	5 11 0
Day-street .....	1893	.. ..	.. ..	25 4 7
Dawes Point to Miller's Point .....	1899	75 8 0	75 8 0	.. ..
Darling-street, Balmain .....	1896	.. ..	.. ..	2 10 0
Erskine and King Streets .....	1892	.. ..	.. ..	88 5 1
Electric Trams .....	1892	.. ..	.. ..	496 17 4
Five Dock to Abbotsford .....	1892	.. ..	.. ..	5,533 3 2
George and Harris-street Electric Tramway .....	1898	*92,274 3 10	143 34 4 10	.. ..
General Charges .....		32 12 1	.. ..	3,694 11 0
Gore Hill .....	1898	184 0 3	184 0 3	.. ..
Hunter-street to Circular Quay .....	1894	.. ..	.. ..	3 10 0
King street to Ocean-street .....	1891	2 11 4	.. ..	186,718 14 6
Kensington Extension .....	1893	.. ..	.. ..	232 2 6
Leichhardt to Five Dock .....	1889	.. ..	.. ..	19,823 14 0
Lane Cove Road .....	1891	.. ..	.. ..	42,653 0 1
Market-street to George-street Post Office .....	1896	.. ..	.. ..	45 6 0
Marrickville to Dulwich Hill .....	1899	.. ..	.. ..	7 297 17 6
Military Road, North Sydney .....	1892	.. ..	.. ..	17,023 18 5
Military Road to the Spit .....	1894	.. ..	.. ..	456 7 4
Mitchell Road to Waterloo .....	1892	.. ..	.. ..	7 5 0
Mossman's Bay .....	1894	.. ..	.. ..	9,496 11 3
Merewether to the Beach .....	1894	.. ..	.. ..	1 15 0
North Shore .....	1899	.. ..	.. ..	129 9 11
Newcastle-Plattsburg .....	1889	.. ..	.. ..	54 5 5
Newcastle-Merewether .....	1890	.. ..	.. ..	15 559 14 4
Newcastle-Tighe's Hill .....	1890	.. ..	.. ..	19 361 19 9
Newcastle-City .....	1890	.. ..	.. ..	15,679 9 1
Newcastle-Adamstown .....	1894	.. ..	.. ..	218 17 7
Newtown-Cook's River .....	1890	.. ..	.. ..	12,513 17 4
Newtown-St. Peters .....	1898	141 8 4	.. ..	141 8 4
Neutral Bay .....	1896	489 9 9	504 10 9	.. ..
Ocean-street, Woollahra .....	1890	.. ..	.. ..	3 15 0
Paddington .....	1890	.. ..	.. ..	498 17 2
Parramatta-Dural .....	1891	.. ..	.. ..	10 15 6
Rose Bay Electric .....	1894	6,940 8 3	.. ..	19,871 1 10
Rose Bay to Watson's Bay .....	1899	55 10 5	.. ..	55 10 5
Redfern to Moore Park .....	1890	.. ..	.. ..	18,557 9 3
Regent-street .....	1892	.. ..	.. ..	803 13 5
Redhead to Belmont .....	1894	.. ..	.. ..	5 5 0
South Head and Watson's Bay .....	1890	.. ..	.. ..	192 7 9
Stockton to Waratah .....	1892	.. ..	.. ..	1 10 0
Transmission of power to North Sydney .....	1899	880 9 1	880 9 1	.. ..
Waverley Extension .....	1889	.. ..	.. ..	4,028 2 2
Woolwich to Field of Mars .....	1889	.. ..	.. ..	331 4 11
Willoughby Extension .....	1896	1,845 12 4	.. ..	16,321 14 8
Yass to Yass Railway Station .....	1889	.. ..	.. ..	23,170 7 11
Yass Bridge .....	1889	.. ..	.. ..	5,645 10 1
		£ 174,605 16 8	218,875 7 1	500,960 18 9

\* £8,901 10s. 6d. paid from Vote of £50,000, 61 V. 43.

## TOTAL Expenditure on Railway and Tramway Construction to 30 June, 1899.

Year.	Railways.		Tramways.		Year.	Railways.		Tramways.	
	£	s. d.	£	s. d.		£	s. d.	£	s. d.
1857-8 .....	51,467	6 0	.....	.....	1880 .....	1,430,042	15 0	29,008	19 5
1859 .....	73,659	7 11	.....	.....	1881 .....	1,652,978	16 6	108,026	14 8
1860 .....	210,687	0 2	.....	.....	1882 .....	1,695,070	13 3	190,979	0 7
1861 .....	250,017	12 7	.....	.....	1883 .....	2,111,057	9 2	200,835	18 7
1862 .....	248,245	7 10	.....	.....	1884 .....	2,871,684	6 10	105,308	18 10
1863 .....	311,787	8 5	.....	.....	1885 .....	2,489,776	12 7	64,657	17 6
1864 .....	348,707	11 8	.....	.....	1886 .....	2,048,706	13 5	88,509	18 7
1865 .....	356,234	7 11	.....	.....	1887 .....	1,275,118	15 11	49,509	4 11
1866 .....	494,105	7 8	.....	.....	1888 .....	660,885	16 0	.....	.....
1867 .....	536,327	1 5	.....	.....	1889 .....	257,022	14 1	5,546	12 6
1868 .....	538,480	16 5	.....	.....	1890 .....	151,788	11 10	25,453	14 5
1869 .....	444,361	2 11	.....	.....	1891 .....	601,507	17 8	82,808	19 4
1870 .....	436,756	12 11	.....	.....	1892 .....	970,030	10 0	83,260	11 5
1871 .....	282,215	17 7	.....	.....	1893 .....	849,184	13 4	133,094	12 0
1872 .....	134,014	8 3	.....	.....	1 Jan., 1894, to 30 June,	.....	.....	.....	.....
1873 .....	81,063	6 8	.....	.....	1895 .....	474,763	6 10	116,357	11 1
1874 .....	348,180	18 4	.....	.....	1895-6 .....	208,154	8 5	6,562	2 2
1875 .....	471,895	4 10	.....	.....	1896-7 .....	185,366	14 11	12,140	1 4
1876 .....	647,272	5 3	.....	.....	1897-8 .....	164,756	16 8	80,016	16 8
1877 .....	589,439	19 1	.....	.....	1898-9 .....	184,469	11 8	174,605	16 8
1878 .....	793,351	4 7	.....	.....	Totals.....	£28,877,077	15 0	1,571,911	1 4
1879 .....	946,380	2 6	15,227	10 8					

## SUMMARY of Expenditure on Railway and Tramway Construction during year ended 30 June, 1899.

	£	s. d.
From Loan Funds .....	351,899	9 0
„ Consolidated Revenue .....	2,188	11 5
„ Services of other Departments .....	4,987	7 11
	£359,075	8 4

Year.	Loans.		Revenue.		Services of other Departments.		Total.		
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	
1896-7 .....	187,556	2 2	1,516	8 11	8,434	5 2	197,506	16 3	
1897-8 .....	227,335	3 10	3,746	16 11	13,691	12 7	244,773	13 4	
1898-9 .....	351,899	9 0	2,188	11 5	4,987	7 11	359,075	8 4	
	£	766,790	15 0	7,451	17 3	27,113	5 8	801,355	17 11

## Report of the Engineer-in-Chief for Public Works.

### III.

Sir,

Public Works Department, 3 November, 1899.

I have the honor to forward herewith an outline statement of progress made on the various works under my control during the year ended 30 June, 1899.

The report deals with the works and services under the following heads:—

1. Works for the Improvement, Maintenance, and Convenience of Navigation, including the Dredge Service.
2. Water Supply—(a) Metropolitan; (b) Country Towns.
3. Water Conservation, Irrigation, and Drainage.
4. Works not comprised under the above heads.

#### (1) WORKS FOR THE IMPROVEMENT, MAINTENANCE, AND CONVENIENCE OF NAVIGATION.

For convenience and system in describing the works along the coast included under this head, they are here taken in their order, commencing at the northern extremity of the coast line:—

##### *Tweed River.*

The rocks at the entrance to the eastern channel were removed by blasting during November, and some wreckage was blown up, the total cost being about £136.

A dry dock, 107 feet long x 42 feet wide x 7 feet deep at low water, is being constructed by contract at Terranora Creek, very fair progress being made. £1,355 7s. 10d. has been paid to date, the total cost, including probable extras, being estimated at £5,000. It is intended primarily for the use of dredges and other Government plant.

The sand pump dredge "Actor", which has been continuously engaged deepening and widening the channel from No. 5 to No. 2 wall, has during the past year dredged and deposited on shore 365,250 tons of sand at a cost of 1·71d. per ton, and the grab-dredge "Alpha" has cut channels through the various flats and shoals of the main river and tributaries. The "Alpha's" output has been 42,619 tons; the cost 4·21d. per ton.

A small amount of snagging has been done, and some repairs carried out to light-keeper's quarters, wharfs, &c., at a cost of £80.

##### *Byron Bay.*

Sundry repairs have been effected to the jetty and crane, and the goods shed was taken down and re-erected at a more suitable site, the cost of these works being £167.

The moorings were overhauled, and an additional set laid on the southern side at a cost of £280.

##### *Richmond River.*

North Breakwater.—This breakwater has been extended 242 feet, the tip-head being now 2,920 feet from high-water mark. The quantity of stone used was 37,290 tons, costing £6,923 13s. 3d., or 44·56d. per ton.

South Breakwater.—This breakwater has been extended 407 feet, the tip-head being now 6,553 feet from high-water mark. The quantity of stone used was 59,250 tons, costing £11,347 9s. 3d., or 45·96d. per ton.

South Training-wall.—Several subsidences which took place in this wall have been repaired, 2,998 tons of stone being used at a cost of £550 10s. 7d., or 44·07d. per ton.

Riley's Hill Quarry.—101,840 tons of stone have been quarried and loaded into punts at a cost of £10,219 11s. 8d., or 24·08d. per ton.

Two 10-ton cranes have been added to the plant at this quarry, and also an air-compressing machine for working the drill.

Work on the north breakwater was suspended on 13th April, it having been decided to concentrate all efforts in extending the south breakwater so as to check the inroads of sand which make round its end during southerly weather, and since 1 May work on the south breakwater has been carried on at night by electric light as well as during the day.

New Channel.—The work of removing the patch of indurated sand in the new channel has been proceeded with during the year, the material being broken up with dynamite, lifted into punts by dredges "Alcides" and "Zeta," and deposited behind the sand spits above Ballina, the expenditure on this work being £4,560 0s. 6d. The "Alcides," at a cost of 5·38d. per ton, lifted 83,490 tons, and the "Zeta" 28,980 tons of blasted material, cost per ton 6·44d.

An average of 100 men have been employed on the above works in connection with the improvements to the entrance of the Richmond River.

The construction of a dry dock at Riley's Hill was commenced on the 10 May. This work is being done by day-labour, and the dock is to be of the same dimensions as those now being constructed under contract on the Tweed and Clarence Rivers.

The site has been stripped to formation level, £298 8s. 4d. having been expended to date. An average number of twenty-eight men have been employed.

Removal



Removal of Rocks in Channel at Woodburn.—The work of removing these obstructions was commenced in March. The rock was first broken up with dynamite, and about 230 tons of the broken material has been lifted and conveyed in punts to Buckendoon, where it is used to protect the river bank. £681 16s. 6d. has been expended on this work, and the bulk of the material has yet to be lifted.

Snagging.—Work has been done at the following places to the amounts set opposite:—

	£	s.	d.
South Arm ... ..	1,341	18	4
North Arm ... ..	334	9	9
Dungarubba Creek ... ..	0	10	0
Leycester Creek ... ..	31	4	6
Bungawalbyn Creek ... ..	151	5	7
Wilson's Creek ... ..	47	11	8
Sandy Creek ... ..	135	0	0
	<hr/>		
	2,041	19	10

The work of constructing fascine training-walls in the South Arm was discontinued at end of November, the plant being then removed down river.

Training-wall, North Creek Canal.—A small training-wall was constructed at the northern entrance to the North Creek Canal in order to prevent shoaling there; 1,519 tons of small stone have been used at a cost of £152 13s. 9d.

New Wharfs.—The contractor for the construction of a wharf at Dungarubba commenced work in the beginning of June. One payment has been made amounting to £69 15s. 2d.

A wharf has been built by day-labour at the foot of the new road just below Oakey Creek, on the South Arm, at a cost of £96 0s. 9d.

A loading-place has been made near Tintenbar, on Emigrant Creek, 783 tons of quarry refuse being used. This work was carried out by day-labour at a cost of £117 1s.

A loading-place was made at Chilcott's Reserve, Duck Creek, at a cost of £34 0s. 7d.

Repairs to Wharfs.—Several small repairs were done to the various wharfs on the river, the total cost being £25 7s. 9d.

Repairs to Plant.—An average number of ten mechanics and three labourers have been continuously employed repairing dredges, tugs, cranes, drills, &c., fitting up new machinery, and installing electric light. The floating-plant has also been slipped and thoroughly overhauled. Dredging throughout the year has been carried out on the South Arm by the grab dredge "Mu," 51,045 tons having been lifted, at a cost of 3·40d. per ton, and principally at Duck Creek the "Lambda" dredged 15,478 tons; the cost was 7·28d. per ton.

#### Clarence River.

Goodwood Island Training-wall.—During the year, 81,708 tons of stone have been put in this wall, at a cost of 44·23d. per ton. The wall has been extended 2,725 feet, making the total length 5,550 feet.

Maintenance, Southern Breakwater.—2,213 tons of stone, at a cost of 39·08d. per ton, have been used in the maintenance of the southern breakwater.

Maintenance, South Training-wall.—66 tons of stone, costing 34·66d. per ton, have been used in the maintenance of the south training-wall.

New Quarry at Woodford Island.—The work of opening up the face of the quarry is proceeding. Two wharfs have been erected, and the lines for waggons will soon be laid, and everything got ready for the output of stone as soon as the Green Point Quarry is worked out, which will probably be in about six months time.

New Punts.—Two wooden punts, each of 100 tons capacity, were completed and handed over by the contractor in October. A contract is now in hand for the construction of four wooden punts, of 200 tons capacity each, for the sum of £4,100.

Dredging on the Clarence has been performed by the ladder-dredge "Minos" and the grab "Omega," the former removing 219,500 tons, at 2·53d. per ton, and the latter 39,545 tons, at 3·50d. per ton.

Dry Dock at Ashby.—A dry dock, having the same dimensions as the one on the Tweed River, is being constructed at Ashby, about 1 mile below Maclean. The work is being done under contract, the estimated cost, including probable extras, being about £4,750.

South Arm Rocks.—The work of cutting through this reef was resumed on 20 March, and by the end of the year, 1,165 tons of stone had been removed. The channel is now 90 feet wide and 8 feet deep at low water.

Woolgoolga Bay Jetty.—The work of putting in eleven new piles at the end of the jetty was completed, and the crane overhauled.

Coff's Harbour.—The drifting sand is causing a considerable amount of trouble at this place. Brush fences have been erected to keep the sand from blowing on to the jetty, and the water tanks from which the crane boiler is supplied have been removed further back, and a new well sunk, the sand having choked the old one. The crane received an overhaul, and the caretaker's cottage, shed, &c., were painted by contract at a cost of £13.

#### Bellinger River Improvements.

These works are being carried out under contract, the progress being as follows:—

No. 1 Wall.—1,715 tons of stone were put into this wall, extending it 24 feet, and making the total length 3,284 feet.

No. 3a Wall.—10,894 tons of stone were placed in this wall, extending it 583 feet, and making the total length 3,142 feet.

No. 5 Wall (East).—8,317 tons were used in the construction of this wall, which was commenced during the year. Its length is 1,760 feet.

Barrier Bank.—2,195 tons of stone were used in facing this bank, which is 2,500 feet long.

Payments to the amount of £4,305 6s. were made to the contractor during the year. The depth of water has increased in both the north and south channel.

The wharf at the heads was repaired at a cost of £45 8s.

The dredging at the heads has been carried out by the sand-pump "Theta," at the low cost of 1.07d. per ton. The grab "Beta" lifted 17,962 tons. The cost per ton, 7.44d., was high, owing to the expense caused by removal from Sydney, the dredge being a Sydney one temporarily employed on the Bellinger.

#### *Nambucca River Improvements.*

The output of stone at the Nambucca Heads training-wall has been 20,225 tons, and the wall has been advanced 174 feet, the total length now being 1,885 feet. Seventeen men are employed by the contractor, to whom payments amounting to £3,045 10s. 9d. have been made during the year.

A considerable amount of stone was used in raising and regrading the top of the wall, which had been damaged by a heavy sea as stated in last year's report.

A small amount of snagging was done at a cost of £14 5s.

#### *Macleay River.*

The work at the new entrance to the Macleay River is being carried out by day-labour, sixty men being employed. The output of stone has been 59,300 tons, of which 600 tons were used in making roads, and the balance, 58,700 tons, was put in the training-walls; the cost being £9,205 1s. 7d., or 37.25d. per ton. The dredging inside the entrance, by the sand-pump "Doris," cost 2.69d. per ton for 250,740 tons. Deepening the bar and approach, by the new sand-pump "Antleon," cost 2.47d. per ton for 124,750 tons, lifted from May to end of June. The ladder dredge "Fitzroy," up the river, lifted 193,920 tons, at a cost of 3.46d. per ton.

The south wall was advanced 833 feet, making the total length 1,852 feet. The north wall has been raised 2 feet for a distance of 1,180 feet, and 500 feet has been completed to high-water level, the total length being 4,450 feet.

The quarry is working well, and shows a splendid face, giving good large blocks.

The following contracts have been carried out:—

	Cost.		
	£	s.	d.
Residence for District Engineer ... ..	643	0	0
Wharf at Trial Bay ... ..	288	16	8
Repairs to wharfs generally ... ..	167	5	0
Re-grading approach to wharf at Frederickton ... ..	29	9	3
Supply of ironbark sleepers... ..	107	16	3

Repairs to wharfs have been carried out by day-labour at a cost of £48 4s. 6d.

#### *Trial Bay Harbour Works.*

These works were handed over to the Department of Justice on the 12 July. The following was the state of the work at that time:—

Total quantity of stone in breakwater ... ..	217,443 tons.
"    "    stone run to spoil ... ..	40,560 "
"    "    stripping ... ..	125,172 "

The length of the breakwater was 610 feet.

#### *Hastings River Improvements.*

The contractor for the construction of the training-wall has made steady progress during the year. Forty men have been employed, and the output of stone was 47,319 tons, extending the wall 889 feet, the total length to date being 1,725 feet. The quarry is well opened up, and shows a good face of stone. The payments made to the contractor amount to £9,181 13s. 3d., the contract price for stone being 3s. 8d. per ton.

A wharf has been constructed by contract at Ballengarra, on the Wilson River, for the sum of £293 15s., and some repairs were effected at Tacking Point Lighthouse, at a cost of £38. The sand-pump dredge "Eta," working at the various shingle and sand flats on the Hastings, dredged 168,960 tons; the cost has been 2.67d. per ton.

#### *Camden Haven Improvements.*

The works at Camden Haven are being carried out by day-labour, an average number of forty-eight men being employed. 34,231 tons of stone have been put in the south wall, extending it 1,330 feet, the total length being now 3,450 feet.

The north wall, which was commenced this year, contains 17,727 tons of stone, and is 2,075 feet in length. The total quantity of stone put in both walls for the year is 51,958 tons, costing £6,752 3s. 7d., or 31.19d. per ton. The quarry is working satisfactorily, good blocks of stone being turned out.

The new channel was broken through about the end of May, and is now navigable, and gradually improving. There is 7 feet of water on the bar.

A small amount of snagging has been done at a cost of £18 10s. 3d. The dredging required in connection with the new entrance was done by the sand-pump "Delta," and cost 1.95d. per ton.

### Newcastle District.

#### *Manning River.*

Improvements to Entrance.—These works, which have made considerable progress during the year, are being carried out by contract, an average of about fifty men being employed.

The quantity of stone put into the north training-wall was 33,960 tons, extending it 460 feet, at a cost of £6,226.

The river training-wall was extended 780 feet, the quantity of stone used being 31,606 tons, and the expenditure £3,826 6s. 2d. A viaduct was constructed in this wall, at a cost of £143 7s. 9d., to allow

allow of the area behind the wall being used as a boat harbour. The weigh-bridge and office were shifted to a more convenient position for the present work. Throughout the year the ladder-dredge "Ulysses" has worked at the different river flats, removing gravel and sand. This work, amounting to 268,870 tons, cost 2·93d. per ton.

Repairs to Wharfs.—The wharfs at Taree and Wingham have been repaired at a cost of £32 6s. 10d.

#### *Cape Hawke.*

A contract was let in August for the construction of a breakwater on the south side of the entrance to Cape Hawke Harbour. During the earlier part of the year the contractor was engaged opening up the quarry and laying tram lines, &c.

The first stone was tipped on February 16, and up to June 30 5,627 tons of stone had been put in the wall, which is now 456 feet in length. The expenditure, including cost of erecting weighbridge and office, has been £1,077 3s. 8d. An average number of thirty-one men have been employed. The sand-pump "Rho" was employed during the year at Foster and up the river. The return of work and cost shows 229,800 tons at 1½d. per ton.

#### *Port Stephens.*

Some minor repairs were effected to the light-keeper's quarters at a cost of £7 9s. 8d., and Nelson's Bay Jetty was repaired at a cost of £2 11s. 9d.

The Myall River was snagged from Broadwater to Bulladelah, the expenditure being £32 8s. 5d. The dredging of the river was carried out by the sand-pump "Sigma" and the grab "Kappa." The former dredge removing 150,200 tons, and the latter, for a few weeks at the close of the year, 3,053 tons, at 7·52d. per ton, which includes cost of dismantling and removal of plant.

#### *Newcastle Harbour.*

The breakwater and training-wall at Newcastle are being carried out by day-labour. It will be seen that there is a considerable increase in the output of stone this year, an average number of sixty-five men being employed on these works alone.

North Breakwater.—The north breakwater was extended 486 feet, 17,663 tons of stone having been placed in the wall, at a cost of £4,582 18s. 11d.

South Breakwater.—The south breakwater was extended 87 feet, 12,589 tons of stone having been put in the work, at an expenditure of £2,183 1s. 7d.

South Guide Wall.—This wall was extended 224 feet, 13,038 tons of stone being used; the expenditure was £1,878 12s. 1d.

Rock Excavation.—The "Lobnitz" rock crusher "Poseidon" completed the breaking up of 29,950 tons of rock in the channel leading into the New Basin, and the material was removed by the dredge "Hunter," the expenditure being £1,582 14s. 4d. An area of 20,833 square feet at the wool berths, Queen's Wharf, was also crushed to a depth of 3 feet, the cost being £65 10s. 1d.

The rock excavator "Cliona" completed the work of excavating 2,140 tons of rock along the front of the wharf at the entrance to the New Basin in September, at a cost of £510 4s. 8d., the material being removed by the grab dredge "Nu."

New Wharfs.—A substantial wharf, to be used for the shipment of cattle, was constructed at the north end of the New Basin, at a cost of £2,812 18s. 10d.

In order to meet the increasing demand for coal-loading appliances, it has been decided to construct 1,300 feet of wharf, to carry six hydraulic travelling cranes, on the east side of the New Basin. A contract for the first section (about 600 feet) of this wharf has been let, and the work is in hand, the expenditure, up to the 30 June, being £694 10s. 11. An order for the six hydraulic 12-ton cranes has been placed with Messrs. Sir Wm. Armstrong, Whitworth, & Co., Newcastle-on-Tyne, the estimated cost being £16,500.

Repairs to Wharfs.—The wharfs round the harbour, which measure 12,000 feet in length, were kept in good repair at a cost of £848 7s. 8d.

The Stockton ferry wharf was altered, and a floating stage fixed at a cost of £50 3s. 2d., and three dolphins were erected at Stockton for £34 2s. 9d.

General.—8,350 tons of stone ballast was obtained from ships and lighters and used on the various training-walls in Throsby Creek (west side of the New Basin) and New Island North Harbour, and also as backing for the cattle shipping wharf. In addition to this, 4,220 tons of stone ballast were stacked at the end of the dyke to be used as backing for the wharf now in course of construction on the east side of the New Basin. The average cost of this ballast, delivered on lighter or wharf, was 10d. per ton. 7,209 tons of stone ballast, discharged from vessels at the Stockton ballast jetties, were used as backing to No. 4 and No. 5 jetties.

In order to accommodate the modern class of vessels it was found necessary to provide extra depth of water close in to the front of the wharfs at the dyke. This has been done successfully at No. 10 crane by placing logs behind the front and middle piles to hold up the stone backing. Other berths will be similarly dealt with.

A schooner which had sunk in the north channel was raised and placed on the bank at the New Basin, the expenditure being £77 8s. 6d.

A crane and tram-line were erected near the Pilot Station, on the Queen's Wharf, for the use of the military authorities, at a cost of £28 18s. 3d.

Repairs were effected to the lifeboat slip and the south beacon.

A large amount of work was carried out in connection with repairs to dredges, tugs, punts, &c., and in the construction of trucks, about thirty men being constantly employed.

A total average number of 156 men are employed on day-labour works in Newcastle Harbour, exclusive of dredge employees. The quantity and cost of ladder dredging in the harbour for the year is as follows:—"Newcastle," 491,400 tons, at 2·78d. per ton; "Samson," 348,050 tons, at 3·42d. per ton; "Hunter," 303,800 tons, at 3·45d. per ton. The sand-pump dredging has been 166,200 tons by the "Juno," at 4·12d. per ton; and 626,500 tons by the "Castor," at 0·83d. per ton. The work of the grab dredge "Nu" was 24,060 tons, at 8·57d. per ton.

*Hunter*

*Hunter River.*

A levee along the river bank at East Maitland, constructed for the purpose of protecting that town in flood time, was completed in July at a total cost of £1,225 15s. 11d.

The river bank at Bolwarra is being protected by fascine and stone work, the property holders of the neighbourhood paying half the cost, which is estimated at £458 11s. 8d. Work of a similar description was carried out at West Maitland, the cost being £31 10s. 9d.

Repairs to Wharfs.—The wharf at Patterson was repaired at a cost of £16 10s. 5d.

Repairs were also effected to the Larg's Wharf and the Cemetery Wharf, Stockton, the expenditure being £14 3s. 4d. The dredging on the river flats has been done by the "Vulcan" at a cost of 4.39d. per ton; the quantity towed away was 222,100 tons.

*Lake Macquarie.*

A fascine fence 2,230 feet long was constructed at Pelican to keep back the sand which, for some years, has been encroaching on the channel at this place. The sand-pump "Gamma" dredged the channel, depositing the sand behind the fence. The cost of this work, exclusive of the dredging, was £699 13s. 8d. The dredging cost 1.29d. per ton; the quantity pumped from the channel was 240,590 tons.

Repairs were effected to Cockle Creek Wharf and also to Belmont Wharf approach.

## Sydney and South Coast District.

There is a large increase in the work done in this district as compared with last year, ninety-five works were carried out by day-labour, employing 350 men, at an expenditure of £85,420, and thirty contracts were also in hand, the payments on which amounted to £45,000.

*Circular Quay.*

Construction of Berths Nos. 9A and 9B and completion of Wharf between Berths Nos. 8B and 9A.—This work was completed by contract in December, 1898, and consists of a wharf and jetty on piles.

Two cargo sheds, Nos. 11 and 12, were erected under contract on the western side of the quay, the foundation and flooring for which had been put in by day-labour. The approaches to the new wharfs and sheds have been graded and metalled, and a retaining-wall built between Berths Nos. 8B and 9A.

Nos. 5 and 6 Berths, West side.—No. 5 berth has been extended 50 feet by contract, and extra railing put up. The cargo shed on this berth has also been extended 68 feet. An iron fence has been erected enclosing No. 6 berth.

Jetties.—The shed accommodation at Watson's Bay (No. 1) jetty has been increased, and the Manly (No. 2) jetty has been extended 30 feet.

General.—The wood-blocked portion of the roadway has been repaired at the worst places, and the metalled portions have also been kept in order. Minor repairs have been effected to the various jetties, wharfs, and stores.

The expenditure in connection with works carried out at the Circular Quay has been £20,742. An average number of 10 men have been employed on day-labour works.

*Fort Macquarie and Dawes' Point.*

The horse-ferry dock at Fort Macquarie was completed by contract early in the year and is now in use, the expenditure, including the cost of erecting a waiting shed, was £2,239 15s. 6d.

The construction of a similar dock at Dawes' Point has been commenced. The work is being carried out by contract for the sum of £4,394 7s. 9d.

*Woolloomooloo Bay.*

Berths Nos. 1 and 2, Eastern side.—In October a contract was let for the construction of Berths Nos. 1 and 2 for £7,567 2s. 8d. The work is now approaching completion. A considerable amount of work has been done by day-labour, principally in alterations to the retaining-wall at the back of the wharf.

A contract has been let for the construction of two cargo sheds at Berths Nos. 1 and 2, the contract sum being £7,693.

A large cargo store, No. 5, has been erected by contract at the rear of Berths Nos. 3 and 4 on the eastern side at a cost of £5,277 14s. 4d.

Cowper Wharf.—A new weighbridge, with offices, &c., has been erected and the iron railings and gates at the western end have been altered in position to make room for the construction of new offices.

The jetty has been repaired with new girders, decking, and braces, and sundry repairs have been carried out to wharfs, sheds, &c.

The total expenditure at Woolloomooloo Bay for the year has been £14,579 14s. 7d., and forty men have been employed for six months on day-labour works.

*Darling Island.*

The works at this place are being carried out by day-labour.

Good progress has been made with the construction of the concrete wharf wall. A length of 1,100 feet is now completed, the average height being 40 feet.

1,129 blocks containing 13,961 cubic yards of concrete were moulded and fixed in place. 17,500 tons of hand-packed ballast, and 123,614 tons of ballast and earth filling, have been placed behind the wall.

A description of the method of building this wall was given in last year's report.

A new berth, about 300 feet long, has been constructed at the southern end of the island, the material used being timber.

The ferry landing-place has been extended.

An average number of eighty-three men have been employed, and the expenditure has been £26,257 11s. 2d.

*Miscellaneous Works—Sydney Harbour.*

At Pyrmont a retaining-wall is being constructed along the new wharf extension, a waiting-shed for ferry-passengers has been erected, and the coal-jetties have been repaired.

Wharfs have been constructed by day-labour at Allen-street, White Bay, and Erskine-street, and by contract at Cockatoo and Drummoyne.

Alterations and repairs have been effected to the following wharfs:—Augustus-street, Orient Company's, Leichhardt, Blackwattle Bay, Rushcutters' Bay, Cabarita, Gladesville, Watson's Bay, Cockatoo, Dundas, and Abbotsford.

An average of twelve men have been employed by day-labour during the year in building and repairing wharfs in Sydney Harbour.

A staff of six divers and their attendants have been employed as follows:—

The work of deepening the berths in front of Pyrmont Wharf was completed early in the year.

The moorings of the "Sobraon" were overhauled, and those at the Quarantine Station renewed.

Various under-water foundations, &c., have been examined and reported on, and sunken vessels raised, &c.

The grab-dredge "Chi" was variously employed in connection with diving and blasting rock. The material lifted was 7,920 tons, the cost 13·58d. per ton. The "Pi" lifted 35,070 tons at a cost of 13·76d. per ton.

*Shea's Creek Canal.*

The principal work done here has been the maintenance of the slopes above Ricketty-street and the continuation of the pitching of the slopes below that point, a length of 2,200 feet having been pitched. The ground below Ricketty-street has been formed and graded.

A grab-dredge was employed deepening the lower portion of the canal during the first half of the year.

Two new wharfs have been erected.

*Cook's River.*

The dredging by the sand-pump "Neptune" has been continued during the year between Shea's Creek and Botany, the material being pumped on to the resumed area on the left bank of the river. 307,040 tons were so dealt with at a cost of 2·16d. per ton.

The dredge "Omicron" has been working above the dam, and the material dredged has been deposited on the resumed land on the northern side of the river. The quantity dredged was 78,618 tons; the cost, 2·05d. per ton.

A training bank, faced with ballast, has been constructed from the railway embankment to the new dam.

The wharfs at Lord's Road and Cook's River Road have been put in repair.

An average number of fifty-four men have been employed on day-labour works at Shea's Creek and Cook's River during the year.

*Hawkesbury River.*

A wharf has been built at Newport, the cost being £549 19s. 2d., and one is now being constructed at Tuggerah Lake. The wharfs at Mangrove Creek, Sackville Reach, and Colo have been repaired. The sand-pump "Sigma" has just started work at Mangrove Creek, and has dredged and deposited 4,320 tons of clay and silt.

*Shellharbour.*

The concrete breakwaters were lengthened towards the shore, fifteen men being employed for four months. The expenditure was £486 10s.

*Shoalhaven.*

Dredging has been the only work carried out during the year at Shoalhaven, the ladder-dredge "Archimedes" having dredged 203,030 tons. The cost was 4·36d. per ton.

*Moruya River.*

The training-wall from the tower bridge to Deloski's Creek has been continued, being now 6,538 feet in length, and the northern bank of the river at the same place has been protected, 33,685 tons of stone having been used altogether. Fifty-one men and eighteen teams are employed in connection with this work, which is being carried out by day-labour, the expenditure for the year being £5,628 13s. 2d.

The sand pump "Tau" has been engaged dredging along the training-wall, and depositing the material lifted behind it; 170,420 tons have been dealt with at a cost of 2·19 pence per ton.

A wharf has been constructed, under contract, near the township of Moruya.

*Miscellaneous—South Coast.*

George's River.—Wharves have been erected at Lugano Ferry, Rocks Point, Sans Souci, Sandringham, Como, Coman's Point, and Kurnell.

Lake Illawarra.—A jetty was erected, under contract, at Kanahooka Point, and a boat channel was cut by day-labour at the entrance to Mullet Creek—thirty men being engaged on this work for three weeks.

Kiama Harbour.—A pierhead has been built on the western side and a new fender placed round the "basin," an average of ten men having been employed by day labour on the above work for six months.

Minor repairs have been effected to wharfs, &c., at Botany, Wollongong, Ulladulla, Bateman's Bay, Bermagui, and Eden, an average of four day-labour men being employed during the year.

### Darling and Murrumbidgee Rivers.

Bourke Wharf.—The wharf at Bourke was completed, under contract, in October at a cost of £4,454 4s. 5d. Three steam cranes have since been erected; also an office and store-room.

Darling River Snagging.—The snagging of the River Darling, a day-labour work employing sixty-one men, was continued during the year. Two gangs were engaged on the lower portion of the river, from 40 to 190 miles above Wentworth, until January; one gang being then removed to Wilcannia, and working between that place and Menindie, cleared 30 miles of river. Another gang has been working from Wilcannia towards Louth, and has partially cleared 40 miles of the river.

A length of 132 miles from Bourke to beyond Louth has been cleared of snags and rocks, and the dead timber on the banks has been burnt off.

The Bourke and Brewarrina section, a length of 132 miles, has been completed; most of the work on this section was, however, done before July, 1898.

The total length of river between Brewarrina and Wentworth that has been freed of snags and other obstructions to navigation since the work was begun in March, 1897, is 533 miles.

Murrumbidgee River Snagging.—Twenty men have been employed here during eight months of the year, and a distance of 79 miles of the river below Hay has been cleared of snags.

In connection with the snagging of the Darling and Murrumbidgee Rivers, it is pleasing to be able to state that letters have been received from representative persons in the Western District, expressing great satisfaction at the way in which the work has been carried out, and the resulting improvement in the navigation of the rivers.

### Dredging.

WITH the exception of the work of the sand-pump "Jupiter," at Sydney Heads, 436,000 tons at 2.08d. per ton; the "Groper" (reclaiming at Rozelle Bay), 306,590 tons at 2.59d. per ton; and the "Sydney" (deepening at Sydney wharfs), 293,450 tons at 5.81d. per ton, all the dredging carried out has been described under the headings of district work, as well as in the tabulated statements attached to this report; but the important results obtained by working the new self-loading bar sand-pump "Antleon," and the large land-reclaiming sand-pump "Castor," demand more than a passing notice. Hitherto no attempt to deepen, by dredging, sea bars having only 5 feet of water on them, has, as far as I am aware, been made either in Europe or America—all the bars dealt with having sufficient depth to float a dredge drawing 8 feet. To overcome the difficulty, I took advantage of the latest improvements in boilers, engines, pumps, and steel shipbuilding, and had the twin-screw dredge "Antleon" constructed to load herself with 250 tons of sand on a rough bar when steaming slowly over it, and to draw, when so loaded, only 5 feet of water, with a speed of  $9\frac{1}{4}$  knots. No pump dredge of this size with such a draft has ever been built before; and it is gratifying to report that the experiment has been entirely successful, no less than 2,000 tons of sand having been pumped in eight hours from the crown of a shallow and tortuous sea bar where there had been only 5 feet of water previously.

The work performed at Newcastle by the large sand-pump "Castor" is scarcely less important, although in a different direction to that of the "Antleon." The "Castor" has been fitted with a pump, driven by engines of 900 horse-power, and, on a pumping test extending over 202 hours actual pumping; has sent on shore, through 600 feet of 30-inch piping, 138,000 tons of sand at the low annual cost, including all expenses and repairs, of 0.83d. per ton. The future work of this vessel will be to pump on to the new island being formed above the North Harbour all the silt (12,000 tons per day) which the ladder dredges, working two shifts, can lift instead of towing it to sea. Dredges at Newcastle will now no longer be idle during stormy weather, and in a short time the work of reclamation will be sufficiently advanced to permit of jetties being erected at the new island for mooring either light or laden ships, and thus largely increasing the available accommodation for shipping in Newcastle harbour.

## STATEMENT of Ladder Dredge Expenditure and Work for twelve months ended 30 June, 1899.

Ladder Dredge.	Where dredging.	Material lifted.	Tons.	Hours dredging.	Hours working.	Expenditure.	Cost per ton.	Cost per hour dredging.	Cost per hour working.	Percentage of working hours.							Remarks.
										Dredging.	Coaling.	Removals.	Bad weather.	Waiting for punks.	Repairs.	Other causes.	
"Samson" .....	Newcastle .....	Mud, sand, rock, &c...	348,050	1,764	2,718	£ s. d. 3,651 6 4	d. 2'51	£ s. d. 2 1 4	£ s. d. 1 7 0	65	2	5	9	5	13	1	Extensive repairs.  Removed Sydney to Richmond River. Lifting hard material.
"Sydney" .....	Sydney .....	Mud, sand, sewage, rock.	293,450	1,654	2,760	5,253 14 7	4'29	3 3 6	1 18 1	59	1	8	1	10	20	1	
"Newcastle" .....	Newcastle .....	Mud .....	491,400	1,938	2,745	4,149 2 0	2'02	2 2 9	1 10 3	71	1	6	12	1	9	0	
"Hunter" .....	do .....	Mud, sand, and rock..	303,800	2,117	2,731	3,256 4 5	2'56	1 10 9	1 3 5	76	2	5	5	1	11	0	
"Vulcan" .....	Hunter River .....	Sand and mud .....	222,100	1,858	2,714	2,543 19 1	2'79	1 7 9	0 19 0	68	1	9	7	7	7	1	
"Alcides" .....	Sydney Harbour and Richmond River.	Indurated sand & mud	125,350	1,707	2,677	2,809 17 4	5'38	1 12 11	1 1 0	64	4	16	1	5	10	0	
"Ulysses" .....	Manning River .....	Shingle .....	268,870	1,953	2,756	2,328 18 1	2'08	1 3 10	0 16 11	71	2	6	1	0	18	2	
"Fitzroy" .....	Macleay River .....	Clay, stone, & shingle	193,920	1,631	2,741	2,058 9 7	2'54	1 5 2	0 15 0	60	3	13	0	2	18	4	
"Minos" .....	Clarence River .....	Mud and sand .....	219,500	1,804	2,731	2,329 0 11	2'55	1 5 9	0 17 1	66	2	17	0	1	13	1	
"Archimedes" .....	Shoalhaven .....	Sand .....	203,030	1,842	2,770	2,478 11 2	2'93	1 6 11	0 17 10	66	4	4	2	8	14	2	
"Charon" .....	Sydney .....	Rock, mud, and sand.	159,590	1,526	2,004	1,853 2 1	2'78	1 4 3	0 18 6	76	1	6	...	2	14	1	
Totals .....			2,829,060	19,794	29,397	32,752 5 7				67	2	9	3	4	14	1	
Averages .....							2'77	1 13 1	1 2 3	67	2	9	3	4	14	1	

## STATEMENT of Sand-pump Dredge Expenditure and Work for twelve months ended 30 June, 1899.

Sand-pump Dredge.	Where pumping.	Material lifted.	Estimated tons lifted.	Hours pumping.	Hours working.	Expenditure.	Cost per ton pumping.	Cost per hour pumping.	Cost per hour working.	Percentage of working hours.							Remarks.
										Pumping.	Coaling.	Removals.	Bad weather.	Silt to sea.	Repairs.	Other causes.	
"Neptune" .....	Cook's River .....	Sand .....	307,040	1,919	2,768	2,772 10 0	2'16	1 8 11	1 0 0	69	3	14	0	...	13	1	Material pumped very long distance. Commenced work 23 October, 1898, after alterations. Deposited at sea and harbour depôts. Commenced work, after trials and alterations, 19 Mar., 1899.
"Juno" .....	Newcastle .....	do .....	166,200	1,662	2,713	2,857 9 2	4'12	1 14 5	1 1 1	61	1	12	0	...	26	0	
"Castor" .....	Newcastle .....	do .....	626,500	895	2,564	2,171 3 3	0'83	2 8 7	0 16 11	35	1	17	0	...	46	1	
"Jupiter" .....	Sydney Heads .....	do .....	436,000	649	2,793	3,781 4 1	2'08	5 16 6	1 7 1	24	6	0	4	52	14	0	
"Antleon" .....	Sydney, Port Hacking, and Macleay.	do .....	139,000	284	1,195	1,433 19 3	2'47	5 1 0	1 4 0	24	8	6	2	32	23	5	
"Actor" .....	Tweed Heads .....	do and shell .....	365,250	1,461	2,712	2,603 10 0	1'71	1 15 8	0 19 2	54	4	16	0	...	24	2	
"Alesus" .....	Nambucca Heads .....	do and clay .....	250,320	1,788	2,752	2,435 6 3	2'33	1 7 2	0 17 8	65	2	21	0	...	11	0	
"Dorus" .....	Macleay River Heads .....	do mud, clay .....	250,740	1,393	2,790	2,604 16 9	2'49	1 17 3	0 18 8	50	3	19	1	...	25	2	
"Dictys" .....	Ballina .....	do .....	412,950	1,222	2,664	2,682 9 7	1'55	2 3 11	1 0 2	46	3	20	2	...	22	7	
"Groper" .....	Sydney .....	do mud, clay .....	306,590	2,028	2,792	3,317 18 4	2'59	1 12 8	1 3 9	73	0	10	...	...	13	4	
Totals .....			3,260,590	13,301	25,743	26,660 6 8				50	3	14	1	8	22	2	
Averages .....							1'96	2 0 1	1 0 8	50	3	14	1	8	22	2	

STATEMENT of Combined Grab and Sand-pump Dredge Expenditure and Work for twelve months ended 30 June, 1899.

Grab and Sand-pump Dredge.	Where pumping.	Material lifted.	Estimated tons lifted.	Hours pumping.	Hours working.	Expenditure.	Cost per ton.	Cost per hour pumping.	Cost per hour working.	Percentage of working hours.							Remarks.	
										Pumping.	Coaling.	Removals.	Bad weather.	Silt to sea.	Repairs.	Other causes.		
						£ s. d.	d.	£ s. d.	£ s. d.									
"Gamma"	Lake Macquarie	Sand and mud	240,590	2,036	2,787	1,296 17 3	1'29	0 12 8	0 9 3	73	3	14	1	...	8	1	Pumping stiff mud at Hawkesbury River.	
"Delta"	Camden Haven	Sand	200,800	2,510	3,039	1,637 11 11	1'05	0 13 1	0 10 9	83	0	8	0	...	6	3		
"Eta"	Port Macquarie	do	148,960	1,862	2,719	1,602 16 7	2'07	0 17 10	0 12 2	68	2	10	0	...	17	3		
"Theta"	Bellinger River	do	397,300	1,891	3,089	1,774 6 6	1'07	0 18 9	0 11 6	61	1	14	...	...	21	2		
"Sigma"	Myall River and Hawkesbury River.	do and shell and mud	154,520	1,645	2,709	1,445 10 8	2'24	0 17 6	0 10 8	61	2	23	...	...	14	0		
"Rho"	Cape Hawke	Sand	229,800	1,532	2,702	1,392 7 2	1'45	0 18 2	0 10 4	57	2	18	1	...	18	4		
"Tau"	Moruya River	do	170,400	1,136	2,649	1,553 7 11	2'19	1 7 4	0 11 9	43	3	24	0	1	26	3		
		Totals	1,542,370	12,612	19,694	10,762 18 0												
	Averages						1'67	0 17 1	0 10 11	64	2	16	0	0	16	2		

STATEMENT of Grab Dredge Expenditure and Work for twelve months ended 30 June, 1899.

Grab Dredge.	Where dredging.	Material lifted.	Tons dredged.	Hours dredging.	Hours working.	Expenditure.	Cost per ton.	Cost per hour dredging.	Cost per hour working.	Percentage of working hours.							Remarks.
										Dredging.	Coaling.	Removals.	Bad weather.	Waiting punts.	Repairs.	Other causes.	
						£ s. d.	d.	£ s. d.	£ s. d.								
"Alpha"	Twced River	Sand and mud	42,649	999	2,653	747 16 9	4'21	0 15 0	0 5 8	38	15	19	1	0	27	0	Repaired and removed, Sydney to Bellinger River.
"Beta"	Sydney and Bellinger	Sand, rock, clay	23,072	1,837	2,717	780 19 10	8'12	0 8 6	0 5 9	68	1	14	1	0	12	4	
"Zeta"	Richmond River	Sand and silt	28,980	1,897	2,728	773 15 8	6'44	0 8 2	0 5 8	70	2	9	1	2	15	1	Repaired and removed, Hunter River to Myall River.
"Tota"	Nambucca River	Gravel	56,825	1,765	2,712	565 13 0	2'39	0 6 5	0 4 2	65	1	4	...	...	27	3	
"Kappa"	Hunter River and Myall River.	Sand and mud	29,318	1,173	2,592	918 15 8	7'52	0 15 8	0 7 1	45	3	21	2	8	16	5	
"Lambda"	Richmond River	Mud, clay, and shell	15,478	1,502	2,744	470 6 5	7'28	0 6 3	0 3 5	55	1	9	1	...	12	22	
"Mu"	do	Sand and clay	51,045	1,820	2,393	723 6 1	3'40	0 7 11	0 6 1	76	2	8	4	...	10	...	
"Nu"	Newcastle	Rock, sand, and shell	24,060	2,313	2,963	779 0 10	7'77	0 6 9	0 5 3	78	1	5	1	3	10	2	
"Omicron"	Cook's River	Sand and mud	78,618	2,250	2,813	673 12 6	2'05	0 6 0	0 4 9	80	2	10	...	...	8	0	
"Pi"	Sydney	Sand, mud, clay	35,070	2,080	2,795	1,025 5 1	11'12	0 15 7	0 11 7	74	1	7	...	3	13	2	Extensive overhaul. Removed, Cook's River to Sydney, and repaired—lifting rock.
"Chi"	Cook's River and Sydney...	Clay, sand, and rock	27,728	1,675	2,764	926 3 7	8'01	0 11 1	0 6 8	60	1	8	1	6	19	5	
"Omega"	Clarence River	Sand, mud, rock	39,545	1,463	2,656	577 1 9	3'50	0 7 11	0 4 4	55	1	12	...	...	17	15	
		Totals	452,388	20,774	32,530	9,561 18 2											
	Averages						5'07	0 9 2	0 5 11	64	2	10	1	2	16	5	



STATEMENT of Tug Expenditure and Work for twelve months ending 30 June, 1899.

Tug.	Where employed.	Tons towed.	Miles run towing.	Miles run special service.	Total working hours.	Hours attending.	Cost of towing.	Cost of special service.	Cost per ton.	Cost per mile towing.	Cost per mile special service.	Cost per hour working.	Cost per hour attending.	Percentage of time.					Remarks.
														Steam.	Coal.	Repairs.	Weather.	Other causes.	
"Thetis" .....	Sydney .....	128,480	7,171	5,574	3,700	3,159	£ s. d. 1,518 14 6	£ s. d. 1,714 3 10	pence. 2'83	pence. 50'82	pence. 73'81	s. d. 17 6	s. d. 20 6	52	2	15	1	30	Foundered off Red Head, near Newcastle, 16th Dec., 1898.  Extensive repairs.
"Ceres" .....	Newcastle .....	345,280	9,920	.....	2,682	2,273	1,739 5 3	.....	1'21	42'08	...	13 0	15 4	67	2	15	9	7	
"Orestes" .....	do .....	492,850	11,032	.....	2,773	2,585	1,560 17 4	.....	0'76	33'95	...	11 3	12 1	78	2	7	10	3	
"Dawn" .....	Sydney .....	142,590	5,366	5,385	2,990	2,478	809 19 5	848 7 5	1'36	36'22	37'81	11 1	13 5	67	3	17	1	12	
"Galatea" .....	Newcastle .....	290,640	10,102	533	2,769	2,475	1,260 18 1	137 15 2	1'04	29'95	62'03	10 1	11 4	69	3	11	6	11	
"Little Nell" .....	Hunter River .....	93,630	5,744	.....	1,314	1,074	724 12 9	.....	1'86	30'28	...	11 0	13 6	73	3	18	0	5	
"Dione" .....	Manning River .....	267,720	5,963	.....	2,573	2,230	952 6 3	.....	0'85	38'32	...	7 5	8 6	60	1	13	1	24	
"Achilles" .....	Sydney and Newcastle .....	122,990	5,364	2,864	2,778	2,618	584 11 5	327 19 4	1'14	26'15	27'48	6 7	7 0	65	5	6	0	23	
"Cyclops" .....	Shoalhaven .....	203,030	7,520	301	2,813	2,533	1,216 4 6	43 13 8	1'43	38'82	34'83	8 11	9 11	75	6	10	0	9	
"Athena" .....	Sydney and Macleay .....	144,900	2,865	1,988	2,744	2,136	1,051 7 8	491 0 10	1'74	88'07	59'28	11 2	14 5	57	1	22	0	19	
"Ganymede" .....	Newcastle .....	10,520	236	3,248	2,414	2,297	26 1 2	729 17 1	0'60	26'50	53'93	6 3	6 7	29	5	5	0	61	
"Dayspring" .....	Sydney .....	45,770	1,975	7,727	2,878	2,653	196 10 1	759 6 5	1'03	23'88	23'58	6 7	7 3	61	2	8	0	28	
"Callisto" .....	Macleay River .....	153,810	2,668	.....	1,887	1,759	278 13 2	.....	0'43	25'06	...	3 0	3 2	61	2	7	0	31	
"Aurora" .....	Sydney .....	78,950	4,127	3,802	2,642	2,520	334 5 0	262 14 6	1'01	19'44	16'58	4 6	4 8	64	5	5	0	26	
"Vesta" .....	Clarence River .....	70,840	2,022	172	2,520	1,531	268 12 8	15 10 11	0'91	31'88	21'11	2 3	3 9	42	2	39	0	16	
"Octopus" .....	Sydney .....	6,530	248	5,436	2,851	2,611	23 10 7	487 5 3	0'86	22'77	21'51	3 7	3 11	88	0	7	0	4	
"Scylla" .....	Hunter River & Newcastle .....	24,480	2,975	590	2,424	1,940	247 1 5	54 18 10	2'42	19'93	22'35	2 6	3 1	48	5	20	1	25	
"Ariel" .....	Newcastle and Myall River .....	.....	.....	4,391	2,418	2,231	.....	315 2 7	...	...	17'22	2 7	2 10	59	2	8	0	31	
"Europa" .....	Sydney .....	.....	.....	5,024	2,386	2,099	.....	365 16 9	...	...	17'45	3 1	3 6	59	2	12	0	26	
Totals .....	.....	2,623,010	85,298	47,035	49,556	43,232	12,793 10 3	6,553 12 7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Averages .....	.....	.....	.....	.....	.....	.....	.....	.....	1'17	35'99	33'44	7 10	8 11	62	3	13	1	21	

COMPARATIVE Statement of quantity and cost of work done by Ladder Dredges (with towing), for periods as stated.

Ladder Dredge.	30 June, 1897, to 30 June, 1898. Dredging, Towing, and Repairing.			30 June, 1898, to 30 June, 1899. Dredging, Towing, and Repairing.			Remarks.
	Tons.	Expenditure.	Pence per ton.	Tons.	Expenditure.	Pence per ton.	
"Samson," at Newcastle .....	375,200	£ s. d. 4,682 7 1	2'99	348,050	£ s. d. 5,386 1 2	3'42	1898-9. { Richmond River ..... Tons. £ s. d. Pence per ton. { Sydney ..... 41,410 942 11 2 5'46
"Sydney," at Sydney .....	346,100	5,338 12 1	3'70	293,450	7,112 18 10	5'81	
"Newcastle," at Newcastle .....	446,600	5,662 16 3	3'04	491,400	5,703 12 8	2'78	
"Hunter," at Newcastle .....	270,780	3,744 5 5	3'32	303,800	4,366 8 8	3'45	
"Vulcan," at Hunter River .....	195,170	4,372 18 1	5'38	222,100	4,066 9 6	4'39	
"Alcides," at Richmond River and Sydney .....	93,260	3,261 13 2	8'39	125,350	3,754 16 1	7'19	
"Ulysses," at Manning River .....	271,920	3,399 12 7	3'00	268,870	3,281 4 4	2'93	
"Fitzroy," at Macleay River .....	95,900	2,543 0 9	6'36	193,920	2,798 8 1	3'46	
"Minos," at Clarence River .....	166,700	2,695 7 9	3'88	219,500	2,597 13 7	2'84	
"Archimedes," at Sydney and Shoalhaven .....	138,500	3,720 1 3	6'44	203,030	3,694 15 8	4'36	
"Charon," at Sydney .....	.....	.....	.....	159,590	2,579 3 8	3'87	

STATEMENT of comparative quantity and cost of work done by Sand-pump Dredges (with towing), for periods as stated.

Sand-pump Dredge.	30 June, 1897, to 30 June, 1898.			30 June, 1898, to 30 June, 1899.			Remarks.																														
	Dredging, Depositing, and Repairs.			Dredging, Depositing, and Repairs.																																	
	Tons.	Expenditure.	Pence per ton.	Tons.	Expenditure.	Pence per ton.																															
		£ s. d.	d.		£ s. d.	d.																															
"Neptune," at Cook's River and Bateman's Bay .....	340,867	3,759 3 5	2'64	307,040	2,798 17 9	2'19																															
"Juno," at Newcastle .....	242,706	3,297 6 8	3'26	166,200	2,857 9 2	4'12																															
"Jupiter," at Macleay River and Sydney .....	353,080	4,188 2 3	2'84	436,000	3,781 4 1	2'08																															
"Castor," at Newcastle .....				626,500	2,171 3 3	0'83																															
"Antleon," at Sydney, Port Hacking, and Macleay River .....				139,000	1,434 7 6	2'47	1898-1899.																														
							<table border="0"> <tr> <td>Sydney .....</td> <td>{ on trial and }</td> <td>Tons.</td> <td>£ s. d.</td> <td>Pence per ton.</td> </tr> <tr> <td>Port Hacking .....</td> <td>{ alterations. }</td> <td>14,250</td> <td>543 14 10</td> <td>9'16</td> </tr> <tr> <td>Macleay .....</td> <td></td> <td>124,750</td> <td>890 12 8</td> <td>1'76</td> </tr> <tr> <td>Lifted on Macleay Bar .....</td> <td></td> <td>77,000</td> <td></td> <td></td> </tr> <tr> <td>Lifted in Macleay River.....</td> <td></td> <td>47,750</td> <td></td> <td></td> </tr> <tr> <td>Total .....</td> <td></td> <td>124,750</td> <td></td> <td></td> </tr> </table>	Sydney .....	{ on trial and }	Tons.	£ s. d.	Pence per ton.	Port Hacking .....	{ alterations. }	14,250	543 14 10	9'16	Macleay .....		124,750	890 12 8	1'76	Lifted on Macleay Bar .....		77,000			Lifted in Macleay River.....		47,750			Total .....		124,750		
Sydney .....	{ on trial and }	Tons.	£ s. d.	Pence per ton.																																	
Port Hacking .....	{ alterations. }	14,250	543 14 10	9'16																																	
Macleay .....		124,750	890 12 8	1'76																																	
Lifted on Macleay Bar .....		77,000																																			
Lifted in Macleay River.....		47,750																																			
Total .....		124,750																																			
"Actor," at Tweed Heads .....	320,375	2,391 10 7	1'79	365,250	2,603 10 0	1'71																															
"Alesus," at Nambucca Heads .....	262,065	3,074 13 0	3'04	250,320	2,436 16 3	2'33																															
"Dorus," at Macleay Heads .....	288,958	4,525 11 1	3'75	250,740	2,604 16 9	2'49																															
"Dictys," at Richmond River .....	414,000	2,813 16 2	1'63	412,950	2,632 9 7	1'56																															
"Groper," at Sydney .....	514,556	4,210 19 11	1'96	306,590	3,317 8 4	2'59																															

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STATEMENT of comparative quantity and cost of work done by combined Grab and Sand-pump Dredges (with towing), for periods as stated.

Combined Grab and Sand-pump Dredges.	30 June, 1897, to 30 June, 1898.			30 June, 1898, to 30 June, 1899.			Remarks.															
	Dredging, Depositing, and Repairs.			Dredging, Depositing, and Repairs.																		
	Tons.	Expenditure.	Pence per ton.	Tons.	Expenditure.	Pence per ton.																
		£ s. d.	d.		£ s. d.	d.																
"Gamma," at Lake Macquarie .....	72,793	667 10 0	2'20	240,590	1,296 17 3	1'29																
"Delta," at Camden Haven .....	144,207	1,600 18 0	2'66	200,800	1,637 11 11	1'95																
"Eta," at Port Macquarie .....	105,533	1,471 0 11	3'34	148,960	1,710 11 1	2'75																
"Theta," at Bellinger .....	270,100	1,501 2 9	1'33	397,300	1,788 16 6	1'08																
"Sigma," at Myall River and Hawkesbury River .....	100,575	1,519 19 4	3'63	154,520	1,643 10 3	2'55	1898-1899.															
							<table border="0"> <tr> <td>Myall River.....</td> <td>{</td> <td>Tons.</td> <td>£ s. d.</td> <td>Pence per ton.</td> </tr> <tr> <td>Hawkesbury River.....</td> <td>}</td> <td>150,200</td> <td>1,398 8 1</td> <td>2'23</td> </tr> <tr> <td></td> <td></td> <td>4,320</td> <td>245 2 2</td> <td>13'62</td> </tr> </table>	Myall River.....	{	Tons.	£ s. d.	Pence per ton.	Hawkesbury River.....	}	150,200	1,398 8 1	2'23			4,320	245 2 2	13'62
Myall River.....	{	Tons.	£ s. d.	Pence per ton.																		
Hawkesbury River.....	}	150,200	1,398 8 1	2'23																		
		4,320	245 2 2	13'62																		
"Rho," at Cape Hawke and Manning River .....	216,875	1,584 14 0	1'75	229,800	1,405 7 2	1'47																
"Tau," at Moruya .....	195,498	1,539 3 5	1'89	170,400	1,553 7 11	2'18																

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COMPARATIVE STATEMENT of quantity and cost of work done by Grab Dredges (with towing), for periods as stated.

Grab Dredge.	30 June, 1897, to 30 June, 1898.			30 June, 1898, to 30 June, 1899.			Remarks.
	Dredging, Depositing, and Repairs			Dredging, Depositing, and Repairs			
	Tons	Expenditure	Pence per ton	Tons	Expenditure	Pence per ton	
		£ s. d.	d.		£ s. d.	d.	
"Alpha," at Tweed River .....	41,230	702 7 5	4 08	42,649	768 16 9	4'32	1898-9. tons. { Sydney ... .. 5,110 330 8 2 { Bellinger River ..... 17,962 556 13 3
"Beta," at Sydney and Bellinger River .....	19,760	1,252 15 0	15'21	23,072	887 1 5	9'22	
"Zeta," at Richmond River .....	7,070	543 8 11	18 44	28,980	774 12 1	6 42	{ Hunter River ..... 26,265 1,025 9 10 { Myall River ..... 3,053 223 0 4
"Iota," at Nambucca River .....	59,015	559 15 11	2 27	56,825	565 13 0	2 38	
"Kappa," at Hunter River and Myall River .....	34,290	756 13 0	5 29	29,318	1,248 10 2	10 22	
"Lambda," at Richmond River .....	13,535	441 6 6	7 83	15,478	470 6 5	7 29	
"Mu," at Richmond River... ..	40,449	758 13 0	4'50	51,045	723 6 1	3'40	
"Nu," at Newcastle ... ..	22,538	863 8 5	9 19	24 060	859 16 5	8'57	
"Omicron," at Cook's River .....	38,650	751 15 7	4 67	78,618	673 12 6	2 05	
"Pi," at Sydney ... ..	21,505	1,379 4 5	15 98	35,070	2,010 10 5	13'76	
"Chi," at Sydney and Cook's River, .....	50,881	1,280 0 3	6 03	27,728	929 5 4	8'04	{ Cook's River ..... 19,803 481 2 2 { Sydney ..... 7,920 448 3 2
"Omega," at Clarence River .....	15,337	677 14 5	10 60	39,545	591 1 9	3 58	

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AVERAGE Cost of Dredging and Towing, for periods as stated.

Class of Dredge	30 June, 1897, to 30 June, 1898.						30 June, 1898, to 30 June, 1899.									
	Tons dredged.	Hours dredging.	Dredging only			Dredging and Towing.			Tons dredged.	Hours dredging.	Dredging only.			Dredging and Towing.		
			Expenditure	Average cost per ton	Average cost per hour	Expenditure	Average cost per ton.	Expenditure.			Average cost per ton	Average cost per hour.	Expenditure.	Average cost per ton.		
			£ s. d.	d.	£ s. d.	£ s. d.	d.			£ s. d.	d.	£ s. d.	£ s. d.	d.		
Ladder .....	2,405,730	16,143	30,258 2 4	3'02	1 17 6	39,667 2 11	3 95	2,829,060	19,794	32,752 5 7	2'77	1 13 1	45,341 12 3	3'85		
Sand-pump .....	2,736,607	10,758	27,785 18 7	2 43	2 11 8	28,261 3 1	2 44	3,260,590	13,301	26,660 6 8	1 96	2 0 1	26,688 2 8	1 96		
Grab and Sand-pump .....	1,105,581	10,807	9,432 11 2	2 05	0 17 5	9,884 8 9	2'15	1,542,370	12,612	10,762 18 0	1 67	0 17 1	11,026 2 1	1'71		
Grab .....	364,260	18,685	8,687 2 5	5 72	0 9 4	9,967 2 10	6 59	452,388	20,774	9,561 18 2	5'07	0 9 2	10,502 12 4	5'57		
	6,612,178	56,393	76,163 14 6	2'76	1 7 0	87,779 17 7	3 18	8,084,408	66,481	79,737 8 5	2 36	1 3 11	93,558 9 4	2 79		

### Floating Plant.

A wooden screw steamer named the "Powerful" is being constructed by day-labour from designs prepared in this office. This vessel is 90 feet in length by 22 feet beam by 6 ft. 6 in. deep, and is intended for general use in Newcastle Harbour. She is practically completed, and is estimated to cost £3,000.

The construction of a wooden screw steamer, the "Phoenix," was carried out by contract, the cost being £2,500. This vessel is intended for use in the Dredge Service.

A steel screw steamer, the "Dooribang," 85 feet by 20 feet by 8 feet, and of 250 effective horse-power, is being constructed by day-labour at Fitzroy Dock. She is now nearly completed, the estimated cost being £5,000.

A wooden screw steam launch, the "Sol," 50 feet by 10 feet by 5 feet, was constructed by day-labour at the Fitzroy Dock, the cost being £1,420. She is intended for the use of the Marine Board.

Two ash punts have been built by contract for the use of the Naval Depot at Garden Island, the contract sum being £300.

A wooden pontoon, 54 feet by 26 feet by 4 ft. 6 in., has been built at Fitzroy Dock for use on the works at Darling Island, the cost being £450.

Two relieving pontoons for ferry landings are being constructed, the contract price being £898 10s.

Five small pontoons for dredge and survey work were constructed at a cost of £220.

### Lighthouses.

South Solitary.—The work of constructing new yard doors and laying on electric bells at this lighthouse is being carried out by day-labour; the cost is estimated at £30.

South Head.—A contract was let in April for repairing the Macquarie light-keeper's quarters and adding two rooms thereto, the estimated cost being £309. The work is now approaching completion.

The work of repairing the flagstaff and repainting internally the signalman's quarters was completed by contract for the sum of £60.

The Hornby light-keeper's quarters were painted internally and the flagstaff repaired, the work being done by contract for £160.

Point Perpendicular.—The contract for the erection of this lighthouse was completed on 17 March, and the official opening by the Marine Board took place on the 1 May.

The contract included the erection of a wharf, and some extra work was done, including a new telegraph office, the total cost being £16,280 17s. 11d.

## (2.) WATER SUPPLY.

### Metropolitan.

Centennial Park Reservoir.—Contract No. 3 was completed on 16 October, and the reservoir has been in use since that date. Contract No. 4 was for the erection of a light iron fence round the top as a prevention against accident.

About 8 acres of land surrounding the reservoir have been levelled and turfed by day-labour, fifteen men being employed for five months at a cost of £586 2s. 8d. The expenditure on work in connection with this reservoir for the year was £3,962 2s. 3d. The total cost has been £69,275 2s.

Duplication of 6-foot Pipe Line.—This work, which consists in laying a 6-foot steel main between the Pipe Head Basin and Pott's Hill Reservoir, a distance of 4½ miles, is being carried out under two contracts, one for all the ironwork, and the other for all other work, such as excavation, brickwork, concrete, etc. The work is approaching completion, the expenditure for the year amounting to £64,830 15s. 9d.

### Country Towns.

#### *Works under Construction.*

Tamworth.—The whole of the works in connection with the Tamworth supply have been completed and handed over to the Council. They were carried out entirely by day-labour.

Mudgee.—The works in connection with Mudgee which were carried out by day-labour have been completed. In connection with this scheme, Marks' Creek, an adjoining catchment, has been tapped and diverted into the storage reservoir. This has been done by means of a small concrete pipe, head dam, and about half a mile of 18-inch diameter earthenware pipes laid on a hydraulic gradient. A caretaker's cottage has also been added to the scheme.

Cootamundra.—The construction of the storage dam by day labour at Cootamundra has been completed. Owing to the exceptionally dry season experienced, a sufficient supply of water has not yet been caught, and the works have not yet been handed over to the Council.

Wellington.—The construction of the scheme for the supply of Wellington was put in hand during the year. The works, consisting of a storage dam, steel-pipe main, and reticulation, have all been carried out by day-labour, and are now nearing completion. The water in the storage dam will be held back by a concrete wall 45 feet in height and curved in plan to a 200-foot radius, the quantity stored being about 30,000,000 gallons. The supply is conducted into the town by means of a 7-inch diameter welded-steel main, and thence distributed direct by the usual 6-inch, 4-inch, and 3-inch diameter cast-iron reticulation pipes. The storage reservoir is situated 2½ miles from the centre of the town, and at an elevation of about 140 feet above it.

Picton.—The works in connection with the supply at Picton, consisting of a storage reservoir, service main, service reservoir, and reticulation, have been put in hand and are nearing completion. The storage reservoir is being constructed by day-labour, the remainder of the works by contract. The storage reservoir is formed by a concrete wall curved in plan to 100 feet radius and 25 feet in height across the gorge of the Bargo River, holding 14,000,000 gallons. The service main consists of 5 miles of 8½-inch

8½-inch diameter riveted-steel pipe and 3 miles of 6-inch diameter cast-iron pipe, and conducts the supply direct to the reticulation and also to the service reservoir which acts as a balancing tank. The service reservoir is circular in form, 75 feet in diameter, 15 feet deep, and contains 400,000 gallons when full. This large capacity of reservoir was constructed to allow of 200,000 gallons being drawn off during the night for the generation of electricity for street lighting purposes.

Forbes.—The great expansion of the town of Forbes during recent years has rendered necessary a corresponding increase in the means of supply and distribution. The Department carried out the extensions to the reticulation, consisting of 10 miles of 9, 8, 4, and 3-inch cast-iron pipes and service reservoir. For the purpose of increasing the capacity and head of the existing reservoir, the present floor has been utilised, as the tank occupies the highest point on the most elevated ground near Forbes, and a riveted-steel tank, 45 feet in diameter and 50 feet deep, containing 300,000 gallons, has been placed inside the existing walls. The whole of the works are in progress.

#### *Works authorised.*

Kiama.—A scheme for the water supply of Kiama has been investigated and submitted with the estimate of cost to the Municipal Council, who have undertaken the responsibilities of the work, and drawings are now in hand. The supply will be obtained from the Fountaindale Creek. This creek will be tapped by means of a small pipe head dam, and the supply conducted through 4½ miles of 5-inch diameter pipe to a service reservoir of 200,000 gallons capacity, from whence it will be distributed through the usual 6, 4, and 3-inch diameter reticulation pipes.

#### *Proposals investigated.*

Wollongong.—The question of the expediency of constructing a water supply for the town of Wollongong was referred to the Parliamentary Standing Committee on Public Works, who recommended a scheme capable of supplying, in addition, all of the villages to the north as far as Bulli and to the south to Port Kembla, the whole to be placed under the control of the Metropolitan Board of Water Supply and Sewerage.

The scheme comprised a storage reservoir of 172,000,000 gallons on the Cordeaux River, situated on the opposite side of the coastal range from Wollongong. From thence the supply will be conducted through a tunnel, ¾ of a mile in length, by means of an 8-inch pipe, and then for 5¼ miles by a 6-inch pipe to a service reservoir of 400,000 gallons capacity on the outskirts of the town. The reticulation will consist of the usual 6, 4, and 3-inch pipes.

Bowral.—A design was prepared for the water supply of Bowral, but as the rates available that could be levied under the existing Act would not meet the charges of interest and maintenance, the matter has for the time been dropped.

Tumut.—Alternative schemes by gravitation from Wall's Creek and by pumping from the Tumut River were prepared, surveys carried out, and detail estimates of cost submitted to the Tumut Council. In this case, also, the financial means of the Municipality will not meet the charges, and the matter is in abeyance.

Queanbeyan.—A preliminary investigation was made into the matter of a water supply for Queanbeyan, and a gravitation supply from the Queanbeyan River recommended. This proved to be also outside the financial means of the Municipality, and nothing further has been done.

Goulburn.—The amount of water stored in the present reservoir on the Wollondilly River having been found inadequate for the present population, owing to expansion in the town and new Government Asylums, an investigation was made with a view of increasing it. An estimate has been submitted to the Council for an additional storage that will practically double the present supply.

### (3.) WATER CONSERVATION, IRRIGATION, AND DRAINAGE.

#### (1.) The Water Rights Act.

During the year under review the applications for licenses under the Water Rights Act continued to occupy a large proportion of the attention of this Branch. As was shown in last year's report, the number of applications for licenses up till 30 June, 1898, was 557, and the number of those which had been dealt with till that date was 160. Up till 30 June, 1899, the total number of applications received had increased to 625, while the number of licenses issued up till that date was 351. While the great majority of the applications relate to dams on creeks and rivers, it is worthy of special note that sixty-six were for pumping machinery. With a few exceptions the object of these pumping-engines is to raise water for irrigation.

The beneficial effects of the Water Rights Act have already shown themselves in two important points. Unreasonable objections to the construction of dams and other works for the conservation of water have practically ceased to be raised. As a consequence of this, landholders are now taking up the construction of dams in places where it was formerly unsafe to do so, and the dams now being constructed are of a considerably improved type. This is specially noticeable in the country between the Murrumbidgee and the Murray. As might naturally have been expected, it was some time before Section 4 of the Water Rights Act came to be known and understood by persons who were willing to take combined action towards paying interest on the cost of useful works. The initial difficulties appear to be overcome, as several petitions requisitioning that works should be constructed under the provisions of this Section have been received, and are being dealt with.

A map of the Colony showing, amongst other information, the position of all the works which had been or were being dealt with up till 30 June, 1899, is appended to this report.

## (2.) River Murray.

The Minister having sanctioned the final survey, and marking out of the proposed Murray canal system with a view to the preparation of an estimate, the work has been put in hand. As the survey for the head-work and for the first 2 miles of the main canal necessitated a considerable amount of work in the Colony of Victoria, it was necessary to obtain the sanction of the Victorian Government for this part of the work. The sanction was duly obtained, and two survey parties and one boring party entered on the work, which is now making satisfactory progress.

The framing of Regulations in connection with the irrigation area at Wentworth was considerably delayed owing, chiefly, to the novelty of the circumstances. Largely in consequence of the delay, which was unavoidable, a number of intending settlers, who waited for some time for the opening of the irrigation area for settlement, went elsewhere. The result of this was that only five blocks representing an area of about 55 acres were taken up. It has been recognised that the remoteness of Wentworth, and the lack of information regarding it, have contributed largely to the absence of demand for irrigation lots, and steps are now being taken to have the settlement properly advertised. The lots taken on lease are all under irrigation, and the results, so far as can at present be judged, are quite satisfactory.

## (3.) Edward River.

Two proposals relating to increased utilization of this river have been investigated during the year—one for the construction of a cutting to Talbot's Lake, and the other for a cutting to increase the supply in the Wakool River. The former was found to involve more expense than would be warranted by existing conditions, while the latter is awaiting further information from the landholders concerned.

## (4.) Murrumbidgee River.

The final plans and estimates for the proposed Murrumbidgee Southern Canal were completed, and have been ready for some time for inquiry by the Public Works Committee. The works include a storage reservoir at Barren Jack Mountain, at the junction of the Murrumbidgee and Goodradigbee Rivers, capable of conserving nine thousand millions of cubic feet of water. This reservoir will furnish a sufficient supply for the purpose of the proposed canal during the periods of low river, so that there will be no necessity to interfere with the requirements of the frontagers below the head of the proposed canal. The scheme provides also for branch canals, one of which will tail into the Murrumbidgee at Hay, and two others into the Billabong Creek near Conargo and Wangonilla respectively. Only a low weir will be required on the Murrumbidgee at the head of the proposed main canal, and this will be movable so that the navigation will not be interfered with. The estimated cost of the entire scheme is £650,000, and as the main canal will carry a supply of 1,000 cubic feet per second, it is estimated that water can be delivered from the canal at the rate of 246,000 gallons for 1s. after allowing for interest and maintenance.

A petition was presented by residents of Jerilderie and others asking for the immediate construction of the weir in the Murrumbidgee at the head of the proposed canal, the object in view being the provision of an increased supply of water in Yanko Creek. The Minister, however, decided that the question of the construction of the weir should be considered with that of the general scheme.

On petition from landholders concerned, the question of constructing a cutting from Old Man Creek to Sandy Creek was investigated, and an estimate of the cost was prepared. The estimate was published, and the matter was referred to the Land Board in accordance with section 4 of the Water Rights Act.

With regard to the proposal that the Government should deal with the question of irrigation at Balranald in the same manner as at Wentworth, it was decided that this should depend on successful developments at the latter settlement.

During the year the Yanko Creek Channel was cleared out, and the flow of flood-water to the Billabong Creek was materially improved. The town of Jerilderie, which was formerly dependent on the natural flow of the latter creek, is now chiefly supplied from the surplus waters of the Murrumbidgee.

## (5.) Lachlan River.

As Lake Cudgellico depends on the overflow of the River Lachlan for its supply of water, and as this overflow failed in four years in succession, it was decided to investigate the question whether surplus water in high freshets could not be diverted into the lake. A survey with that object is in hand.

A trust was appointed to take charge of the Island Creek weir.

The dam across the River Lachlan to divert the flow over the Middle Billabong weir has been completed, as has also a regulator for controlling the flow into the Middle Billabong. A cutting from this channel to Marowie Creek is being put in hand, and arrangements are being made for the construction of regulators to control the flow in the latter.

A regulator to control the flow from the River Lachlan into the Willandra Billabong has been completed.

An estimate has been prepared for the construction of a weir on the Nyrang Creek, and the question has been referred to the Land Board for report, as required in section 4 of the Water Rights Act.

The question of completing the Gin Gin Weir and subsidiary work for the supply of water to the Ewenmar, Boothaguy, Marthaguy and other creeks has been referred to the Land Board for report.

## (6.) Macquarie River.

The question of providing a more regular supply of water to the Belaringar Creek has been fully investigated, and a scheme for effecting this has been prepared. The estimate was notified, as required in the Water Rights Act, and the question was referred to the Land Board.

The construction of a regulator to control the flow of the water in the offtake at Warren weir has been commenced.

The question of constructing a cutting from Crooked Creek to Duck Creek, and of a regulator in Gunningbar Creek, has not been finally dealt with by the Land Board.

A concrete dam, about 30 feet in height, has been constructed on Queen Charlotte Vale Creek, at a cost of £540, for conserving water for mining purposes.

#### (7.) Gwydir River.

The construction of a channel for drainage purposes from Midgun Creek to Gilgil Creek is in progress.

The question as to carrying out the general scheme for the drainage of the Gwydir district is under the consideration of the Crown Law Department, the plans and estimate having been prepared.

#### (8.) Macleay River.

The question of the amalgamation of the drainage schemes on the Lower Macleay is on a fair way to settlement, the last of the Drainage Union having sent in a petition to be dissolved, with a view to inclusion in a comprehensive scheme.

#### (9.) Manning River.

The scheme for the drainage of the "Big Swamp," at Coopernook, has been accepted by the parties interested, and the work is about to be started, under the provisions of section 4 of the Water Rights Act. The drainage area is 6,800 acres, of which 2,232 acres are Crown land, and the estimated cost is £7,500.

#### (10.) Darling River.

The question of locking the River Darling from Bourke to Menindie has been under inquiry by the Public Works Committee, and plans and other information have been supplied by the Department as required.

#### (11.) Miscellaneous.

Discharges of rivers have been observed as opportunities offered, and the records of river heights have been maintained. Among miscellaneous questions dealt with have been the provisions of a proposed Amending Water Rights Act, regulations for the recovery of costs of works, and applications for inquiry into several minor works.

### (4.) GENERAL WORKS.

#### Fitzroy Dockyard.

A considerable amount of work of a very varied character was carried out during the year at the Fitzroy Dockyard. In addition to the general routine work, improvements have been effected to the various shops, and the work of levelling the rock on the north side of Fitzroy Dock has been continued. The number of vessels docked has been 155, representing a tonnage of 206,230 tons. An average of 350 men have been employed.

Statements are subjoined showing the various works which have been carried on and the expenditure, also giving particulars as to vessels docked.

STATEMENT of work carried out at the Fitzroy Dockyard during the year ended 30 June, 1899.

Expenses in connection with the working of the Dockyard—							£	s.	d.	£	s.	d.
General working expenses	...	...	...	...	...	1,410	3	5				
Repairs to machinery—Sutherland Dock	...	...	...	...	...	1,219	4	1				
Electric Lighting (repairs, &c.)	...	...	...	...	...	458	0	5				
									3,087	7	11	
Docking and repairing H.M. Ships (labour)	...	...	...	...	...	1,275	18	3				
" other vessels (labour)	...	...	...	...	...	348	19	1				
" materials used	...	...	...	...	...	202	7	11				
									1,827	5	3	
Improvements to the Dockyard—												
Removal rock	...	...	...	...	...	1,122	11	6				
Construction of tramline	...	...	...	...	...	18	1	6				
" sea wall	...	...	...	...	...	132	7	8				
Improvements to boiler shop	...	...	...	...	...	45	11	3				
" blacksmith's shop	...	...	...	...	...	25	14	6				
New erecting shop	...	...	...	...	...	68	2	1				
Improvements to pattern shop	...	...	...	...	...	29	8	0				
" machine shop	...	...	...	...	...	562	16	7				
" moulding shop	...	...	...	...	...	61	1	10				
" foundry	...	...	...	...	...	27	2	3				
" saw-mill	...	...	...	...	...	100	6	10				
New fitting shop	...	...	...	...	...	598	15	1				
Sundries	...	...	...	...	...	14	13	4				
									2,806	12	5	

	£	s.	d.	£	s.	d.
<b>Dredge Service—</b>						
Docking, repairs, and general overhaul to dredges ... ..	13,923	15	11			
"          "          "          tugs ... ..	5,121	12	2			
"          "          "          punts and barges ... ..	4,944	15	3			
Dredge "Castor" (repairs, &c.) ... ..	3,239	15	5			
Rock drill "Poseidon" ... ..	25	11	0			
Castings and rubber sleeves ... ..	38	8	10			
Inspecting stores ... ..	89	5	0			
				27,383	3	7
Tug "Dooribang" (construction) ... ..	4,340	0	3			
" "Powerful" ... ..	2,606	0	0			
" "Phoenix" ... ..	992	18	11			
				7,938	19	2
<b>Harbours and Rivers, Water Supply, and Water Conservation (generally)—</b>						
S.S. "Lilian" (docking and repairs) ... ..	61	7	11			
Launch "Swift" (docking, repairs, and driving in place of "Leila")	133	2	1			
" "Leila" (docking, repairs, and driving) ... ..	717	12	5			
Survey boat and boring gear (repairs, &c.) ... ..	156	9	6			
Head office (sundry repairs, testing, &c.) ... ..	25	16	9			
Reclamation works (pipes, &c.)... ..	1,415	6	8			
Circular Quay improvements ... ..	120	10	8			
Darling Island ... ..	3,005	15	6			
Cook's River " Shea's Creek ... ..	24	2	2			
Glebe Island works ... ..	234	10	5			
Fort Macquarie horse ferry ... ..	29	13	9			
Dawes' Point ... ..	174	15	0			
Sydney wharfs ... ..	109	13	5			
Country wharfs ... ..	94	16	11			
Garden Island (cranes, &c.) ... ..	213	19	7			
Spectacle Island (tramline, &c.) ... ..	19	8	0			
Tweed River improvements ... ..	5	12	11			
Richmond River " ... ..	281	17	9			
Clarence River " ... ..	742	1	11			
Nambucca River (crane) ... ..	29	19	10			
Macleay River improvements ... ..	253	15	1			
Trial Bay harbour works ... ..	157	19	2			
Camden Haven improvements ... ..	3	18	3			
Manning River ... ..	1	9	8			
Cape Hawke harbour ... ..	32	13	0			
Newcastle harbour works ... ..	281	14	7			
Port Kembla ... ..	59	9	3			
Moruya River " ... ..	9	2	0			
Murrumbidgee River, snagging... ..	27	13	11			
Darling River ... ..	217	5	0			
Country towns water supply ... ..	663	10	1			
Centennial Park reservoir ... ..	25	10	0			
Water conservation ... ..	499	15	7			
				9,830	8	9
<b>Other Branches of Public Works Department—</b>						
Sewerage Construction Branch... ..	48	3	11			
Roads and Bridges ... ..	592	10	8			
Railway Construction " ... ..	584	7	10			
Tramway " ... ..	1,578	2	2			
Government Architect's " ... ..	77	17	8			
				2,881	2	3
<b>Other Departments—</b>						
<b>Marine Board—</b>						
Launch "Sol" (construction) ... ..	1,406	15	9			
Repairs and overhaul to pilot steamers ... ..	1,138	3	8			
Repairs to launches and pinnace ... ..	791	1	5			
Lighthouses, lightships, and buoys ... ..	250	7	0			
Repairs to shed ... ..	314	10	0			
				3,900	17	10
<b>Mercantile Explosives Department—</b>						
Repairs to powder hulk ... ..	894	6	3			
Launch "Kate" (repairs and overhaul) ... ..	575	13	0			
Launch "Beatrice" (repairs) ... ..	40	17	10			
				1,510	17	1
<b>Department of Education—</b>						
Nautical s.s. "Sobraon" (general repairs)... ..				740	2	5
<b>Department of Justice—</b>						
Launches "Nemesis" and "Biloela" (repairs) ... ..	170	15	1			
H.M. Gaols (repairs)... ..	59	9	0			
				230	4	1



Other Departments—*continued.*

	£	s.	d.	£	s.	d.
Board of Health—						
Quarantine (repairs to buoy, tenders, &c.)... ..	227	2	6			
Offal barge (repairs) ... ..	5	17	6			
Launch (repairs) ... ..	192	13	10			
Little Bay Hospital ... ..	0	15	0			
	<hr/>			426	8	0
Water and Sewerage Board (repairs to punt) ... ..				30	17	1
Mines Department (launch, "Golden Fleece," repairs) ... ..				86	15	9
Military Department (repairs to launches "Ohm" and "Acheron") ... ..				189	1	7
Department of Lunacy (repairs to launch "Maude") ... ..				141	4	7
Customs Department (launch repairs)... ..				133	12	9
Work done for Messrs. G. & C. Hoskins (machinery pipe castings) ... ..				89	17	7
Sundry small jobs ... ..				86	1	6
	<hr/>			£63,321	0	5

*Vessels docked during the year.*

## Sutherland Dock.

	No.	Tonnage.	Dues.	Expenses.
			£ s. d.	£ s. d.
H.M. ships ... ..	24	48,745	976 12 4	976 12 4
Merchant vessels ... ..	29	127,585	3,803 10 0	432 6 3
Government plant ... ..	36	6,923	43 2 10	43 2 10
Totals.....	89	183,253	4,823 5 2	1,452 1 5

## Fitzroy Dock.

	No.	Tonnage.	Dues.	Expenses.
			£ s. d.	£ s. d.
H.M. ships.....	5	6,680	92 0 9	92 0 9
Merchant vessels ... ..	1	3,540	90 8 7	14 3 7
Government plant ... ..	60	12,757	65 19 4	65 19 4
Totals.....	66	22,977	248 8 8	172 3 8

## Reclamation Works.

*North Coast District.*

Ballina.—For some time past the residents of Ballina, on the Richmond River, have complained of the nuisance caused by the low-lying swampy land which occupies a considerable area of the town, and it was determined to remedy this by filling-in the hollows with sand dredged from the harbour. The sand-pump dredge "Dictys" commenced this work in April, and was still engaged on it at the end of the year. Payments to defray the cost are being made by landowners in proportion to the quantity of material deposited on their allotments.

*Newcastle District.*

Stockton—36,958 tons of clay, discharged from vessels at the Stockton Ballast Jetties, was used for reclaiming Crown and private land, the owners of the latter paying the Government 2d. per ton for ballast deposited on their allotments.

Carrington.—71,017 tons of sand and 12,135 tons of stone were discharged from vessels at the Bullock Island jetties. This ballast was used to reclaim Crown land at the north end of Carrington.

The sand-pump "Juno" was employed deepening the New Basin and reclaiming the low-lying land between Throsby's Creek and Young-street.

The "Castor" was also at work deepening the New Basin, and reclaimed 10½ acres of land between the west side of the Basin and Denison-street.

North Harbour Reclamation.—A length of 2,780 feet of wall was constructed at the southern end of this proposed reclamation area, 16,120 tons of stone being obtained from the Waratah quarry and 4,018 tons from ships in the harbour. The total expenditure on the North Harbour reclamation works for the year has been £5,468 8s. 10d.

*Sydney District.*

Spectacle Island.—A portion of the foreshore on the southern side of the island has been reclaimed by the construction of a ballast-dyke, with filling behind.

Cook's River.—The resumed area between Shea's Creek and Botany, on the left bank of the river, is being reclaimed by the deposition of the silt pumped by the dredge "Neptune."

The embankments and drains have been maintained, and a brush-fence erected to keep the sand from being blown on to private property.

Long Cove.—A caretaker has been employed constantly attending to the drains, banks, &c. A portion of the embankment on the eastern side of the canal has been faced with stone to prevent damage by the wash of steamers.

Rozelle Bay.—The dredge "Groper" was engaged pumping silt on to the reclaimed area until February. The reclaimed land has been formed and graded, and silt has been removed from the storm-water channel.

White's Creek.—The dredge "Groper" was working here from April. The work at Rozelle Bay and White's Creek has been carried out by day-labour, twenty-three men being employed during the year.

Homebush Bay.—During the last month of the year twenty-four men have been engaged facing up the embankments with stone.

Other

## Other Works.

*Sydney District.*

Garden Island.—A coal-shed, 180 feet x 45 feet, has been erected on the wharf by contract at a cost of £858. Brick bins have also been erected for coals, and the joints on the docking of the wharf have been filled in. This work was done by day-labour, the cost being £60 3s. 6d.

A new floating-stage has been constructed by day-labour and fixed in position for communication between the Guardship and the shore.

Spectacle Island.—The wooden rails of tramway are being replaced by iron rails, and minor repairs have been carried out to buildings, fences, wharfs, &c.

Glebe Island Causeway.—This work, which was commenced in April, 1898, consists in the construction of two high embankments as approaches to the new Glebe Island Bridge. 202,195 tons of ballast filling have been used in the work which is being done by day-labour, 140 men being employed.

A timber staging has been constructed under contract between the western and eastern embankments in order to carry the stone trucks, and the timber abutments of the bridge have also been erected under contract.

Glebe Island Quarry.—During the year 51,890 tons of ballast and 1,483 cubic yards of dimension stone have been obtained at the quarry on the north side of the island, and forwarded by punt to the various sea-walls and other works in Sydney Harbour, an average number of seventy men being employed by day-labour.

Mauly sea-walls.—Those portions of the sea-walls which had been washed away by heavy seas, both on the ocean and harbour sides, have been reconstructed by day-labour, sixteen men being employed for five months.

Snail's Bay.—A new sea-wall has been constructed round the head of this bay, and all the masonry, with the exception of the parapet, is now in place.

Coogee Bay.—The foundations of the sea-wall have been repaired.

Rozelle Bay.—An earth embankment has been constructed at the foot of Booth-street to take the place of a bridge, the cost being £338 17s.

Cook's River.—The contract for the new bridge with sluices was completed, the cost being £10,265 10s.

An embankment with sluice-gates was constructed by contract across Marrickville Flat at a cost of £2,842 3s. 1d.

*North Coast District.*

Trial Bay.—On 24 November, 1898, a contract was let for the erection of ten warders' cottages for Trial Bay Prison, and the work was completed on 16 June, the total cost being £3,589 5s. 9d.

A contract was let in March for the erection of a new wing to the prison, and also extensive alterations and additions to existing buildings, the amount of the accepted tender being £9,638 8s. This work, which is now in progress, in addition to a new wing containing sixty-four cells, comprises six cubicles for single warders, new kitchen and bakehouse, new drainage system, &c., &c. The roofs of both new and old buildings are to be covered with Marseilles pattern tiles, the walls being of block concrete wherever practicable.

## Surveys.

The surveys carried out during the year ending 30th June, 1899, were:—

Harbours and Rivers ... ..	19
Country Towns Water Supply ... ..	13
Water Conservation ... ..	6
Bridges... ..	4
Miscellaneous ... ..	13

Ninety-two cases of private reclamations and special leases and 156 cases of oyster leases have been reported upon.

C. W. DARLEY,  
Engineer-in-Chief for Public Works.

3 November, 1899.

## RETURN of Expenditure on Public Works by Harbours and Rivers Branch from 1 July, 1898, to 30 June, 1899.

Work.	Whether Constructing or under Repair	When Commenced	Expenditure from 1 July, 1898, to 30 June, 1899.		If Unfinished, amount of Expenditure to 30 June, 1899		If Finished, actual amount of Expenditure.	
			£	s. d.	£	s. d.	£	s. d.
<b>WATER SUPPLY—</b>								
Centennial Park Reservoir .. .. .	Constructing.....	1895	6,579	18 10	.....	.....	69,273	2 0
Duplicate Main, Prospect to Potts' Hill... ..	" .. .. .	1897	64,830	15 9	65,037	2 11	.....	.....
Providing Country Towns... ..	Constructing.....	1879	41,324	10 1	1,074,300	9 4	.....	.....
<b>DREDGE SERVICE—</b>								
Excavation of Silt by Dredges .. .. .	Annual Service ..	1898	78,926	14 0	78,926	14 0	.....	.....
Landing Silt and forming Ground and Special Dredging .....	Improving .. .. .	1896	11,857	9 0	41,172	18 7	.....	.....
Reclamation and Dredging at Cook's River, including cost of resumption of Land .. .. .	" .. .. .	1887	2,778	13 10	290,537	11 10	.....	.....
Self propelling Steam Sand pump Dredge for deepening shallow Bars .. .. .	Constructing ....	1897	15,353	4 0	.....	.....	20,000	0 0
Shallow draught Steamer for Dredge Service .. .. .	" .. .. .	"	1,457	13 5	1,500	0 0	.....	.....
Towards fitting Steam-steering Gear and Electric Light on Dredges and "Thetis" .. .. .	" .. .. .	"	70	5 5	642	7 7	.....	.....
<b>SYDNEY DISTRICT—</b>								
Circular Quay Improvements .. .. .	" .. .. .	1888	9,111	9 1	107,328	6 9	.....	.....
Circular Quay Roadways, &c—Maintenance .. .. .	Annual Service... ..	1898	156	8 11	156	8 11	.....	.....
Careening Cove and Neutral Bay Reclamation .. .. .	" .. .. .	1894	23	8 6	1,408	18 0	.....	.....
Cook's River Improvements, near Tempe—Improvements for providing for Discharge of Flood-waters .. .. .	Improving .. .. .	1897	12,446	5 10	15,758	4 9	.....	.....
Deepening Eastern Channel, Sydney Harbour .. .. .	" .. .. .	"	3,800	15 10	5,557	5 5	.....	.....
Extension of Darling Harbour Wharf, including cost of Railway Connection, Land Resumptions, &c. .. .. .	Constructing .. .. .	1881	139,959	11 8	658,204	2 3	.....	.....
George's River, Improvements .. .. .	Improving .. .. .	1897	1,325	9 5	1,327	9 5	.....	.....
Glebe Island Levelling .. .. .	" .. .. .	1898	593	8 3	593	8 3	.....	.....
Horse Ferry Dock and Landing at Dawes' Point .. .. .	Constructing... ..	"	309	12 8	309	12 8	.....	.....
Long Cove Reclamation and Wharfrage... .. .	Improving .. .. .	1890	360	5 10	46,994	4 6	.....	.....
Manly Sea-walls .. .. .	Constructing .. .. .	1898	1,344	5 8	1,344	5 8	.....	.....
New Jetty and Shed, Circular Quay, and extending old A.S.N. Co.'s Berth .. .. .	" .. .. .	1892	332	7 6	37,991	18 10	.....	.....
New Jetty, Circular Quay, west side .. .. .	" .. .. .	1897	8,971	6 4	9,943	7 3	.....	.....
Naval Station, &c., Garden Island .. .. .	Improving .. .. .	1884	1,600	0 11	310,187	11 3	.....	.....
Naval Ordnance Depôt, Spectacle Island .. .. .	" .. .. .	1898	341	17 11	341	17 11	.....	.....
Punts for Harbour Reclamation Works .. .. .	Constructing .. .. .	"	36	0 0	36	0 0	.....	.....
Rushcutter's Bay—Completion of Sea-wall .. .. .	Improving .. .. .	1896	1	0 10	.....	.....	3,102	12 2
Shea's Creek and Cook's River Works—Maintenance .. .. .	" .. .. .	1898	353	14 5	353	14 5	.....	.....
Sea-wall, Snail's Bay .. .. .	Constructing .. .. .	"	978	1 7	978	1 7	.....	.....
Woolloomooloo Bay Improvements .. .. .	" .. .. .	1888	4,273	16 1	.....	.....	43,492	15 5
Woolloomooloo Bay Wharf, accommodation, including Cargo Sheds, east side .. .. .	" .. .. .	1897	10,103	12 6	10,395	0 7	.....	.....
Wharf at White Bay (Glebe Island Improvements) .. .. .	Improving... .. .	1898	238	1 6	233	1 6	.....	.....
<b>Wharves, &amp;c—</b>								
Allen-street Wharf, Long Cove—Erection .. .. .	Constructing.....	1897	83	8 10	.....	.....	88	8 10
Admiralty Wharf—Repairs .. .. .	Repairs, &c. ....	"	39	13 7	.....	.....	48	4 1
Admiralty House—Repairs to Boat-shed .. .. .	" .. .. .	"	105	0 0	.....	.....	145	0 0
Abbotsford Wharf—Repairs .. .. .	" .. .. .	1898	31	4 5	.....	.....	31	4 5
Augustus-street Wharf, Leichhardt—Handrail .. .. .	" .. .. .	"	13	18 11	.....	.....	13	18 11
Blackwattle Wharf—Maintenance and repairs .. .. .	" .. .. .	"	367	5 7	.....	.....	367	5 7
Bestic Bridge, Rockdale—Repairs .. .. .	" .. .. .	"	15	4 0	.....	.....	15	4 0
Bateman's Bay Wharf—Rails for Tramway .. .. .	" .. .. .	"	7	15 8	.....	.....	7	15 8
Bermagui Wharf and Crane—Repairs .. .. .	" .. .. .	1897	100	7 5	.....	.....	131	12 3
Berths, East Side Circular Quay—Repairs .. .. .	" .. .. .	1898	32	5 6	.....	.....	32	5 6
Balmain Ferry Co's Wharf—Replacing piles .. .. .	" .. .. .	"	2	13 8	.....	.....	2	13 8
Brundee Swamp, Nowra, Survey .. .. .	" .. .. .	"	15	1 1	.....	.....	15	1 1
Botany Long Wharf—Repairs .. .. .	" .. .. .	1897	219	13 4	.....	.....	366	8 10
Circular Quay—Maintenance .. .. .	" .. .. .	1898	758	18 0	.....	.....	758	18 0
" No. 4 Jetty, Landings .. .. .	" .. .. .	"	12	17 0	.....	.....	12	17 0
" " damaged by "Scout" .. .. .	" .. .. .	"	0	15 6	.....	.....	0	15 6
Cement Testing .. .. .	" .. .. .	"	58	10 3	.....	.....	58	10 3
Cowper Wharf, damaged by "Kadina" .. .. .	" .. .. .	"	5	16 7	.....	.....	5	16 7
Cowper Wharf—Maintenance, repairs, &c .. .. .	" .. .. .	"	153	1 4	.....	.....	153	1 4
Callen Park Wharf—Repairs .. .. .	" .. .. .	1897	28	12 9	.....	.....	45	9 3
Cabarita Wharf—Repairs, landing, &c. .. .. .	" .. .. .	1898	16	5 10	.....	.....	16	5 10
Canadian A Coy's Wharf, Circular Quay, Fenders .. .. .	" .. .. .	"	9	16 11	.....	.....	9	16 11
Colo River—Snagging .. .. .	" .. .. .	"	54	17 6	.....	.....	54	17 6
Caretaker's Cottage, Dredge Service—Removing .. .. .	" .. .. .	"	57	19 9	.....	.....	57	19 9
Coogee Sea Wall and Dyke—Repairs .. .. .	" .. .. .	"	110	17 9	.....	.....	110	17 9
Camden District Flood Mitigation .. .. .	" .. .. .	"	18	16 8	.....	.....	18	16 8
Colo River Wharf—Repairs .. .. .	" .. .. .	"	6	4 6	.....	.....	6	4 6
Darling Harbour Wharf—Maintenance and repairs.....	" .. .. .	"	207	7 3	.....	.....	207	7 3
" Ferry—Landing .. .. .	" .. .. .	1897	66	14 11	.....	.....	99	5 3
Drummoyne Wharf—Borings .. .. .	" .. .. .	1898	11	10 0	.....	.....	11	10 0
Dust-bin for P. and O. Wharf, Circular Quay .. .. .	" .. .. .	"	9	13 7	.....	.....	9	13 7
Dundas Road Wharf—Extension .. .. .	" .. .. .	"	34	17 0	.....	.....	34	17 0
Dust-bins for Naval Stations. .. .. .	" .. .. .	"	35	15 0	.....	.....	35	15 0
Elkington Park Baths, Balmain .. .. .	" .. .. .	"	18	9 3	.....	.....	18	9 3
Erskine-street Wharf—Removing Urinal, &c. .. .. .	" .. .. .	"	8	8 3	.....	.....	8	8 3

\* For items charged to this Vote, see Schedule marked "A."

## Expenditure on Public Works by Harbours and Rivers Branch—continued.

Work.	Whether Constructing or under Repair.	When Com- menced.	Expenditure from 1 July, 1898, to 30 June, 1899.	If Unfinished, amount of Expenditure to 30 June, 1899.	If Finished, actual amount of Expenditure.
			£ s. d.	£ s. d.	£ s. d.
<b>SYDNEY DISTRICT—continued.</b>					
Wharves, &c.—continued.					
Erina Creek Wharf, repairs—Grant to Progress Association	Repairs, &c.	1898	25 0 0	.....	25 0 0
Eastern and Australian Coy's Wharf, Circular Quay—Roadway and gates.....	"	"	37 2 6	.....	37 2 6
Eden Wharf—Repairs.....	"	"	80 14 6	.....	80 14 6
Erskine-street Jetty—Repairs, Piles, &c.....	"	"	1 0 5	.....	1 0 5
" Wharf—Repairs, roadway, &c.....	"	1897	36 10 0	.....	115 5 5
Fence between Murray-street and Pymont Wharf.....	"	"	16 9 11	.....	16 9 11
Fairm Cove Jetty—Lengthening.....	"	"	19 7 7	.....	19 7 7
Floating Jetty, No. 4, Circular Quay—Repairs pontoon ..	"	"	12 11 1	.....	12 11 1
"Forrester," steamer, Darling River, raising and towing...	"	"	109 16 2	.....	109 16 2
Fort Phillip Signal Station—Repairs, masts, &c. ....	"	"	40 11 5	.....	40 11 5
Garden Island—Discharging ashes.....	"	"	34 1 2	.....	34 1 2
" Pontoons and Bollards.....	Constructing.....	"	446 4 9	446 4 9	.....
Gosford Wharf Repairs—Grant to Council.....	Repairs, &c.....	"	51 0 0	.....	51 0 0
Gladesville Asylum Wharf—Repairs.....	"	"	24 0 7	.....	24 0 7
Hay-street Wharf, Neutral Bay—Repairs.....	"	"	1 4 1	.....	1 4 1
Jervis Bay Wharf—Maintenance.....	"	"	2 2 0	.....	2 2 0
Kanahooka Point Jetty—Repairs.....	"	"	62 15 3	.....	62 15 3
Kiama Wharf—Repairs.....	"	1897	1 13 7	.....	5 10 8
"Leila" Launch—Maintenance and Repairs.....	"	1898	666 0 2	.....	666 0 2
Liverpool Dam Repairs—Grant to Council.....	"	"	100 0 0	.....	100 0 0
Messageries Maritimes Wharf and Shed, Circular Quay—Repairs.....	"	"	7 13 1	.....	7 13 1
Mangrove Creek and Hawkesbury River—Repairs to Wharf at Junction.....	"	"	21 11 0	.....	21 11 0
Manly Sea Wall, under New Pier—Repairs.....	"	"	110 16 5	.....	110 16 5
Nelligen Wharf—Repairs.....	"	"	2 13 4	.....	2 13 4
Narooma Wharf—Repairs.....	"	1897	7 15 1	.....	45 3 9
Nowra Wharf—Repairs.....	"	"	12 14 6	.....	14 8 1
Naval Ordnance Depot, Spectacle Island—Repairs Buildings	"	1898	10 12 4	.....	10 12 4
North Shore Ferry Pontoon; Circular Quay—Repairs.....	"	"	3 3 7	.....	3 3 7
Orient Co.'s Wharf, Circular Quay—Office for Customs ...	Constructing.....	1897	27 7 9	.....	64 3 1
" Damaged by "Oruba"	Repairs, &c.....	1898	9 5 0	.....	9 5 0
Pymont Wharf—Repairs.....	"	"	97 8 7	.....	97 8 7
" Maintenance.....	"	"	151 8 5	.....	151 8 5
Parramatta Wharf—Repairs.....	"	"	2 13 11	.....	2 13 11
Pymont Ferry Landing—Waiting Room.....	Constructing.....	"	47 7 6	47 7 6	.....
P. and O. Co.'s Wharf, Circular Quay—Damaged by "Himalaya"	Repairs, &c.....	"	212 2 6	.....	212 2 6
Port Jackson Co.'s Jetty and Shed, Circular Quay—Extension.....	Improving.....	"	493 17 1	493 17 1	.....
Princes Stairs.....	Repairs, &c.....	"	1 9 6	.....	1 9 6
Ryde Wharf—Repairs.....	"	1897	67 17 8	.....	155 11 6
Rushcutter's Bay Boat Landing—Repairs.....	"	1898	2 15 5	.....	2 15 5
Road leading to Government Boat Shed—Repairs.....	"	"	14 18 1	.....	14 18 1
Railings, Circular Quay—Repairs.....	"	"	2 5 0	.....	2 5 0
Road to Timber Co.'s Wharf, Johnson-street, Annandale	Constructing.....	"	24 1 8	.....	24 1 8
Spectacle Island—Miscellaneous Repairs.....	Repairs, &c.....	1897	24 4 11	.....	30 15 6
" Storeholder's Quarters.....	"	1898	31 15 11	.....	31 15 11
Sackville Reach Wharf and Approach—Repairs.....	"	1897	481 2 11	.....	486 0 8
San Souci Wharf—Repairs.....	"	1898	4 19 0	.....	4 19 0
Shed for Explosives, Fort Macquarie, for Marine Board...	Constructing.....	"	17 3 0	.....	17 3 0
Silverwater Wharf—Repairs.....	Repairs, &c.....	1897	42 17 11	.....	208 1 11
Tathra Wharf—Repairs.....	"	1898	44 0 0	.....	44 0 0
Ulladulla Wharf—Repairs.....	"	"	9 16 4	.....	9 16 4
Ulladulla Breakwater—Repairs.....	"	"	31 7 3	.....	31 7 3
White Bay Wharf—Laying on Water and Gas.....	"	"	39 15 11	.....	39 15 11
" Mooring Piles.....	"	1897	0 10 0	.....	27 3 7
Watson's Bay Ferry Wharf, Circular Quay—Repairs.....	"	1898	41 8 7	.....	41 8 7
" Circular Quay—Additions to Waiting Shed.....	Improving.....	"	85 3 2	.....	85 3 2
Watson's Bay Wharf—Repairs.....	Repairs, &c.....	1897	21 10 5	.....	27 9 1
Wiseman's Ferry Wharf—Repairs.....	"	"	2 5 6	.....	22 0 2
Wharf for Steamers—Government Tugs.....	"	1898	18 14 8	.....	18 14 8
Waterman's Landing, Erskine-street.....	"	"	0 14 3	.....	0 14 3
Wharf at Junction Hawkesbury and Colo Rivers.....	"	"	3 10 0	.....	3 10 0
Woy Woy Wharf.....	Constructing.....	"	8 16 3	8 16 3	.....
Woolloomooloo Bay Cargo Sheds—Repairs to Floors.....	Repairs, &c.....	"	43 8 1	.....	43 8 1
<b>WOLLONGONG DISTRICT—</b>					
Arbitration case, Hungerford v. Minister for Works.....	.....	1896	3 5 6	.....	12,097 17 3
Harbour Works—Maintenance.....	.....	"	451 6 5	2,254 16 2	.....
Wollongong Breakwater—Repairs.....	Repairs.....	1898	22 12 4	.....	22 12 4
<b>HUNTER RIVER AND NEWCASTLE DISTRICT—</b>					
Extra Mooring Accommodation, Newcastle Harbour.....	Constructing.....	1897	*5,689 13 8	9,252 3 8	.....
New Lighter for Newcastle Harbour.....	"	1896	98 15 0	683 1 8	.....
Newcastle Harbour—Maintenance.....	"	1897	3,264 16 4	7,585 15 9	.....
Reclamation, North Harbour, Newcastle.....	Improving.....	1894	10,447 3 3	23,007 19 0	.....
Wharf and Shipping Appliances, Newcastle, including beam Cranes, Newcastle Wharf.....	Constructing } & improving. }	1858	17,488 19 11	399,451 0 1	.....
Wharves, &c.—					
Belmont Wharf—Repairs.....	Repairs, &c.....	1897	3 5 9	.....	5 9 6
Bulladelah Wharf—Repairs.....	"	"	10 1 11	.....	47 8 5

Expenditure on Public Works by Harbours and Rivers Branch—*continued.*

Work.	Whether Constructing or under Repair	When commenced	Expenditure from 1 July, 1898, to 30 June, 1899	If unfinished, amount of Expenditure to 30 June, 1899	If finished, total amount of Expenditure.
			£ s. d.	£ s. d.	£ s. d.
<b>HUNTER RIVER AND NEWCASTLE DISTRICT—<i>continued.</i></b>					
Wharves, &c— <i>continued.</i>					
Cockle Creek Wharf—Repairs .....	Repairs, &c. ....	1898	0 11 7	.. .. .	0 11 7
" — Snagging .....	" .....	"	1 1 0	.. .. .	1 1 0
Hexham Wharf—Repairs .....	" .....	1897	2 16 10	.. .. .	89 4 7
Leading Lightkeeper's Residence—Laying on gas .....	" .....	1898	5 0 0	.. .. .	5 0 0
Light Beacon, damaged by "Lubra" .....	" .....	"	0 10 7	.. .. .	0 10 7
Lifting sunken schooner "Bessie Maud" .....	" .....	"	77 8 6	.. .. .	77 8 6
Largs Wharf approach—Repairs... ..	Repairs, &c. ....	"	9 2 0	.. .. .	9 2 0
Maitland (East) Embankments—Grant to Council .....	" .....	1897	239 11 0	.. .. .	1,218 18 2
" (West) River Bank Protection .....	" .....	1898	43 4 0	.. .. .	43 4 0
Myall River—Snagging .....	Improving .....	1897	34 5 5	.. .. .	109 5 10
Nelson's Bay Jetty—Repairs .....	Repairs, &c. ....	"	47 2 7	.. .. .	48 8 6
Newcastle Dyke Wharf—Logging Berths .....	" .....	1898	36 3 1	36 3 1	.. .. .
" Life-boat Slip—Renewal .....	" .....	"	2 11 9	2 11 9	.. .. .
Paterson Wharf—Repairs .....	" .....	"	16 11 5	.. .. .	16 11 5
Steamers' Wharf, Newcastle—Repairs .....	" .....	"	425 14 2	.. .. .	425 14 2
Stockton Ferry Wharf—Alterations .....	" .....	"	60 12 1	.. .. .	60 12 1
" Cemetery Landing—Approaches and fence .....	" .....	"	5 1 4	.. .. .	5 1 4
Telephone for Newcastle Office .....	" .....	"	4 6 0	.. .. .	4 6 0
Tools for Workshops, Newcastle .....	" .....	"	16 6 4	.. .. .	16 6 4
Walls Creek, Maitland—Snagging .....	Improving .....	"	50 7 7	50 7 7	.. .. .
Wharf at Forster, Cape Hawke .....	Constructing .....	"	1 19 0	1 19 0	.. .. .
<b>LAKE MACQUARIE DISTRICT—</b>					
Improvements at Entrance .....	Improving... ..	1877	624 12 11	93,333 4 8	.. .. .
Mullet Creek Dredging .....	" .....	1898	143 2 0	143 2 0	.. .. .
<b>CLARENCE RIVER DISTRICT—</b>					
Dredge Dock .....	Constructing .....	1897	1, 25 13 6	1,543 12 9	.. .. .
Improvements at Heads .....	{ Constructing } { & improving. }	1862	21,384 19 5	344,113 19 3	.. .. .
Removal of Rocks, South Arm .....	Improving .....	1896	221 14 4	1,788 19 8	.. .. .
Wharves, &c—					
Brushgrove Wharf—Repairs .....	Repairs, &c ..	1897	2 12 2	.. .. .	10 7 11
Clarenza .....	" .....	"	8 16 6	.. .. .	38 14 8
Coff's Harbour Jetty Crane .....	" .....	"	16 18 5	.. .. .	212 16 11
" " and Caretaker's House .....	" .....	1898	128 14 10	.. .. .	128 14 10
" " Trucks .....	" .....	"	34 5 8	.. .. .	.. .. .
" " Moorings... ..	" .....	"	90 15 2	90 15 2	.. .. .
Everlasting Swamp Drainage—Survey .....	" .....	1897	56 1 4	.. .. .	57 18 4
Grafton (North) Wharf—Repairs .....	Repairs, &c. ..	1898	30 10 7	.. .. .	30 10 7
" (South) .....	" .....	1897	37 3 7	.. .. .	66 1 4
Harwood Wharf—Repairs .....	" .....	"	16 11 0	.. .. .	18 3 1
Maclean .....	" .....	"	14 17 2	.. .. .	19 13 5
Palmer's Island Wharf—Repairs .....	" .....	1898	9 8 8	.. .. .	9 8 8
Southgate .....	" .....	"	12 14 0	.. .. .	12 14 0
" (Lower, Wharf—Repairs .....	" .....	"	0 11 1	.. .. .	0 11 1
Woodfordleigh .....	" .....	1897	6 9 0	.. .. .	42 7 4
Woodford Island Wharfs .....	" .....	1898	6 19 4	.. .. .	6 19 4
Woolgoolga Jetty and Crane .....	" .....	"	264 3 9	264 3 9	.. .. .
Woodford Island Trial Shaft—Survey .....	" .....	"	390 16 1	.. .. .	390 16 1
Yamba Wharf—Repairs .....	" .....	1897	3 9 10	.. .. .	5 10 7
<b>HASTINGS RIVER—</b>					
Improvements .....	Improving .....	1895	7,847 0 5	11,000 0 0	.. .. .
<b>MANNING RIVER—</b>					
Improvements .....	" .....	"	10,465 13 9	38,660 15 1	.. .. .
Wharves, &c—					
Aborigines Boat, Shoalhaven River, Repairs .....	Repairs, &c. ..	1898	3 9 10	.. .. .	3 9 10
" Brunswick" Wreck—Blowing up .....	" .....	"	38 3 8	.. .. .	38 3 8
Cundletown Dock—Extension of Wharf .....	Constructing ..	1897	68 1 6	.. .. .	74 1 6
Harrington Wharf at Site of Training Wall .....	" .....	"	15 5 0	.. .. .	262 15 0
Manning River—Removal of Rocks .....	" .....	1898	1 8 0	.. .. .	1 8 0
" Murray" Wreck—Removal of .....	" .....	1897	3 5 3	.. .. .	81 16 3
Three Wharf—Repairs .....	Repairs, &c. ....	1893	2 11 0	.. .. .	2 11 0
<b>TRIAL BAY DISTRICT—</b>					
Trial Bay Prisons, Erection of Warders' Cottages .....	Constructing ..	"	3,540 9 5	3,540 9 5	.. .. .
<b>RICHMOND RIVER DISTRICT—</b>					
Byron Bay Jetty .....	" .....	1884	907 18 1	.. .. .	21,052 9 7
Dredge Dock .....	Improving... ..	1897	93 0 7	96 8 7	.. .. .
Flood Relief Works, Richmond River, <i>via</i> Evans' River .....	" .....	1895	28 18 0	.. .. .	7,975 14 5
Improving River .....	" .....	1878	28,302 0 5	247,531 8 10	.. .. .
Snagging Tributaries, Richmond River .....	" .....	1894	*1,655 17 5	6,453 13 3	.. .. .
Wharves, &c.—					
Buckdooon Wharf—Repairs .....	Repairs, &c. ....	1897	9 14 1	.. .. .	14 17 7
Bungawalbin .....	" .....	1898	3 3 9	.. .. .	3 3 9
Coraki Wharf and Approach—Repairs .....	" .....	"	26 11 2	.. .. .	26 11 2
Codrington Wharf—Repairs .....	" .....	"	0 17 0	.. .. .	0 17 0
Chilcott's Wharf—Improvements .....	" .....	"	28 15 7	28 15 7	.. .. .
Engineer's Residence, Balina—Additions .....	" .....	"	14 19 10	.. .. .	14 19 10

\* Charged to Vote, Richmond River Improvements.

Expenditure on Public Works by Harbours and Rivers Branch—*continued.*

Work.	Whether Constructing or under Repair.	When commenced.	Expenditure from 1 July, 1898, to 30 June, 1899.	If unfinished, amount of Expenditure to 30 June, 1899.	If finished, total amount of Expenditure.
			£ s. d.	£ s. d.	£ s. d.
<b>RICHMOND RIVER DISTRICT—<i>continued.</i></b>					
Wharves, &c.— <i>continued.</i>					
Gundurimba (East) Wharf—Repairs	Repairs, &c.	1897	4 16 10		9 11 6
" (South) " "	"	1898	1 18 5		1 18 5
Greenridge Wharf—Repairs	"	1897	2 3 6		89 16 0
German Creek " "	"	1898	1 11 6		1 11 6
Lismore High-level Wharf—Survey	"	1897	1 10 0		6 10 0
Meaney Creek—Drainage	"	1898	0 14 0		0 14 0
North Creek Jetty—Repairs	Repairs, &c.	"	1 19 5		1 19 5
Oakey Creek Wharf	Constructing	"	96 0 6		96 0 6
Quarry Refuse, Ballina Council	"	"	17 1 3		17 1 3
Richmond River Wharf—Repairs	Repairs, &c.	1897	4 12 3		28 14 4
Steves Kings Plains Wharf—Repairs	"	"	6 11 3		44 8 11
Swan Bay Wharf—Repairs	"	"	2 18 6		17 8 8
Tucki Wharf—Repairs to Shoot	"	1898	3 13 6		3 13 6
Wyralah Wharf—Repairs	"	1897	0 8 4		1 5 4
Wardell (East) Wharf—Repairs	"	"	13 15 7		64 6 10
Woodburn (North) Wharf—Repairs	"	1898	0 17 9		0 17 9
" (South) " "	"	1897	1 15 11		2 1 9
<b>NAMBUCCA RIVER—</b>					
Improving Entrance	Improving	1895	3,446 7 1	10,190 2 2	
Wharves, &c.—					
Nambucca Heads Wharf—Repairs to Approach	Repairs, &c.	1898	1 10 3		1 10 3
" River, at Hubbert's Reach—Removing Tree	"	"	2 0 0		2 0 0
Taylor's Arm Channel—Removing Tree	"	"	7 10 0		7 10 0
" " Captain's Flat—Removing Tree	"	"	3 7 0		3 7 0
<b>TWEED RIVER—</b>					
Cape Byron Light-house and Quarters	Constructing	1897	110 0 2	110 0 2	
Dredge Dock at Terranora	"	1898	993 18 2	993 18 2	
Improvements	Improving	1890	842 12 2	33,551 18 9	
Wharves, &c.—					
Byron Bay Moorings, South side of Jetty	"	1898	234 3 11		234 3 11
Cudgen Wharf—Repairs	Repairs, &c.	1897	5 10 2		8 14 11
Condong Wharf—Survey	"	1898	0 18 0		0 18 0
Landing for Cane at Tintenbar	Constructing	"	79 15 8	79 15 8	
Murwillumbah Wharf—Repairs	Repairs, &c.	1897	2 2 8		4 12 2
Tumbulgum " "	"	"	1 7 1		6 15 4
Tweed Heads " "	"	"	7 2 11		7 7 8
" " Jetty and Approach—Repairs	"	1898	7 10 7		7 10 7
Tweed River Wharves—Repairs	"	"	3 6 6		3 6 6
" " North Arm—Removing Trees	"	"	6 1 11		6 1 11
" " Snagging	"	"	7 9 10		7 9 10
Tug "Terranora"—Repairs	Repairs, &c.	"	3 9 11		3 9 11
<b>MACLEAY RIVER—</b>					
Improving Entrance	Improving	1896	10,341 19 4	30,112 19 8	
Wharves, &c.—					
Ballengara Wharf, Wilson River	Constructing	1897	311 17 0		317 5 6
Bowra Wharf, Crane at Dever's	"	1898	2 19 6		2 19 6
Camden Haven—Rails, &c.	"	"	59 1 6		59 1 6
Frederickton Wharf and Approach—Repairs	Repairs, &c.	"	29 3 11		29 3 11
Gladstone Wharf—Repairs	"	"	6 8 0		6 8 0
Jerseyville " "	"	"	11 14 0		11 14 0
Kinchela " "	"	"	8 0 0		8 0 0
Laurieton Wharf, Camden Haven—Repairs	"	"	15 0 0		15 0 0
Macksville Wharf—Repairs	"	1897	10 0 4		11 6 8
Macleay River Wharfs—Repairs	"	"	137 9 4		247 14 4
Macleay River Dock, " "	"	1898	15 0 7	15 0 7	
Seven Oaks Wharf—Landing Stage	"	"	28 0 0		28 0 0
Smithtown " "	"	"	30 8 0		30 8 0
Warrell Creek—Removing tree	"	1897	9 10 0		20 10 3
<b>BELLINGER RIVER—</b>					
Improvements	Improving	1890	4,595 3 4	33,963 6 1	
Wharfs, &c.—					
Bellinger Heads Wharf—Repairs	Repairs, &c.	1898	47 17 2		47 17 2
Bellinger River Wharfs " "	"	1897	1 15 0		3 10 0
Bellinger River, North Arm—Removing tree	"	1898	1 10 0		1 10 0
<b>MORUYA RIVER—</b>					
Improving Entrance—Fascine Banks, &c.	Improving	1888	4,797 12 10	23,464 5 3	
Wharfs, &c.—					
Moruya Wharf	Constructing	1898	295 4 8	295 4 8	
<b>MURRAY, MURRUMBIDGEE, AND DABLING RIVERS—</b>					
Improving	Improving	1856	9,511 9 8	218,734 12 3	
<b>COCKATOO ISLAND—</b>					
Dock Establishment—Contingencies	Annual service	1898	7,995 13 11	7,995 13 11	
Electric Light—Maintenance	"	"	442 5 11	442 5 11	
Fitzroy Dock Extension and Appliances	Improving	"	311 1 0	311 1 0	
Fitzroy Dock Inquiry	"	"	84 0 0		84 0 0
Fitzroy Dock—Storekeeper's Quarters	Repairs	"	248 9 5		248 9 5
Planing Castings for G. and C. Hoskins	"	"	88 11 4	88 11 4	
Passenger Jetty, South Side—Lengthening	Improving	"	68 0 7	68 0 7	
Screen in front of "Sobraon's" Baths	"	"	28 16 2		28 16 2
Sea Wall	"	"	5 16 3		5 16 3
Testing Crane for Rodgers Bros.	"	"	8 9 6	8 9 6	

Expenditure on Public Works by Harbours and Rivers Branch—continued.

Work.	Whether Constructing or under Repair.	When commenced	Expenditure from 1 July, 1898, to 30 June, 1899	If Unfinished, amount of Expenditure to 30 June, 1899	If Finished, actual amount of Expenditure.
<b>MISCELLANEOUS.</b>					
Ballina Swamps Reclamation .....	.....	1898	£ 336 10 3	£ 336 10 3	.....
Booth-street Embankment, Annandale .....	.....	"	306 9 7	306 9 7	.....
Bolwarra Embankment, West Maitland .....	.....	"	308 2 10	308 2 10	.....
Bourke Wharf and Crane .....	Constructing ..	1897	4,884 9 0	5,561 15 4	.....
Camden Haven—Improvements to Entrance .....	Improving ..	1896	7,468 10 4	12,771 6 5	.....
Cape Hawke, .....	" .....	1894	1,046 7 6	1,167 16 0	.....
Expenses of Tugs on Special Service .....	Annual Service ..	1898	506 16 1	.....	506 16 1
Gratuities —					
Widow of late W. J. Brown .....	.....	..	50 0 0	.....	50 0 0
" Hy Bastian .....	.....	..	75 0 0	.....	75 0 0
" R. G. Johnston .....	.....	..	100 0 0	.....	100 0 0
" G. Law .....	.....	..	100 0 0	.....	100 0 0
" P. O'Neill .....	.....	..	100 0 0	.....	100 0 0
" A. J. Spencer .....	.....	..	100 0 0	.....	100 0 0
Hereford-street Wharf .....	.....	..	2 10 0	.....	2 10 0
Incidental .....	.....	..	305 2 10	.....	344 16 6
Johnston's Creek Storm-water Channel .....	.....	..	313 0 0	.....	313 0 0
Kiama Harbour and Pier Head Works—Maintenance .....	Improving .....	1898	848 1 0	848 1 0	.....
Point Perpendicular Lighthouse .....	Constructing ..	1890	8,842 1 8	16,280 17 11	.....
Port Kembla Harbour Improvements .....	Improving .....	1898	394 3 4	394 3 4	.....
Providing and Fixing Tide gauges along the Coast .....	.....	..	117 8 2	117 8 2	.....
Pymont Wharf .....	.....	..	14 13 10	.....	14 13 10
Pipes for West Australian Government .....	.....	..	14 14 0	.....	14 14 0
Road in approach to Brewarrina Water Supply—Grant .....	.....	..	11 19 10	.....	11 19 10
Shellharbour Breakwater—Repairs, Maintenance, and Dredging .....	Improving ..	1898	207 13 3	207 13 3	.....
Wharf and Approach at Newport, Pittwater .....	Constructing ..	"	553 19 2	.....	553 19 2
Amount paid to Armidale Council for taking over defective Water Supply Material .....	.....	..	100 0 0	.....	100 0 0
Harbours and Rivers and Water Supply—Salaries, Equipment, Allowances, Travelling Expenses, Rents, Cleaning, Incidental, &c. .....	.....	..	16,922 9 4	.....	16,922 9 4
Glebe Island Bridge .....	Constructing ..	1897	20,867 16 0	23,519 9 2	.....
Pymont Bridge .....	" .....	"	60 0 2	142 0 5	.....
Lighthouses as per Schedule "B" .....	Repairs, &c. ....	1898	*360 18 10	.....	360 18 10
Preliminary Harbour and River Surveys as per Schedule "C" .....	.....	..	†593 17 9	.....	593 17 9
Work done for other Departments .....	.....	..	11,092 15 3	.....	11,092 15 3
Total.....	£ .....	..	664,905 11 0	4,384,998 0 6	220,565 8 4

TOTAL EXPENDITURE FOR THE YEAR. £ s. d.

Harbours and Rivers Revenue .....	57,069 13 1
Dredge Service Revenue .....	78,937 18 0
Water Supply Revenue .....	1,464 17 6
Harbours and Rivers Loans .....	475,015 17 1
Water Supply Loans .....	41,324 10 1
Services of other Departments .....	11,092 15 3

Total .....

NOTE.—Items under the heading "Wharfs" charged to Vote "Erection, Repairs, and Renewal of Wharfs, &c."  
 \* Items under this heading charged to Vote "Erection, Repairs, and Renewal of Wharfs, &c."  
 † Items under this heading charged to Vote "Preliminary Harbour, and River Surveys"

SCHEDULE A.

HARBOURS AND RIVERS.

LIST of Items charged to Vote "Country Towns Water Supply."

Work.	Amount.	Work	Amount.
Armidale.....	£ 78 7 8	Moree .....	£ 93 6 7
Bathurst .....	127 5 8	Moama .....	2 17 6
Bowral .....	22 15 5	Nyngan .....	57 11 10
Ballina .....	4 0 11	Nowra .....	193 13 6
Cootamundra .....	3,223 0 1	Orange .....	37 18 11
Condobolin .....	685 19 8	Parkes .....	182 6 8
Coonamble .....	18 14 5	Pictou .....	11,096 9 3
Cowra .....	31 5 6	Queanbeyan .....	4 5 3
Cobar .....	7 13 0	Richmond .....	14 4 9
Forbes .....	6,147 7 7	Rylstone .....	0 17 6
Gundagai .....	11 0 4	Tamworth .....	1,322 2 7
Goulburn .....	57 0 6	Tumut .....	68 13 8
General Charges .....	282 6 0	Wollongong .....	59 1 6
Jenilderie .....	9 10 0	Wellington .....	6,845 11 8
Kiama .....	57 9 7	Warren .....	1,155 4 8
Lismore .....	485 12 5	Wentworth .....	0 5 4
Mudgee .....	8,939 17 9		
Moss Vale .....	0 12 5	Total .....	£41,324 10 1

SCHEDULE B.  
HARBOURS AND RIVERS.  
List of Lighthouses, &c., charged to Vote "Erection Repairs, and Renewal of Wharfs, &c."

Work.	Amount.	Work.	Amount.
	£ s. d.		£ s. d.
Barrenjoey Lighthouse .....	11 10 5	Solitary Island Lighthouse .....	31 6 2
Crowdy Head Lighthouse and quarters .....	4 13 9	South Head .....	33 16 0
Fingal .....	7 17 2	South Head Station—quarters .....	67 5 3
Green Cape .....	16 16 1	Smoky Cape Lighthouse .....	9 11 3
Hornby .....	47 11 7	Seal Rocks .....	0 8 2
Montague Island .....	18 11 4	Tacking Point Lighthouse and quarters .....	44 1 6
Nobby's .....	9 5 10	Tweed River Lighthouse .....	3 19 2
Nelson's Head .....	4 6 0	Ulladulla .....	13 11 1
Port Stephens .....	18 7 5	Wollongong .....	4 2 6
Point Perpendicular Lighthouse .....	11 13 6		
Richmond River .....	2 4 8		
		Total .....	£360 18 10

SCHEDULE C.  
HARBOURS AND RIVERS.  
List of Items charged to Vote "Preliminary Harbour and River Surveys."

Work.	Amount	Work	Amount
	£ s. d.		£ s. d.
Blackwattle Bay—Soundings .....	1 7 0	Garden Island .....	1 11 6
Cockatoo Island—Borings .....	10 2 0	Incidental .....	45 2 1
Cabbage-tree Bay .....	1 8 0	Long Cove Creek Canal—Soundings .....	3 0 0
Clyde River—Survey at Entrance .....	184 7 11	Mosman's Bay—Proposed Reclamation .....	2 5 0
Cooperook Big Swamp .....	2 2 0	Newcastle—Borings at Entrance .....	50 6 5
Circular Quay—Soundings .....	15 15 0	Plant .....	179 17 4
Cockle Creek—Soundings .....	8 9 1	Pittwater, Broken Bay .....	13 8 6
Double Bay—Proposed Sea-wall .....	5 5 8	Pymont Bay—Borings .....	13 1 0
Darling Island Wharfage Area .....	2 11 0	Ryde Park—Reclamation .....	5 15 1
Erskine-street—Wharfage Area .....	0 14 0	Sobraon—Shore Premises, Cockatoo .....	3 0 10
Fitzroy Dock—Soundings at Entrance .....	3 10 0	Woolloomooloo Bay—Soundings .....	2 5 6
Funafuti Exploitation—Frame for .....	6 1 4	White Bay—Soundings .....	29 5 0
Fort Macquarie Point—Survey .....	2 12 6		
Fort Macquarie Wharfage Area .....	0 14 0	Total .....	£593 17 9

HARBOURS and Rivers Expenditure.

Year.	Loan	Revenue.	Other Departments	Total.
				£ s. d.
Previous to 1859 .....	...	...	...	95,765 10 8
1859 .....	...	...	...	16,183 19 4
1860 .....	...	...	...	31,134 1 11
1861 .....	...	...	...	52,314 4 9
1862 .....	...	...	...	84,280 19 5
1863 .....	...	...	...	53,318 16 11
1864 .....	...	...	...	80,830 9 5
1865 .....	...	...	...	58,347 6 8
1866 .....	...	...	...	53,678 15 0
1867 .....	...	...	...	70,840 7 10
1868 .....	...	...	...	83,204 11 10
1869 .....	...	...	...	81,279 12 9
1870 .....	...	...	...	65,675 14 5
1871 .....	...	...	...	67,425 7 11
1872 .....	...	...	...	67,121 3 9
1873 .....	...	...	...	111,160 12 6
1874 .....	...	...	...	137,749 17 1
1875 .....	...	...	...	222,913 19 6
1876 .....	...	...	...	175,189 8 4
1877 .....	...	...	...	186,916 18 0
1878 .....	...	...	...	218,001 4 11
1879 .....	...	...	...	247,110 1 10
1880 .....	...	...	...	279,913 18 7
1881 .....	...	...	...	313,217 0 1
1882 .....	...	...	...	596,332 7 4
1883 .....	...	...	...	733,620 0 0
1884 .....	...	...	...	698,458 6 2
1885 .....	...	...	...	689,171 14 10
1886 .....	...	...	...	817,631 16 11
1887 .....	...	...	...	596,743 8 8
1888 .....	295,962 14 7	139,695 10 11	...	435,658 5 6
1889 .....	554,521 13 10	148,676 16 1	...	703,198 9 11
1890 .....	397,951 11 5	175,837 18 7	...	573,789 10 0
1891 .....	449,527 18 1	211,206 19 3	...	660,734 17 4
1892 .....	304,807 17 11	237,147 13 6	...	541,955 11 5
1893 .....	235,614 11 9	169,168 19 11	...	404,783 11 8
1st January, 1894, to 30th June, 1895 ...	372,698 12 5	229,205 2 1	...	601,903 14 6
1st July, 1895, to 30th June, 1896 .....	231,789 0 0	152,120 8 5	...	383,909 8 5
1st July, 1896, to 30th June, 1897 .....	289,393 6 4	123,347 19 9	13,595 3 10	426,336 9 11
1st July, 1897, to 30th June, 1898 .....	376,341 5 4	119,817 15 2	11,832 0 4	507,991 0 10
1st July, 1898, to 30th June, 1899 .....	516,340 7 2	137,472 8 7	11,092 15 3	664,905 11 0
				£12,890,698 7 10



V.

RETURN of Expenditure on Public Works by Water Conservation Branch, from 1 July, 1898, to 30 June, 1899.

Work.	Whether Constructing or under Repair	Expenditure from 1 July, 1898, to 30 June, 1899	If Unfinished, amount of Expenditure to 30 June, 1899	If Finished, actual amount of Expenditure.
		£ s. d.	£ s. d.	£ s. d.
Administration of Water Rights Act .....	.....	131 4 8	.....	.....
Bourke Lock and Weir .....	Constructing.....	450 3 10	14,020 5 4	.....
Bourke Dock .....	.....	556 4 0	556 4 0	.....
Balranald Irrigation Area .....	Survey .....	206 18 10	312 17 10	.....
Barrenjack Reservoir Site .....	.....	10 16 7	10 16 7	.....
Bartley's Tank, Wyalong .....	.....	7 19 4	7 19 4	.....
Crooked Creek to Duck Creek .....	.....	27 11 7	27 11 7	.....
Cutting Gin Gin Weir to Belaringar Creek .....	.....	103 5 5	103 5 5	.....
Cooperbrook Big Swamp Drainage .....	.....	2 7 4	.....	2 7 4
Embankment at Barham .....	.....	1 18 0	.....	1 18 0
..... Beveridge Island .....	.....	1 11 0	.....	1 11 0
Forbes Weir—Grant to Council.....	Constructing.....	500 0 0	.....	500 0 0
Gin Gin Weir .....	.....	107 18 2	2,053 2 5	.....
Gwydir River Drainage .....	Survey .....	80 3 6	885 2 9	.....
Gunningbar Creek Dam, near Warren .....	.....	30 16 6	.....	30 16 6
General Charges .....	.....	.....	.....	.....
Locking Darling River .....	Survey .....	1,494 16 7	1,617 0 9	.....
Lake Talbott—Diversion of Water .....	.....	72 15 3	72 15 3	.....
Lake Cudgellico .....	.....	119 5 7	119 5 7	.....
Middle Billabong Weir and Channels .....	Constructing .....	686 8 9	7,184 7 2	.....
Murrumbidgee River at Narrandera .....	Survey .....	3 1 0	.....	10 6 0
Murrumbidgee Wier Site near Head of Yanko Creek .....	.....	29 9 11	29 9 11	.....
Medgum to Gil Gil Creek Drainage .....	.....	444 18 11	444 18 11	.....
Outfall Creek from the Macquarie .....	.....	9 0 4	9 0 4	.....
Queen Charlotte Vale Creek Dam .....	Constructing .....	96 3 6	96 3 6	.....
South Murrumbidgee Canal .....	Survey .....	184 6 5	278 0 0	.....
Sandy Creek near Narrandera .....	.....	1 10 0	.....	1 10 0
Toocunwal Flood Embankment .....	.....	10 15 4	.....	10 15 4
Tuckian Swamp Drainage .....	.....	14 0 0	.....	456 10 11
Urana Water Supply, Sinking Well—Grant to Trustees .....	Constructing .....	71 0 0	.....	71 0 0
Warren Weir .....	.....	508 11 5	3,241 11 7	.....
Warren Weir Regulator .....	.....	212 18 6	212 18 6	.....
Wentworth Irrigation Area .....	.....	941 6 2	5,428 13 4	.....
Willandra Weir Regulator .....	.....	139 0 0	.....	139 0 0
Yanko Creek Canal .....	.....	349 1 0	605 16 0	.....
Salaries, Equipment, Travelling Allowances, &c.....	.....	5,858 15 4	.....	5,858 15 4
Urana Dam and Bywash—Repairs.....	.....	*150 12 7	.....	150 12 7
Constructing Dam, Urana Water Supply—Grant .....	.....	*50 0 0	.....	50 0 0
<b>Total .....</b>	.....	<b>£13,666 15 4</b>	<b>37,317 6 1</b>	<b>7,285 3 9</b>

SUMMARY OF EXPENDITURE FOR THE YEAR.

Consolidated Revenue .....	£ s. d.
Loans .....	1,582 7 10
<b>Total .....</b>	<b>12,084 7 6</b>
<b>Total .....</b>	<b>£13,666 15 4</b>

\* Paid out of Vote, "Salaries, Equipment, Travelling Allowances, &c."

WATER CONSERVATION EXPENDITURE.

Year.	Loans	Revenue.	Other Departments	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1 August, 1896, to 30 June, 1897 .....	32,518 2 10	12 0 0	117 6 5	32,647 9 3
1 July, 1897, to 30 June, 1898 .....	15,613 13 0	969 12 3	525 12 0	17,108 17 3
1 July, 1898, to 30 June, 1899 .....	12,084 7 6	1,582 7 10	.....	13,666 15 4
				<b>£63,423 1 10</b>

## Government Architect.

## VI.

## Report of the Government Architect.

I HAVE the honor to submit my report upon the building operations and services rendered by this Branch during the twelve months ended 30 June, 1899.

The year has been a busy one, and the result shows increased activity in building operations, the total expenditure being greater than that for any year since 1892; it appears to be coincident with the general improvement in building matters throughout the Colonies, the increased prices for labour and materials having no doubt contributed to the larger expenditure.

The ordinary Annual Revenue Vote for the year to cover expenditure on the varied services rendered by this Branch and to enable general repairs (and expenses that are not chargeable to Loans), to be undertaken, amounted to £50,000, which is the smallest sum voted for many years. It was, however, supplemented from various sources. The actual expenditure for the year has been as follows:—

	£	s.	d.
On Revenue ... ..	75,212	3	9
On Loan Account ... ..	195,777	2	6
Services for other Departments ... ..	10,148	4	0
Total expenditure for the year ... ..	£281,137	10	3

The accompanying Return gives in detail the buildings upon which the expenditure has been incurred, and comprises about one half of those under the care of this Branch.

Not many important buildings have been brought to a completion during the year, and the expenditure with one or two exceptions has been generally equalised particularly in regard to country buildings. The new buildings completed comprise:—

	£	s.	d.
Police Buildings—			
Booligal ... ..	880	15	9
Albury... ..	1,572	7	3
Cessnock ... ..	693	15	0
Currabubula ... ..	627	2	9
Forbes... ..	1,695	14	7
Ford's Bridge ... ..	541	12	11
Gladstone ... ..	1,230	19	11
Milparinka ... ..	705	13	0
Moonbi ... ..	957	18	3
Manilla ... ..	1,442	3	10
Peat's Ferry ... ..	767	7	10
Quirindi ... ..	1,023	2	5
Tilpa ... ..	876	6	0
Post Offices—			
Alexandria ... ..	1,755	9	7
Arnccliffe ... ..	1,267	10	2
South Brcken Hill ... ..	1,753	15	5
Lismore ... ..	4,454	1	1
Newcastle West ... ..	1,360	7	7
Court-houses—			
Bowraville ... ..	1,636	10	8
Enngonia ... ..	1,060	2	6
Gilgandra ... ..	595	3	0
Kew ... ..	1,616	17	9
Peak Hill ... ..	1,329	10	10
Tinonee ... ..	1,567	12	6
Wingham ... ..	1,621	14	3
Miscellaneous—			
Newgate Lodge, &c., University ... ..	1,952	0	0
Bourke Lands Office... ..	3,735	6	5

The following buildings are in course of extension or erection :—

	Expenditure during the year.		
	£	s.	d.
Botanic Gardens, Buildings, &c. ... ..	3,162	6	8
Custom-house ... ..	2,510	2	11
Darlinghurst Gaol... ..	4,322	14	0
Government House ... ..	4,643	18	2
Government Printing Office ... ..	2,935	9	3
General Post Office ... ..	30,249	9	0
Royal Mint ... ..	1,285	13	8
Public Works Offices ... ..	2,526	5	2
Treasury Buildings ... ..	9,792	2	0
Biloela Gaol ... ..	1,882	8	7
Coast Hospital, Little Bay ... ..	5,035	1	2
Hospital for Insane, Gladesville ... ..	1,813	5	0
Newington Benevolent Asylum ... ..	1,053	13	9
Parramatta Gaol ... ..	12,307	8	8
Benevolent Asylum, Rookwood ... ..	3,648	19	1
Bathurst Gaol ... ..	4,323	17	9
Bourke Court-house ... ..	5,774	8	5
Goulburn Gaol ... ..	2,948	0	0
Kenmore Hospital for Insane ... ..	18,200	4	7
Maitland Gaol ... ..	2,626	3	9
Water and Sewerage Board Offices, Newcastle... ..	3,895	2	6
Wyalong Court-house ... ..	1,340	0	0

At Christmas time upwards of 2,500 unemployed were engaged at painting the railings of the public parks of the Metropolitan District, and the expenditure was £10,762 7s. 6d.; the large majority of the men was of course unskilled, but the organisation into gangs under properly qualified foremen protected the Government against loss, and upon subsequent measurement of the work performed, it was found that the results were by no means unsatisfactory. This special effort has placed the Government property in a good state of repair and of appearance.

The second contract for the erection of courts at the National Art Gallery was completed during the year, and the trustees were enabled to obtain possession, so that now in the new portion of the building the pictures are efficiently exhibited in six courts. Plans were also in preparation for No. 3 contract, which includes the eastern wing and sculpture galleries. This work being of a monumental character is necessarily of substantial construction; no pains have been spared to ensure a really good building.

The expenditure under the day-labour system has been carried on uninterruptedly upon the General Post Office, with result that a spacious telephone exchange has been handed over to the Postal authorities, and the additions in George-street on the resumed land have also been completed fit for occupation. The additional storeys and the roof are rapidly progressing, as well as the rearrangement of the engine-room in the basement of the building.

At Government House a large quantity of defective external stonework has been replaced, and advantage was taken of this necessary work to enlarge the south end of the ballroom by means of an Apsidal window, and to provide at the same time an orchestral gallery, the additional space so gained having been very much needed.

The offices in Newcastle for the Hunter District Water and Sewerage Board progressed during the year almost to a completion, and will provide ample accommodation for this Board for many years to come.

The additions to the Treasury, including the new portico facing Macquarie-street, have been carried on continuously during the year, and with the portion of the No. 1 contract completed in the previous year, form the nucleus of an important block of buildings. It is recommended that the next step to be taken should be the remodelling of the old portion and bringing it into unison both as regards accommodation and appearance with the newer portions.

A large and continuous expenditure throughout the year has been incurred in remodelling, improving, and adding to the first-class gaols of the Colony to adapt them to the altered conditions under which the prisoners are now treated. Amongst other matters in connection with gaols, the installation of the electric light has taken a large amount of time and attention of the officers of this Branch; and I am in a position to report that in every case the installation has been successfully carried out. The gaols at Goulburn, Darlinghurst, Berrima, Bathurst, and East Maitland have now complete installations, while the large one at Parramatta Gaol is rapidly approaching completion. A small installation is approved of to be set up in Broken Hill Gaol.

During the year extensive plans for the enlargement and improvement of the Quarantine Station, at Manly, were prepared in accordance with the requirements of the Principal Medical Officer, and preparations made for commencing the work early in the following year.

Considerable alterations and expenditure have been made, and it is intended will still be made, to the Coast Hospital, Little Bay. These buildings are of wood construction, and, owing to pressing emergencies from time to time, have been increased in number and extent, unfortunately without any preconceived plan upon which the additions might be properly made. The consequence is that a large institution exists at Little Bay, faulty in general arrangement and questionable as to permanent stability; but so long as the Government cannot see its way clear to the erection of an entirely new hospital on better lines elsewhere continuous expenditure upon these buildings must necessarily be incurred.

At the Kenmore Hospital for Insane I have to report the completion of all buildings intended at present to be erected on the female side of the institution, and the entering into a contract for the completion of those on the male side. The steps now taken cover the whole of the buildings which it is anticipated will be required for some time. The completion of these works is looked forward to with some confidence, as it is anticipated, that the result both from a technical point of view, as well as from the financial, is expected to be highly satisfactory.

A commencement was made during the year with the erection of two additional storeys to the Custom-house, at Sydney; and, as the same circumstances prevailed as previously at the Government Printing Office and the General Post Office, the Minister determined that the work should be carried out

on the day-labour system. Tenders had been invited and received before this decision was arrived at; and it will therefore, be possible, when this work is completed to make some comparison between the actual cost of the work under the system with what it may be expected to have been if carried out by contract. The whole of the extensive staff of officers located in that building is working without inconvenience, although for some time to come some portion or other will be without a permanent roof.

This branch of the Public Works Department is entrusted with a variety of duties in connection with other Departments and public buildings which give constant employment to the officers, in addition to the actual work of erecting and maintaining public buildings. Amongst other duties performed is the controlling of the electric lighting, from a central station at the Government Printing Office, of an increasing number of public buildings; also of the maintenance and up-keep of the electric-lighting plants in the gaols already previously referred to. It also periodically inspects and improves the steam-cooking plants throughout the numerous gaols and public institutions which are so fitted up, and it inspects and controls all boilers, machinery, and motive power in connection with these institutions. It also sees to all public lighting, by gas and otherwise, of metropolitan parks and public places not under the control of the City Council. Amongst other services rendered by this Branch is the controlling of the passenger-lifts in the Colonial Secretary's, Public Works, Lands, and Mines Offices—four in number—all on the hydraulic principle, and supplied with motive power by the Sydney Hydraulic Power Company. To give an idea of the general use to which these lifts are put, the following return of passengers may be quoted:—

Colonial Secretary's, per week	...	...	...	...	3,577
Public Works	"	...	...	...	3,509
Lands Office	"	...	...	...	3,509
Mines Office	"	...	...	...	3,063
Total	...	...	...	...	13,658

Taking this as a fair average, the total number carried in the course of a year would be 710,216.

The permanent workshop connected for many years with this Branch has of late been made more use of than formerly, as the following statement shows:—

	Wages.			Materials.		
	£	s.	d.	£	s.	d.
January, 1892, to December, 1892 .....	1,054	6	3	998	14	3
" 1893 " 1893 .....	1,237	2	7	336	19	8
" 1894 to June, 1895 .....	2,466	4	2	979	1	2
July 1895 " 1896 .....	2,244	15	10	2,693	13	9
1896-7 .....	2,713	12	11	2,176	5	0
1897-8 .....	6,757	3	2	2,848	4	3
1898-9 .....	9,793	11	6	3,309	18	8

It is under the efficient and practical management of Mr. F. J. King, and the services it renders and the works it performs are of a multifarious character. Originally it was confined to rendering general services for all Departments of the Government service in the metropolitan area, which could be best done by one establishment, and in carrying out small matters of urgent repairs to buildings and furniture that are not put out to public competition. As, however, the buildings became more numerous, larger, and older, it was found desirable to increase its scope so as now to include general matters of repair, redecoration, and improvements, and a large and increasing number of miscellaneous works required to be done, often at great expedition. During the year this included fitting up several public offices for sub-departments, including the new branch of the Free Public Library at the Victoria Markets, and also extensive public decorations on the State occasions of the year. There is no doubt the convenience of the service has been met, and the work done in a thoroughly reliable manner. Only the best workmen are employed, and the materials used are specially selected under the annual contracts, and time and money both saved. The establishment works, however, under some disadvantages,—its premises (the Government Architect's old yard) are too confined and inconvenient, and upon occasions the need of a small machinery plant to save unnecessary hand labour has been felt. This, however, it is proposed to meet in the coming year, and authority has been given to place the necessary sum on the Estimates to accomplish it.

On the formation of the Public Service Tender Board the advisability of discontinuing all detached stores was under consideration, but it was found not only inconvenient to carry this out in this particular case, but the store of builders' ironmongery, timber, paints, &c., was retained, considerably enlarged, and placed in the charge of a competent storekeeper. The returns at the end of the year show a stock of material in hand valued at £2,315 1s. 5d. The stock has been inspected by a Public Works officer and reported as in very good condition, every care having evidently been taken to store in a creditable manner, while the ledger for the last year has been well and neatly written up. Considerable cash returns have been made to the Treasury as the proceeds from the sale by public auction of obsolete fittings and old materials periodically accumulating in the yard.

During the year a scheme was prepared for the housing of the Office Staffs of the Inspector-General of Police, and of the Comptroller-General of Prisons, in a building to be erected on the site specially resumed for the purpose at the junction of Phillip and Hunter Streets. It was considered, however, that the site was too valuable and spacious for the limited accommodation required, and the scheme was extended to include offices for the Public Service Board, Auditor-General, and the Government Statistician, who in all cases are occupying rented premises. The enlarged scheme increased the estimated cost of the building to £44,810, which exceeds the limit above which all such matters are referred to the Parliamentary Standing Committee on Public Works. It was accordingly referred and investigated, with result that that authority recommended to Parliament the reduction of the scheme to its original dimensions. No steps have, however, yet been taken to provide the accommodation for the Inspector-General of Police and the Comptroller-General of Prisons, although badly required in both cases.

A larger and more comprehensive scheme was also placed before this Committee, comprising the erection of a large set of offices on the vacant land at the junction of Phillip, Bridge, and Young Streets, to accommodate the Mines Department, with all its sub-branches and museums, and also the Department of Public Instruction. Elaborate plans were prepared and a large amount of information supplied relative

relative to the present housing of Government officials in public offices and in rented buildings generally, and although the Department placed before the Committee apparently strong and good reasons for undertaking this scheme, this latter body reported adversely.

It may be generally remarked that the natural growth of the public service in Sydney has to a very great extent been accompanied by disjointed and tentative arrangements for its accommodation. This has often led the Government into considerable expense in renting sundry premises in the city, more or less inconvenient; but it has also induced the enlargement of existing buildings which were designed complete in themselves, and which do not lend themselves successfully to such enlargements.

Another work of considerable importance occupied the attention of this Branch during the year. It comprised a long thought out scheme for the combined erection of a penitentiary for the reception of casual and short-sentence metropolitan prisoners, and a prison for the exclusive treatment of female prisoners under all sentences, and who can be conveniently brought in from the Colony generally. The site recommended by the Comptroller-General of Prisons, the Surveyor-General, and myself conjointly is a piece of land, 50 acres in extent, lying between the Bunnerong-road, Kensington, and the suburb of Randwick. Plans were prepared for both these establishments, and included the latest known details of prison construction, and the whole scheme has been placed before the Parliamentary Standing Committee on Public Works, whose investigations are still proceeding. It may be interesting to note that the opportunity now presents itself for erecting and equipping, for the first time in the British Empire, an entirely new and model establishment for female prisoners.

References were made in last year's report to the necessity of making a revaluation of such Government property in the charge of this Branch as might be transferred under Act to the now expected Federal Government.

Action, therefore, has been taken during the year with regard to the buildings used by the Postal Department, and a complete valuation to date is now ready for use whenever demanded. In this statement it has been possible to arrive at the present value of the buildings themselves, but owing to the fluctuating and, I believe, improving state of the land market, particularly as regards the site of the General Post Office, Sydney, it has not been thought desirable to fix a present arbitrary value; for obvious reasons, therefore, the result of the valuation is not disclosed in this report.

With regard to the condition of public buildings, every effort is being made with the funds at disposal to recover lost ground in the matter of general repairs to the increasing number of those under the charge of this Branch. Considerable advance has been made owing to the policy of permitting the cost of improvements and enlargements to existing country buildings, and of such works as clearly add to their capital value, to be charged against special loans raised on a currency of thirty years, while the establishment of the rule of charging the cost of matters of dilapidation, repairs, and expenses to revenue votes only has in all cases been strictly acted upon.

Under a continuance of this arrangement, and with somewhat more liberal revenue votes for the forthcoming year, it is anticipated that the long-standing list of requisitions from the Departments generally will be overtaken; but the hope of being able to systematically and periodically paint all buildings is, I fear, still a "hope" only.

All buildings to be handed over to the Federal Estate, including post-offices and customs houses, should, as a matter of credit to this State, be placed in good repair before such transfer is effected, and as it will take at least twelve months to do this, the initial step should be taken without delay.

No damage from fire, flood, or other extraordinary causes has been reported during the year. No matters of dispute with contractors in connection with deviations on contract or extra works, existed at the end of the year.

The work of this Branch in the country districts is conducted by twelve district architects, located as centrally as possible in their districts. Their work is of a comprehensive character, and besides superintending the erection of new buildings (plans and specifications for which are prepared in the Head Office), it comprises all matters of general repairs and improvements, the preparation of reports and estimates; also of specifications of contracts, together with supervision, payments to contractors, and the travelling inseparable from the nature of these duties. In some districts the travelling is a very heavy item, involving both expense and time from which the metropolitan work is free. The district architects keep up a complete system of book-keeping, and their daily communications with the Head Office are all conducted on one general arrangement.

The returns from these officers for the year afford the following information:—

Number of officers	...	...	...	...	...	12
Number of works carried out, but prepared in Head Office	...	...	...	...	...	99
Number of works carried out, but prepared in local offices	...	...	...	...	...	280
Total expenditure (not including £43,374 9s. 3d. at Kenmore)	...	...	...	...	...	£98,026
Papers, letters, vouchers, reports, and estimates dealt with	...	...	...	...	...	22,064
Number of miles travelled by railway	...	...	...	...	...	79,853
Number of miles travelled by road	...	...	...	...	...	33,652

The returns also show that half the time at the disposal of these officers is occupied in travelling, and that every £100 of expenditure has necessitated an average of 120 miles of travel. Where continuous supervision is necessary, and where the office work is excessive, additional help is rendered to the district officers.

The personnel of the Office Staff has remained unchanged during the year. Mr. Oakeshott, chief draftsman, and Mr. Truefitt, one of his principal assistants, applied for and obtained leave of absence to visit England; in neither case had the leave expired prior to the termination of the year. Mr. Mitchell has, during the absence of Mr. Oakeshott, very satisfactorily filled his position as acting chief draftsman.

During the year also, the Public Service Board instituted an inquiry with a view of permanently grading all professional officers in the Public Service, and an Advisory Board on behalf of the Public Service Board made long and continuous inquiries as to the position and service of the several professional officers in this Branch. On the announcement of the decision of the Board, and the results of this step, in the *Gazette* of 19 May, 1899, a number of appeals against such grading were sent in by the officers affected, including some from this Branch, and such appeals are now under investigation.

I have pleasure in reporting the general loyalty and efficiency of the services rendered by all officers throughout the year.

W. L. VERNON,  
Government Architect.

## RETURN of Expenditure on Public Works carried on by Government Architect from 1 July, 1898, to 30 June, 1899.

Work.	Whether Con- structing or under Repair.	When Commenced.	Furniture.	Expenditure	If Unfinished,	If Finished,
				from 1 July, 1898, to 30 June, 1899.	amount of Expenditure to 30 June, 1899.	actual amount of Expendi- ture.
			£ s. d.	£ s. d.	£ s. d.	£ s. d.
SYDNEY.						
Audit Office.....	Repairs .....	1898	11 2 5	20 6 8	.....	31 9 1
Attorney-General's Office .....	.....	.....	8 16 5	5 13 2	.....	14 9 7
Admiralty House—Additions .....	Additions .....	1897	.....	105 0 0	.....	745 0 0
Repairs, &c. ....	Repairs, &c. ....	1898	85 10 7	422 0 3	.....	507 10 10
Art Gallery—Additions .....	Additions .....	1895	.....	2,490 0 0	23,613 2 2	.....
Repairs .....	Repairs .....	1898	.....	1 7 3	.....	1 7 3
Abattoirs.....	.....	.....	.....	2 15 0	.....	2 15 0
Botanic Gardens—Two semi detached Cottages ..	Erection .....	.....	.....	1,278 6 5	.....	1,278 6 5
"    Closets and Drains—Alterations ..	Alterations .....	.....	.....	200 5 5	.....	200 5 5
"    Orchid House .....	Erection .....	.....	.....	391 1 0	391 1 0	.....
"    Stables .....	Additions .....	.....	.....	503 16 5	.....	667 12 11
"    Fencing .....	Erection .....	.....	.....	17 9 0	.....	17 9 0
"    Repairs—Hot-houses .....	Repairs .....	.....	.....	315 19 2	.....	315 19 2
"    Dwarf Wall and Iron Railing .....	Erection .....	.....	.....	31 14 0	31 14 0	.....
"    Drainage of buildings .....	Construction .....	.....	.....	423 15 3	.....	1,564 5 2
"    Buildings .....	Repairs .....	.....	57 17 8	29 1 5	.....	86 19 1
Belmore Police Barracks .....	.....	.....	154 5 3	23 3 8	.....	177 8 11
Lethal Chamber for Dogs .....	Additions .....	.....	.....	13 2 11	.....	13 2 11
"    Water Supply and Sewerage Office ..	Incidental .....	.....	.....	0 1 5	.....	0 1 5
Chancery Square Courts .....	Repairs .....	.....	50 12 0	393 11 8	.....	444 3 8
Custom House—Additions .....	Additions .....	1898	.....	2,510 2 11	2,510 2 11	.....
Repairs .....	Repairs .....	.....	95 4 8	91 18 9	.....	187 3 5
Crown Law Office .....	.....	.....	.....	6 13 6	.....	19 6 6
Central Police Court .....	Additions and repairs .....	.....	61 13 6	64 12 8	.....	126 6 2
Centennial Park—Shelter Pavilion .....	Erection .....	.....	.....	458 9 3	.....	458 9 3
"    Ranger's Cottage .....	.....	.....	.....	215 0 0	215 0 0	.....
Colonial Secretary's Office—Additions ..	Additions .....	.....	.....	134 9 9	.....	134 9 9
Repairs .....	Repairs .....	.....	115 11 4	210 3 3	.....	325 14 7
Charities Department .....	Furniture .....	.....	11 12 7	.....	.....	11 12 7
Captain Hickson's Residence .....	Repairs .....	.....	.....	162 3 3	.....	162 3 3
Darlinghurst Gaol—Repairs, Additions, &c. ..	Repairs, &c. ....	.....	24 10 2	977 14 0	.....	1,002 4 2
"    Additions .....	Additions .....	.....	.....	3,345 0 0	3,345 0 0	.....
"    Electric Light .....	Maintenance .....	.....	.....	106 9 6	.....	106 9 6
"    Court house—Additions, Drainage, and	.....	.....	.....	.....	.....	.....
Electric Light .....	Additions .....	.....	.....	449 17 5	.....	449 17 5
"    Repairs .....	Repairs .....	.....	3 15 4	75 7 8	.....	79 3 0
"    Police Station .....	Erection .....	.....	.....	1,429 3 9	1,429 3 9	.....
"    Reception-house .....	Repairs, &c. ....	.....	8 1 7	119 7 11	.....	127 9 6
District Court .....	Repairs .....	.....	45 9 5	24 11 0	.....	70 0 5
Domain—Kiosk .....	Drainage .....	.....	.....	30 10 1	.....	30 10 1
"    Lodge, Kiosk, and Latrines ..	Repairs .....	.....	.....	8 8 8	.....	8 8 8
Darling Island Improvements—Office .....	Furniture .....	.....	0 9 0	.....	.....	0 9 0
Equity Court .....	Repairs .....	.....	14 18 5	8 16 7	.....	23 5 0
Electoral Office .....	.....	.....	27 1 10	2 17 0	.....	29 18 10
Examiners Office, Public Service Board ..	Furniture .....	.....	16 0 4	.....	.....	16 0 4
Free Public Library .....	Repairs .....	.....	132 15 11	81 0 5	.....	213 16 4
"    Lending Branch, George street	Additions .....	.....	.....	201 2 0	201 2 0	.....
Markets .....	Furniture .....	.....	2 19 6	.....	.....	2 19 6
Fisheries Department .....	Repairs .....	.....	.....	2 14 3	.....	2 14 3
Fort Macquarie .....	Repairs, &c. ....	.....	.....	1,505 3 6	.....	1,505 3 6
Government House—Repairs and Alterations ..	.....	.....	.....	.....	.....	.....
"    Stonework, Repairs, &c. ....	Furniture .....	1896	.....	2,471 18 0	4,789 16 9	.....
"    Furniture .....	Erection .....	1898	359 3 8	.....	.....	359 3 8
"    Electric Light Installation .....	.....	.....	.....	666 16 8	666 16 8	.....
"    Telephones .....	.....	.....	.....	20 0 0	.....	20 0 0
Government House Stables—Additions .....	Additions .....	1897	.....	96 16 5	.....	271 16 5
"    Repairs, &c. ....	Repairs, &c. ....	1898	36 6 7	44 4 9	.....	80 11 4
Government Printing Office—Repairs, &c. ....	.....	.....	109 16 10	100 4 9	.....	210 1 7
"    Electric Light Maintenance .....	.....	.....	.....	455 10 5	.....	455 10 5
"    Lifts .....	.....	.....	.....	57 4 2	.....	57 4 2
"    Electric Light Installation	Erection, &c. ....	1897	.....	1,672 9 3	.....	8,496 17 5
"    and Electro Motors .....	Additions .....	1895	.....	1,063 0 0	.....	21,711 12 1
"    Additions .....	.....	1897	.....	30,249 9 0	43,584 19 9	.....
General Post Office—Additions .....	Repairs .....	1898	.....	202 10 5	.....	202 10 5
"    Repairs .....	.....	.....	.....	0 15 9	.....	0 15 9
Government Labour Bureau .....	.....	.....	9 9 2	2 0 6	.....	11 9 8
Government Statistician's Office .....	.....	.....	.....	720 10 0	.....	12,220 10 0
Governor Phillip's Statue .....	Construction .....	1896	.....	102 6 8	.....	1,134 9 5
Foundations, drainage, tarpaving, &c. ....	Repairs .....	1898	.....	5 5 3	.....	5 5 3
Government Architect's Workshops .....	Repairs, &c. ....	.....	18 10 8	62 13 9	.....	81 9 5
Health Board Offices .....	Fittings, &c. ....	1897	.....	867 9 9	.....	1,321 19 0
Furniture, fittings, Electro Motors, &c	Repairs, &c. ....	1893	.....	15 14 10	.....	15 14 10
Insolvency Court .....	.....	.....	.....	57 4 2	.....	57 4 2
Inspector-General of Police Office .....	Erection .....	.....	125 4 7	69 14 4	.....	194 18 11
"    New Offices .....	.....	.....	.....	11 1 5	11 1 5	.....
Imperial Pension Office .....	Furniture .....	.....	7 2 8	.....	.....	7 2 8
Justice Department .....	Repairs .....	.....	6 9 8	13 13 9	.....	20 3 5
Lands Department—Brass Tablets .....	Additions .....	1898	.....	105 12 0	.....	105 12 0
"    Erection Strong Room .....	.....	.....	.....	781 18 2	.....	781 18 2
"    Lifts Maintenance .....	.....	.....	.....	351 11 4	.....	351 11 4
"    Repairs .....	Repairs .....	.....	89 3 0	132 13 6	.....	271 16 6
Land and Income Tax Office .....	.....	.....	102 15 8	6 8 4	.....	109 4 0
Lunacy Office .....	.....	.....	1 3 3	0 8 8	.....	1 11 11
Mines Department .....	.....	.....	.....	117 10 8	.....	117 10 8
"    Furniture .....	Furniture .....	.....	16 17 6	.....	.....	16 17 6
"    Additions .....	Additions .....	.....	.....	62 17 0	.....	62 17 0
"    Erection of New Offices .....	Erection .....	.....	.....	11 1 5	11 1 5	.....
Museum .....	Repairs .....	.....	.....	21 7 1	.....	21 7 1
"    Additions .....	Additions .....	.....	.....	291 0 11	291 0 11	.....
Mint .....	Furniture .....	.....	26 1 7	.....	.....	26 1 7
"    Additions, Machinery, and Repairs ..	Additions, &c	1896	.....	1,285 13 8	11,885 6 6	.....
Military Offices .....	Repairs .....	1898	2 2 10	5 11 7	.....	7 14 5
Morgues—North .....	.....	.....	.....	1 2 0	.....	1 2 0
"    South .....	.....	.....	.....	5 2 10	.....	5 5 1
No. 1 Police Station .....	.....	.....	.....	3 1 11	.....	3 1 11
Ormonde House .....	Additions .....	.....	.....	41 0 0	.....	41 0 0
"    Repairs .....	Repairs .....	.....	.....	57 14 11	.....	57 14 11
Observatory .....	.....	.....	.....	26 9 10	.....	26 9 10
Ordnance Stores .....	Additions, Repairs, &c	.....	.....	98 13 1	.....	98 13 1
Parliament, New Houses of .....	Erection .....	1896	.....	.....	297 12 3	.....
Public Works Department—Repairs, &c. ....	Repairs, &c. ....	1898	.....	660 12 2	.....	660 12 2
"    Furniture .....	Furniture .....	.....	168 8 5	.....	.....	168 8 5
"    Lifts Maintenance .....	.....	.....	.....	395 9 10	.....	395 9 10
"    Electric Light Installation .....	Erection .....	1897	.....	2,526 5 2	3,433 14 1	.....

## RETURN OF EXPENDITURE ON PUBLIC WORKS, &amp;c.—continued.

Work.	Whether Con- structing or under Repair	When Commenced	Furniture	Expenditure from 1 July, 1898, to 30 June, 1899	If Unfinished, amount of Expenditure to 30 June, 1899	If Finished, actual amount of Expendi- ture
			£ s d	£ s d	£ s d	£ s d
<i>SYDNEY—continued</i>						
Public Instruction Department	Repairs	1898		6 10 7		6 10 7
Parliamentary Buildings—Improvements and Repairs	Repairs, &c			789 10 5		789 10 5
" Furniture	Furniture	"	108 6 2			108 6 2
" Attending to Ventilation and Gas Service	Repairs, &c	"		233 16 1		233 16 1
Public service Board	Repairs	"	9 1 10			20 15 10
Pharmacy Board	"	"		5 6 2		5 6 2
Probate Office	"	"		16 18 10		16 18 10
Public Wharves Office	Furniture	"	5 10 6			5 10 6
Patents Office	Repairs, &c	"		49 17 10		49 17 10
" Furniture	Furniture	1898	17 11 7			17 11 7
Public Service Tender Board	"	"	53 8 5			53 8 5
Prison for Females	Erection	"		11 1 5	11 1 5	
Painting Railings, Public Parks, &c	Repairs	"		10,762 7 6		10,762 7 6
Quarantine Station	"	"		147 6 9		147 6 9
Quarantine Depot, Woolloomooloo	Repairs, &c	"		14 17 7		14 17 7
Registrar General's Office—Electric Light Installation	Erection	1897		525 6 7		857 14 6
" Repairs	Repairs	1898	40 15 1	21 15 7		62 10 8
Railway Department	Furniture	"	0 8 11			0 8 11
Richmond Terrace	Repairs	"		23 14 9		23 14 9
Supreme Court—Additions	Additions	"		309 9 6		309 9 6
" Repairs	Repairs	"	16 2 7	296 6 1		312 8 8
Stamp Office	"	"	3 8 11	94 18 4		98 7 3
Sheriff's Office	Furniture	"	7 16 8			7 16 8
Stores Department	Repairs	"		1 9 7		1 9 7
' Sobraon, N S Ship—Additions to Shore Buildings	Additions	1897		563 9 10		1,133 3 1
" Baths, &c	Furniture	1898	43 3 9			43 3 9
' Sobraon, N S Ship—Furniture	"	"	2 19 6			2 19 6
Stock Department	Repairs	1898	585 9 2	390 3 8		975 12 10
Treasury—Repairs	Additions	1898		9,792 2 0	17,094 16 3	
" Additions	Erection	1897		49 10 3		395 7 7
" Electric Light	Repairs	1898		1 14 6		1 14 6
Technological Museum	Additions	"		38 4 3		38 4 3
University—Additions	Repairs, &c	1898		728 1 8		728 1 8
" Repairs, &c	Erection	1897		1,752 9 0		1,952 9 0
" Gate, Lodge &c	Additions	"		285 19 6		439 19 6
Water Police Court—Additions	Repairs	1898	4 15 3	33 6 0		38 1 3
" Repairs	"	"	1 12 1	0 10 7		2 2 8
Weights and Measures Office	"	"		7 6 3		7 6 3
William street Post and Telegraph Office	"	"		32 19 9		32 19 9
Woolloomooloo Police Station	"	"				
<i>SUBURBS</i>						
ASHFIELD						
Post and Telegraph Office	Alterations, &c	1898		161 12 0	161 12 0	
ALBANDRA						
Post and Telegraph Office	Erection	1897		620 9 7		1,755 9 7
ARCHBISHOP						
Post and Telegraph Office	"	"		12 10 2		1,267 10 2
BILLOLA						
Gaol	Additions	1898		1,882 8 7		1,882 8 7
" Repairs	Repairs	"	3 1 8	123 19 3		127 0 11
BLRWOOD						
Post and Telegraph Office	Additions	"		2 0 0		2 0 0
Court house and Lock up	Cost of land	1897		6 11 0		608 11 0
"	Erection	1898		400 0 0	400 0 0	
BALMAIN						
Post and Telegraph Office, and Court house	Repairs	"		168 0 2		168 0 2
BRUSH FARM REFORMATORY	Furniture	"	9 6 9			9 6 9
BOTANY BAY						
Dedication of Kurnell Park	Incidental	"		7 7 1		7 7 1
BOTANY						
Lock up	Repairs	"		32 10 0		32 10 0
COAST HOSPITAL, LITTLE BAY						
Repairs	"	"		402 19 9		402 19 9
Furniture	Furniture	"	196 18 3			196 18 3
Additions	Additions	"		238 11 9		233 11 9
Nurses New Quarters	Erection	1897		1,404 9 9		1,472 9 9
" Furniture	Furniture	1898	504 16 4			304 16 4
Laundry	Erection	"		1,959 6 0		1,959 6 0
" Machinery	"	"		654 13 11	674 13 11	
Water Mains	Construction	"		347 0 0	347 0 0	
Junior Medical Officers Quarters	Erection	"		28 0 0	28 0 0	
CALLAN PARK						
Hospital for Insane	Repairs	"	40 0 5	535 18 3		575 18 8
CAMBERDOWN						
Post and Telegraph Office	"	"		3 13 7		3 13 7
CITY						
Metallurgical Works	Additions	"		307 2 1		307 2 1
"	Cost of land	1897		13 2 6		77 8 3
" Furniture	Furniture	1898	5 8 6			5 8 6
COOKS RIVER						
Police Station	Repairs	"		18 10 0		18 10 0
DRUMMOYNE						
Post and Telegraph Office	"	"		6 8 11		6 8 11
DULWICH HILL						
Post and Telegraph Office	Cost of land	"		203 10 5		203 10 5
ENMORE						
Post and Telegraph Office	Repairs	1898		29 9 4		29 9 4
GLADSVILLE						
Hospital for Insane	Alterations and Repairs	"		1,038 15 0		1,038 15 0
" Boatshed, Pontoon, &c	Erection	"		779 10 0		779 10 0
GLEBE						
Post and Telegraph Office	Additions, &c	"		42 3 6		42 3 6
Court house	Repairs	"	2 9 6	3 8 3		5 17 9
Police Station	"	"		4 13 4		4 13 4
GRANVILLE						
Post and Telegraph Office	"	"		5 9 1		5 9 1
HUNTERS HILL						
Court house	Furniture	"		2 15		2 15 2
" Repairs	Repairs	"	1 3 0	155 16 0		1 3 0
Post and Telegraph Office	"	"		155 16 0		155 16 0
KOGARAH						
Post and Telegraph Office	Additions	"		13 5 3		13 5 3
MARRICKVILLE						
Lock up	Repairs	"		30 10 6		30 10 6
"	"	"		14 17 6		14 17 6
Post and Telegraph Office	"	"		0 2 1		0 2 1

RETURN OF EXPENDITURE ON PUBLIC WORKS, &c.—*continued.*

Work	Whether Constructing or under Repair	When Commenced	Furniture	Expenditure from 1 July, 1898, to 30 June, 1899	If Unfinished, amount of Expenditure to 30 June, 1899	If Finished, actual amount of Expenditure
			£ s d	£ s d	£ s d	£ s d
<i>SUBURBS—continued</i>						
MANLY — Post and Telegraph Office	Repairs	1898		94 10 10		94 10 10
NEWINGTON — Benevolent Asylum	Additions	1898		262 2 11		262 2 11
" " "	"	"		791 10 10		6,043 19 4
NORTH SYDNEY Court house	Alterations and repairs	1898		109 6 10		109 6 10
" Post and Telegraph Office	"	"		11 0 9		11 0 9
NEWTOWN Post and Telegraph Office	Repairs	1898		37 9 4		37 9 4
" Court house	"	"	1 10 3	6 11 5		8 1 8
PETERSHAM Post and Telegraph Office	Additions	"		20 0 0		20 0 0
PADDINGTON Court house and Police Station	"	"	7 7 1	6 1 4		13 8 5
PLYMOUTH Post and Telegraph Office	Incidental	"		0 7 0		0 7 0
PARRAMATTA Gaol	Additions, repairs, &c	"		1,078 17 11		1,078 17 11
" " Boundary Wall	Erection	"	19 11 11	9,439 17 9		9,439 17 9
" " Vertical Engine	"	"		45 0 0	45 0 0	
" " Iron Galleries No 6 Wing	"	"		120 0 0	120 0 0	
" " Electric Light Installation	"	"		923 13 6	923 13 6	
" " Temporary Electric Light Installation	"	"		89 19 6	89 19 6	
" " Power House	"	"		605 0 0	605 0 0	
" Hospital for Insane	Furniture	"	28 16 11			28 16 11
" " Gardener's Cottage	Repairs	"		200 13 0		200 13 0
" " Court house Site	Erection	"		120 0 0	120 0 0	
" " Court house	Additional cost	"		33 7 4		33 7 4
" " "	Furniture	"	37 15 1			37 15 1
" " Post and Telegraph Office	Additions	"		164 2 0		164 2 0
" " Benevolent Asylum (George street)	Repairs	1898		15 18 6		15 18 6
" " (Macquarie street)	"	"		4 11 8		4 11 8
" " Cottage Homes	"	"		66 7 0		66 7 0
" " Parramatta North —	"	"		16 2 3		16 2 3
" " Post and Telegraph Office	Cost of land	1896		17 11 4		270 9 8
" " "	Additions	1898		23 0 0		23 0 0
RANDWICK Post and Telegraph Office	Erection	1896		81 2 10		2 428 19 11
" " "	Additions, &c	1898	1 14 7	34 5 1		35 19 8
RIDGE Court house	Furniture	"	12 11 9			12 11 9
" Police Station	Repairs	"	5 11 3			5 11 3
ROCKDALE Post and Telegraph Office	"	"		60 8 11		60 8 11
REDFERN Court house	"	"		7 8 9		7 8 9
" Police Station	"	"		8 9 1		8 9 1
" Post and Telegraph Office	"	"		7 12 0		7 12 0
ROVELL Post and Telegraph Office	"	"		15 1 2		15 1 2
" Lock up	Erection	"		693 3 11		693 3 11
" " Furniture	"	"	2 13 6			2 13 6
RYDALMERF Hospital for Insane	Repairs and alterations	"		159 0 9		159 0 9
" " Recreation Hall	Fencing	"		36 0 0		36 0 0
" " Farm Buildings	Erection	1898		2,405 0 0	2,405 0 0	
ROOKWOOD Benevolent Asylum	"	"		31 8 0	31 8 0	
" " Scabies Ward	Repairs, &c	"		209 10 7		209 10 7
" " Steam Cooking Plant—Scabies	Erection	"		2,301 10 7		2,301 10 7
" " Ward	"	"		270 0 0	270 0 0	
" " Irrigation Works	Construction	1896		633 7 8	1,193 15 9	
" " Painting	Repairs	1898		235 10 3	235 10 3	
" " Police Station	Additions	"		4 10 0		4 10 0
SOUTH HEAD (WATSON'S BAY) Shaftesbury Reformatory	Repairs	"		14 19 11		14 19 11
SUMMITT HILL Post and Telegraph Office	Additional cost of land	"		9 5 8	9 5 8	
WAVERLEY Post and Telegraph Office	Repairs	"		102 13 7		102 13 7
WILLOUGHBY Police Station	"	"		5 2 6		5 2 6
<i>COUNTRY</i>						
ALBURY Post and Telegraph Office	Repairs	1898		9 0 0	9 0 0	
" Gaol	"	"	5 12 1	41 7 1		46 19 2
" Court house	"	"	41 1 9	2 4 0		43 5 9
" Police Station	"	"	8 17 1	15 10 11		24 8 0
" Government Architects Office	Incidental	"		4 14 0		4 14 0
" Police Officers' Quarters	Erection	1897		112 6 3		1,572 7 3
ARMIDALE Post and Telegraph Office	Additions	"		116 1 11		581 8 5
" Gaol	Repairs	1898		11 1 0		11 1 0
" " Court house	Additions	"		17 11 0		17 11 0
" " Lock up	Furniture	1897	167 17 5	1 124 17 11	2,520 18 5	167 17 5
" " Police Station and Quarters	Repairs	1898		0 13 0		0 13 0
" " Lands Office	"	"	9 12 9	10 2 7		19 15 4
" " Government Architects Office	Additions and repairs	"		89 5 6	89 5 6	
" " Government Offices (Old Telegraph Office)	Incidental	"	0 6 6	17 6 2		17 12 8
" " Roads Office	Additions	"	0 10 0	81 13 0		82 8 0
" " Furniture	"	"	5 1 5			5 1 5
ADELONG Post and Telegraph Office	Repairs	"		64 4 6		64 4 6
" " Police Station	"	"		65 12 0		65 12 0
" " Court house	Furniture	"	1 6 10			1 6 10
ADAMINABY Court house	Erection	"		1,955 0 0	1,955 0 0	
ADAMSTOWN Post and Telegraph Office	Repairs	"		1 15 0		1 15 0



## RETURN OF EXPENDITURE ON PUBLIC WORKS, &amp;c.—continued.

Work	Whether Constructing or under Repair	When Commenced	Furniture		Expenditure from 1 July, 1898, to 30 June, 1899		If Unfinished, amount of Expenditure to 30 June, 1899		If Finished, actual amount of Expenditure	
			£	s d	£	s d	£	s d	£	s d
COUNTRY—continued										
BATHURST										
Gaol—Electric Light Installation	Erection	1898			1,731	10 0	1,731	10 0		
" Additions	"	"			1,250	7 2	1,250	7 2		
" Additions and Repairs	Repairs, &c	1898			1,280	0 9			1,280	0 9
" Electric Light Maintenance	"	"			61	19 11			61	19 11
" Furniture	Furniture	"	29	1 2					29	1 2
Police Station	Repairs	"			8	0 0			8	0 0
Court house	"	"			25	8 6			25	8 6
"	Additions	1898	0	12 0	570	17 0			570	17 0
Post and Telegraph Office	"	"			1,310	14 0			1,310	14 0
Government Architects Office	Incidental	"	2	5 9	19	5 2			21	10 11
Technical College	Furniture and fittings	"	323	8 9					323	8 9
BOURKE										
Gaol	Repairs	1898			4	6 3			4	6 3
Court house	Erection	1897			5,774	8 5	6,492	0 10		
"	Furniture	1898	0	11 0					0	11 0
Post and Telegraph Office	Repairs	"			22	18 0			22	18 0
Lands and Survey Office	Erection	1897			2,817	7 8			3,735	6 5
"	Furniture	1898	8	18 8					8	18 8
NORTH BOURKE										
Police Station	Additions	"			38	10 0			38	10 0
BROKEN HILL										
Gaol	"	"			20	19 6			81	19 5
Court house	"	"			1,231	3 10			1,231	3 10
"	Repairs	"	1	13 5	4	3 6			5	16 11
Government Architect's Office	Incidental	"	0	3 6	2	1 3			2	4 9
BROKEN HILL SOUTH										
Post and Telegraph Office	Erection	1897			129	6 7			1,753	15 5
Police Barracks—Stable and fencing	"	"			764	12 8	764	12 8		
"	Repairs	1898			5	12 9			5	12 9
BOMBALA										
Police Buildings	Additions	"			7	10 0			7	10 0
BRAIDWOOD										
Post and Telegraph Office	Repairs	"			125	2 0			125	2 0
Lock up Gaol	"	"			3	1 5			3	1 5
Police Station	"	"			35	2 0			35	2 0
BOGGABRI										
Post and Telegraph Office	Additions	1897			24	0 0			333	12 6
BFRIMA										
Gaol	Alterations & Repairs	1898	1	5 7	237	16 2			239	1 9
Governor's Quarters	Additions	"			86	12 11			86	12 11
Post and Telegraph Office	Repairs	"			12	16 0			12	16 0
BALRANALD										
Lock up Gaol	Additions	"			35	1 7	35	1 7		
Police Station	"	"			1,086	5 6	1,086	5 6		
Post and Telegraph Office	Repairs	"			5	0 0			5	0 0
BREWARRINA										
Post and Telegraph Office	"	"			3	10 0			3	10 0
Court house	Furniture	"	4	0 10					4	0 10
BIVGARA										
Post and Telegraph Office	Additions	"			171	19 0			171	19 0
"	Repairs	"			2	10 0			2	10 0
Court house	Additions	"	4	11 0	389	15 2	889	15 2	4	11 0
Lock up Gaol	"	"			234	1 0			234	1 0
BEGA										
Court house	"	"	5	16 11	1	8 0			7	4 11
Post and Telegraph Office	Repairs	"			2	18 0			2	18 0
Police Buildings	Additions	"			539	8 0	539	8 0		
BALLINA										
Post and Telegraph Office	Repairs	"			38	0 0			38	0 0
BARRABA										
Police Station	"	"			8	5 0			8	5 0
Post and Telegraph Office	"	"			30	14 1			30	14 1
BUCKLIFY'S CROSSING										
Court house and Lock up	Furniture	"	6	7 10					6	7 10
BURROWA										
Court house	Repairs	"			0	2 6			0	2 6
BULLI										
Police Station	Additions	"			11	10 0			11	10 0
Court house	Furniture	"	2	15 1					2	15 1
BYRON BAY										
Police Station	Repairs	"	2	14 1					2	14 1
BFRRY										
Post and Telegraph Office	"	"			4	19 2			4	19 2
BURRAGA										
Police Station	Additions	"			4	10 0			4	10 0
BOGGABILLA										
Court house and Police Station	Fencing	1897			20	10 0			68	0 0
"	Furniture	1898	43	7 2					43	7 2
BFAFMFER										
Court house	"	"	27	6 6					27	6 6
BOOLIGAL										
Police Station	Erection	"			880	15 9			880	15 9
Court house	Furniture	"	0	16 6					0	16 6
BARMEDMAN										
Court house	"	"	17	0 5					17	0 5
BYEROCK										
Court house and Police Station	Additions	"	0	19 10	322	15 5			323	15 3
BUNDARRA										
Court and Watch house	"	"			20	15 0			20	15 0
BROKEN BAY										
Custom house—Additional cottage	Erection	1897			133	0 6			262	0 6
Magazines	Additions	"			10	14 6			136	1 6
BULLADELAH										
Court house	Repairs	1898			6	11 0			63	3 6
BENBOOKA										
Court house and Police Buildings	Additions	"			182	0 6			182	0 6
BLAYNEY										
Post and Telegraph Office	Repairs	"			192	14 0			192	14 0
Court house	"	"	0	7 9	0	13 6			1	1 3
BOWRAHILLP										
Court house and Police Station	Erection	"			1,636	10 8			1,636	10 8
BERMAGUI										
Police Station—Temporary Cell	"	"			42	0 0			42	0 0
BFLINGEN										
Court house	Furniture	"	22	12 8					22	12 8
BATLOW										
Police Buildings	Erection	"			668	7 6	668	7 6		
BROKE										
Police Station	"	"			504	19 1	504	19 1		

## RETURN OF EXPENDITURE ON PUBLIC WORKS, &amp;c.—continued.

Work	Whether Constructing or under Repair	When Commenced	Furniture	Expenditure from 1 July, 1898, to 30 June, 1899	If Unfinished, amount of Expenditure to 30 June, 1899	If Finished, actual amount of Expenditure
			£ s d	£ s d	£ s d	£ s d
COUNTRY—continued						
BRODWATER Court House	Additions	1898		44 5 2		44 5 2
BOBADAH Police Station, &c	Erection	"		228 17 0	228 17 0	
BOWRAI Post and Telegraph Office	Repairs	"		105 6 1	105 6 1	
CAMPBELLTOWN Post and Telegraph Office	Repairs	"		2 10 0		2 10 0
Roads Office	Furniture	"	0 4 10			0 4 10
Stud Farm (Kukham)	"	"	0 16 0			0 16 0
COONAMBLE Court house	Repairs	"		2 2 10		2 2 10
COOMA Court house	"	"	3 0 0	48 0 0	48 0 0	3 0 0
Police Station	"	"		11 8 0		11 8 0
Gaol	"	"	0 17 0	2 11 9		17 0 6
Post and Telegraph Office	"	"		6 13 0		6 13 0
CLARENCE TOWN Post and Telegraph Office	"	"		37 4 0		154 18 6
CAMDEN Post and Telegraph Office	Additions	1897		382 11 10		922 11 10
CASSIUS Court house	Furniture	1898	9 12 4			9 12 4
Post and Telegraph Office	Repairs	"		6 4 0		6 4 0
Lands Office	Furniture	"	1 1 0			1 1 0
COOTAMUNDRA Court house	Repairs	"	58 1 11	27 19 6		86 1 5
Post and Telegraph Office	Additions & repairs	1897		22 13 0		605 0 6
Lock up Gaol	Additions	1898	2 3 10	575 16 0	575 16 0	2 3 10
Government Architect's Office	Incidental	"	1 17 0	29 1 11		30 18 11
Police Station	Repairs	"		1 0 0		1 0 0
COWRA Lock up Gaol	Additions	1898		23 1 10		23 1 10
Court house	Repairs	"	0 17 0	76 18 0	76 18 0	0 17 0
Roads Office	Furniture	"	0 13 3			0 13 3
Post and Telegraph Office	Repairs	"		1 10 0		1 10 0
CASINO Post and Telegraph Office	"	"		65 0 0	65 0 0	
COBAR Court house	"	"	5 15 1	11 15 0		17 10 1
Post and Telegraph Office	Repairs, &c	"		71 0 0		71 0 0
Lands Office	Furniture	"	0 2 0			0 2 0
CARCOAR Post and Telegraph Office	Repairs, &c	"		97 18 0		97 18 0
CONDOBOLIN Court house	"	"		6 10 0		6 10 0
Post and Telegraph Office	Additions, &c	"		195 12 3		195 12 3
COOLAH Post and Telegraph Office	Additions	"		29 0 0		29 0 0
Court house and Police Station	"	"		970 7 4		970 7 4
CANDELO Post and Telegraph Office	Repairs	"		10 10 0		10 10 0
COPELAND Court house	"	"		4 0 0		4 0 0
Police Station	"	"		126 0 2		126 0 2
CUNDELTOWN Police Station and Court house	Repairs, &c	"		197 7 6		197 7 6
CORAKI Court house	Additions	"		12 8 9		12 8 9
CUDAL Post and Telegraph Office	" &c	"		7 7 0		87 10 0
CARRINGTON Post and Telegraph Office	"	"	7 14 3	11 3 6		18 17 9
CROOKWELL Police Buildings	Repairs	"		2 0 0		2 0 0
Roads Office	"	"	0 2 0			0 2 0
COOPERPOON Court house	Furniture	"	13 19 4			13 19 4
CFRYSVOCK Police Station	Erection	"		693 15 0		693 15 0
COBARGO Court house	Repairs	"	2 12 7	14 0 0		16 12 7
Police Station	"	"		13 12 0		13 12 0
CURRABUBULA Police Station	Erection	"		158 6 4		627 2 9
" " Temporary Cell	"	"		18 10 0		18 10 0
CARINDA Police Station Temporary Cell	"	"		70 0 0		70 0 0
Court house	Furniture	"	16 2 6			16 2 6
CORAMBA— Court house and Police Station	Cost of land	1897		34 13 10		35 1 4
" " "	Erection	1898		731 6 6	731 6 6	
CAMDEN HAVEN Pilot Station	Additions, &c	"		71 0 6		71 0 6
COROWA Police Station	Repairs	"		6 18 8		6 18 8
CAPTAIN'S FLAT Court house and Lock up	Erection	"		1,390 0 0	1,390 0 0	
COPMANHURST Police Station	Additions, &c	"		48 2 6		48 2 6
COOLABAH Court house	Furniture	"	15 16 7			15 16 7
Experimental Farm	"	"	0 17 1			0 17 1
COLLIE Police Station	Erection	"		594 13 3	594 13 3	
DFNILIQUIN Gaol	Additions	"		12 11 6		12 11 6
Court house	Repairs, &c	"	27 17 7	29 16 5		57 14 0
South—Lock up	Additions, &c	"	3 4 3	328 3 0		331 7 3
DUBBO Gaol	Repairs, &c	"	4 15 2	30 13 5		35 8 7
Court house	Additions	1897		19 4 0		101 4 0
" " "	Furniture	1898	9 15 9			9 15 9
Post and Telegraph Office	Additions	1897		273 0 8		353 2 6
Government Architect's Office	Incidental	1898		13 9 6		13 9 6
Lands Office	Alterations, &c	"		43 5 0		241 5 0
Lock-up	Cost of land	"		400 0 0		400 0 0
DUNGOO Court house	Repairs	"	5 6 0	100 5 0		105 11 0
Police Buildings	Repairs, &c	"		135 16 5		135 16 5

## RETURN OF EXPENDITURE ON PUBLIC WORKS, &amp;c.—continued.

Work	Whether Con- structing or under Repair	When Commenced	Furniture	Expenditure	If Unfinished,	If Finished,
				from 1 July, 1898, to 30 June, 1899	amount of Expenditure to 30 June, 1899	actual amount of Expendi- ture
COUNTRY—continued						
			£ s d	£ s d	£ s d	£ s d.
<b>DRAKE</b>						
Court and Watch House	Additions	1898	51 9 2	3 15 0		55 4 2
Post and Telegraph Office	Cost of land	1897		83 12 3		83 19 9
<b>DAVINSVILLE</b>						
Police Buildings	Additions	1898		8 0 0		8 0 0
<b>DFLEGATE</b>						
Court and Watch House	"	1897		427 17 8		1,029 17 11
<b>DALMORTON</b>						
Court house and Lock up	Erection	1898		383 13 1	383 13 1	
<b>ENYSONIA</b>						
Police Station and Court house	"	"		1,060 2 6		1,060 2 6
<b>ELABALONG</b>						
Police Station	Repairs	"		1 1 10		1 4 10
<b>EMMASVILLE</b>						
Post and Telegraph Office	"	"		11 11 6		11 11 6
<b>FOREBS</b>						
Court house	Repairs	"	17 1 9	42 0 0		59 1 9
Police Station and Lock up	Erection	1897		343 0 0		1,695 14 7
Gaol	Additions	1898		373 16 3		373 16 3
Lands and Survey Office	"	"	102 19 8	35 11 0		138 10 8
Police Barracks	Repairs	"		1 17 6		1 17 6
Government Architects Office	Furniture	"	1 1 8			1 1 8
Roads Office	Repairs	"		0 12 6		0 12 6
<b>FORSTER</b>						
Police Station	Additions	"		6 14 0		6 14 0
Court house	Furniture	"	4 3 8			4 3 8
Post and Telegraph Office	Additions	"		6 15 6		6 15 6
<b>FORDS BRIDGE</b>						
Police Station	Erection	1897		90 12 11		541 12 11
<b>FINLEY</b>						
Court house	Furniture	1898	4 13 6			4 13 6
Police Station—Temporary Cell	Erection	"		113 6 6	113 6 6	
<b>GUNVEDAH</b>						
Gaol	Additions	"		471 9 10		471 9 10
Court house	Furniture	"	0 10 0			0 10 0
Police Station	Repairs	"		4 13 0		4 13 0
<b>GUNNING</b>						
Police Quarters	Erection	"		405 0 0	405 0 0	
Court house	Repairs	"		4 0 0		4 0 0
<b>GRAFTON</b>						
Gaol	Additions	"		183 10 0	183 10 0	
"	Repairs	"		51 0 0		51 0 0
Post and Telegraph Office	"	1897		68 5 3		150 2 3
Court house	Additions	1898		558 0 11		558 0 11
"	Repairs	"	0 16 6	2 0 6		2 17 0
Police Station	"	"		6 14 6		6 14 6
Lands and Survey Office	Additions	"	0 1 0	9 3 10		9 4 10
Government Architects Office	Incidental	"		5 2 0		5 2 0
<b>GRAFTON, SOUTH</b>						
Post and Telegraph Office	Additions	"		25 13 6		25 13 6
Police Buildings	Repairs	"		7 3 4		7 3 4
Police Station	Additions	"		20 5 6		20 5 6
<b>GUNDAGAI</b>						
Gaol	Repairs	"		16 7 2		16 7 2
"	Additions	"		17 10 0		17 10 0
Court house	"	"	61 8 6	57 6 5		118 14 11
Police Station	Repairs	"		1 14 3		1 14 3
<b>GLEY INNES</b>						
Post and Telegraph Office	"	"		35 9 6		35 9 6
Court house	Additions	1897		1,060 10 2		1,756 9 4
"	Furniture	1898	12 2 6			12 2 6
"	Additions	"		37 18 0		37 18 0
<b>GULGOOG</b>						
Court house	Erection	"		1,427 8 0	1,427 8 0	
<b>GUYRA</b>						
Court house	Furniture	"	3 8 6			3 8 6
<b>GREVFELL</b>						
Court house	Additions, &c	"	0 19 0	41 7 8		42 6 8
Police Station	Alterations	"		7 15 0		7 15 0
Post and Telegraph Office	Repairs and alterations	"		16 0 0		16 0 0
Gaol	Furniture	"	10 13 3			10 13 3
<b>GOODOOGA</b>						
Court house	Additions	1897		245 14 9		449 17 0
"	Furniture	1898	2 15 6			2 15 6
Post and Telegraph Office	Additions	"		15 7 6		15 7 6
<b>GRESFORD</b>						
Court house and Police Station	Additions, &c	"	10 11 7	351 7 0		361 18 7
<b>GOULBURN</b>						
Gaol	Additions, repairs, &c	"	6 16 4	347 5 0		354 1 4
" Electric Light Installation and Erection of	"	1897		2,082 12 2		3,391 19 6
" Engine House	Construction	1898		351 0 2	351 0 2	
" Water Supply	"	"		167 2 8		167 2 8
" Electric Light Maintenance	"	"		20 9 10		25 12 2
Court house	Repairs	1898	5 2 4	13 3 6		19 1 9
Post and Telegraph Office	"	"	5 18 3			21 19 5
Government Architects Office	Furniture	"	21 10 5			10 1 9
" Incidental	"	"		10 1 9		10 1 9
Lands and Survey Office	Repairs	"		0 11 6		0 11 6
Moigue	Additions, &c	"		14 4 6		14 4 6
<b>GERMANTON</b>						
Police Station	Repairs	"		3 15 0		3 15 0
<b>GUNDAROO</b>						
Court house	Furniture	"	21 3 7			21 3 7
<b>GLADSTONE</b>						
Police Station and Lock up	Erection	1897		764 16 1		1,220 19 11
<b>GLOUCESTER</b>						
Post and Telegraph Office	Cost of land	1898		0 7 6	0 7 6	
<b>GILGANDRA</b>						
Court house	Erection	1897		226 11 4		595 3 6
<b>GOOLAGOOG</b>						
Police Station	"	1898		1,089 5 0	1,089 5 0	
<b>GRETA</b>						
Police Station	Alterations	"		3 13 0		3 13 0
<b>GIRILAMBONE</b>						
Police Station	Erection	"		536 7 10	536 7 10	
<b>GRONG GRONG</b>						
Police Station	Repairs	"		3 7 7		3 7 7
<b>GOSFORD</b>						
Police Station	Additions	"		145 15 0	145 15 0	

## RETURN OF EXPENDITURE ON PUBLIC WORKS, &amp;c.—continued.

Work	Whether Con- structing or under Repair	When Commenced	Furniture	Expenditure from 1 July, 1898, to 30 June, 1899	If Unfinished, amount of Expenditure to 30 June, 1899	If Finished, actual amount of Expendi- ture
			£ s d	£ s d	£ s d	£ s d
<b>COUNTRY—continued</b>						
HAY						
Court house	Repairs	1898		13 0 0		13 0 0
"	Additions	"		602 8 0		602 8 0
"	Furniture	"	6 6 10			6 6 10
Police Barracks	Additions, &c	"		71 0 6		71 0 6
Gaol	"	"		14 4 9		14 4 9
Land and Survey Office	Repairs	"		19 17 6		19 17 6
Police Station	"	"		4 15 2		4 15 2
Post and Telegraph Office	"	"		17 13 6		17 13 6
HILLSTON						
Court house	Furniture	"	57 3 8			57 3 8
Gaol	Repairs	"	2 0 8	3 2 7		5 3 3
HOWLONG						
Post and Telegraph Office	"	"		2 19 6		2 19 6
HARDEN						
Police Station	"	"		0 5 0		0 5 0
HILGROVE						
Post and Telegraph Office	"	"		10 16 10		10 16 10
HOWES VALLEY						
Police Station	"	"		124 10 0		124 10 0
HORTON VILLAGE						
Police Station (erection of buildings removed from Eulowrie)	"	"		199 0 0		199 0 0
HAMILTON						
Police Station	Repairs	"		7 8 10		7 8 10
HINTON						
Police Station	Additions, &c	"		17 10 0		17 10 0
INVERELL						
Court house	Repairs	"	10 15 8	2 1 0		12 16 8
Lockup Gaol	"	"		37 4 4		37 4 4
Public Buildings	Drainage	"		209 6 7		209 6 7
"	Repairs	"		8 0 0		8 0 0
IVANHOE						
Court house	Furniture	"	3 0 0			3 0 0
JERILDORF						
Post and Telegraph Office	Additions	"		385 13 8		385 13 8
JUNIPER						
Post and Telegraph Office	"	"		366 5 4	366 5 4	
JUGIONG—						
Court and Watch House	Repairs	"		16 12 2		16 12 2
JERRY S PLAINS						
Post and Telegraph Office	"	"		1 11 0		1 11 0
JENOLAN CREEKS						
Accommodation House	Erection	1896		1,170 18 2	8,812 7 8	
"	Furniture	1898	482 10 8			957 6 8
"	Additions, &c	"		380 16 5	380 16 5	
Reserve, &c, and Repairs, &c, Wilson's Quarters	"	"				
KIAMA						
Court house	Repairs	"		2 17 6		2 17 6
Post and Telegraph Office	"	"		9 18 0		9 18 0
KENMORE						
Hospital for Insane	Erection	1894		18 200 4 7	128 899 17 9	
" West "	Furniture	1898	919 11 11			3 869 7 5
KEMPSFORD						
Court house	Additions	"	29 5 8	28 7 10		57 13 6
KATOOMBA						
Court house and Police Station	Repairs, &c	"	30 2 1	8 0 0		38 2 1
KERRIBUFF						
Police Station	Repairs	"		31 0 0		31 0 0
KEW						
Court house and Lockup	Cost of land	"		35 18 0		35 18 0
"	Erection	"		1,646 17 9		1,646 17 9
LIVERPOOL						
Benevolent Asylum	Repairs	"	4 17 4	92 3 11		97 1 3
"	Fencing	"		158 14 6		158 14 6
Lockup	Repairs	"		15 10 0		15 10 0
Post and Telegraph Office	"	"		20 0 0	20 0 0	
LISMORE						
Court house	Additions	"		32 6 0		32 6 0
"	Furniture	"	32 2 7			32 2 7
Post and Telegraph Office	Erection	1897		1,638 6 0	4 454 1 1	
Police Buildings	Cost of land	"		7 10 7		394 5 9
"	Additions	1898		24 9 11		24 9 11
Roads and Survey Offices (Old Post office)	Alterations, &c	"		152 19 0	152 19 0	
LAMINGTON						
Court and Watch House	Additions, &c	"		134 4 3		281 4 3
"	Furniture	"	1 14 0			1 14 0
Police Station	Repairs	"		69 16 0	69 16 0	
Post and Telegraph Office	"	"	5 10 0	5 10 0		11 0 0
LAWRENCE						
Police Station	"	"		20 0 0		20 0 0
LOUTH						
Police Station Temporary Cell	Erection	"		127 4 10		127 4 10
LOCKINVAR						
Police Station	Additions, &c	"		14 10 0		164 10 0
LOCKHART						
Police Station	Repairs	"		0 14 10		0 14 10
LITHGOW						
Court house	"	"	2 13 9	3 0 0		5 13 9
MAITLAND EAST						
Gaol	Additions, Repairs &c	"	14 3 5	961 15 6		975 18 11
" Electric Light Installation	Erection	"		1,216 15 9	1,216 15 9	
" Maintenance	Repairs, &c	"		58 14 8		58 14 8
" Boundary wall	Additions	"		198 0 0		198 0 0
" Drainage	Construction	"		190 17 10	190 17 10	
Court house	Repairs	"	13 9 0	54 19 0		68 8 0
Post and Telegraph Office	"	"		4 0 0		4 0 0
Police Station	"	"		19 9 6		19 9 6
"	Additions	"		323 18 8	323 18 8	
Land and Survey Office	"	"		53 6 8		53 6 8
"	Repairs	"		38 12 9		38 12 9
Roads Office	Furniture	"	0 3 0			0 3 0
MAITLAND WEST						
Court house	Additions	1897		218 13 8		423 19 4
"	Repairs	1898		6 9 4		6 9 4
" Site for Police Buildings	Cost of land	"		653 0 0		653 0 0
Police Station	Additions	"	8 3 8	4 12 0		12 15 8
MUDGE						
Gaol	Repairs	"	0 5 6	6 6 3		6 11 9
Court house	Additions	"		535 18 3		535 18 3
"	Repairs	"	24 13 5	13 0 0		37 13 5

RETURN OF EXPENDITURE ON PUBLIC WORKS, &c.—*continued.*

Work.	Whether Constructing or under Repair.	When Commenced.	Furniture.	Expenditure from 1 July, 1898, to 30 June, 1899.	If Unfinished, amount of Expenditure to 30 June, 1899.	If Finished, actual amount of Expenditure.
			£ s. d.	£ s. d.	£ s. d.	£ s. d.
COUNTRY— <i>continued.</i>						
MUSWELLBROOK. Court-house .. .. .	Repairs .. .. .	1898	.. .. .	241 15 0	.. .. .	241 15 0
MOREE. Court-house .. .. .	Additions .. .. .	"	0 7 8	5 17 10	.. .. .	6 5 6
Police Station .. .. .	" .. .. .	"	.. .. .	37 17 0	.. .. .	37 17 0
Post and Telegraph Office .. .. .	" .. .. .	"	.. .. .	42 0 0	.. .. .	42 0 0
Gaol .. .. .	" .. .. .	"	.. .. .	395 2 6	.. .. .	395 2 6
Land and Survey Office .. .. .	Repairs .. .. .	"	2 5 0	3 2 2	.. .. .	5 7 2
Government Architect's Office .. .. .	" .. .. .	"	1 4 6	22 11 9	.. .. .	23 16 3
Railway Construction Office .. .. .	Incidental Furniture .. .. .	"	.. .. .	0 3 6	.. .. .	0 3 6
MULLUMBUMBY. Police Station .. .. .	Additions .. .. .	"	3 8 7	.. .. .	.. .. .	3 8 7
MILPARINAA. Police Station .. .. .	" .. .. .	"	.. .. .	10 15 0	.. .. .	10 15 0
Court-house .. .. .	" .. .. .	1897	.. .. .	507 8 0	.. .. .	705 13 0
Moss Vale. Post and Telegraph Office .. .. .	Repairs .. .. .	1898	.. .. .	1 0 0	.. .. .	1 0 0
MURRUMBURRAH. Court-house .. .. .	" .. .. .	"	.. .. .	84 18 0	84 18 0	.. .. .
Post and Telegraph Office .. .. .	" .. .. .	"	.. .. .	6 12 6	.. .. .	6 12 6
MORFETH. Police Buildings .. .. .	" .. .. .	"	.. .. .	0 15 0	.. .. .	0 15 0
MURRURUNDI. Court house .. .. .	Furniture .. .. .	"	2 11 0	.. .. .	.. .. .	2 11 0
Gaol .. .. .	Repairs, &c. .. .. .	1897	.. .. .	109 4 1	.. .. .	279 3 2
Post and Telegraph Office .. .. .	Furniture .. .. .	1898	0 17 1	.. .. .	.. .. .	0 17 1
MOANA. Post and Telegraph Office .. .. .	Repairs .. .. .	"	.. .. .	16 8 0	.. .. .	16 8 0
MACLEAN. Court house .. .. .	" .. .. .	"	.. .. .	0 8 9	.. .. .	0 8 9
MURWILLUMBAH. Court-house .. .. .	Furniture .. .. .	"	0 19 0	.. .. .	.. .. .	0 19 0
MORUA. Court house .. .. .	" .. .. .	"	3 18 8	.. .. .	.. .. .	3 18 8
Police Station .. .. .	Repairs .. .. .	"	6 2 6	1 0 0	.. .. .	7 2 6
Post and Telegraph Office .. .. .	Additions .. .. .	"	.. .. .	12 12 8	.. .. .	12 12 8
MOUNT VICTORIA. Post and Telegraph Office .. .. .	Repairs .. .. .	"	.. .. .	5 0 0	.. .. .	5 0 0
MOONBI. Police Buildings .. .. .	" .. .. .	"	.. .. .	66 15 6	.. .. .	66 15 6
MANILLA. Police Station and Lock-up .. .. .	Erection .. .. .	"	.. .. .	4 18 0	.. .. .	4 18 0
Court-house .. .. .	" .. .. .	"	.. .. .	.. .. .	.. .. .	.. .. .
Post and Telegraph Office .. .. .	Repairs .. .. .	"	6 15 7	1,189 10 4	.. .. .	1,442 3 10
MOLONG. Court-house .. .. .	Erection .. .. .	"	.. .. .	92 6 0	.. .. .	99 1 7
Mount Druydale. Police Station .. .. .	.. .. .	"	1,064 1 0	1,064 1 0	1,064 1 0	.. .. .
Moulamein. Post and Telegraph Office .. .. .	Additions .. .. .	"	.. .. .	162 12 1	.. .. .	162 12 1
Court house .. .. .	" .. .. .	"	.. .. .	5 10 0	.. .. .	5 10 0
MIMMI. Post and Telegraph Office .. .. .	Repairs .. .. .	"	.. .. .	3 16 0	.. .. .	3 16 0
MITTAGONG. Cottage Homes .. .. .	Furniture .. .. .	"	4 5 11	.. .. .	.. .. .	4 5 11
MOSSGIEL. Court-house .. .. .	" .. .. .	"	.. .. .	3 0 0	.. .. .	3 0 0
MARSDEN. Court-house .. .. .	Additions .. .. .	"	.. .. .	16 0 6	.. .. .	16 0 6
Police Station .. .. .	" .. .. .	"	.. .. .	2 10 0	.. .. .	2 10 0
MEROE. Police Station .. .. .	Additions .. .. .	"	4 11 1	.. .. .	.. .. .	4 11 1
MILLTOWN. Police Station .. .. .	Repairs .. .. .	"	.. .. .	65 0 0	.. .. .	65 0 0
MUNGINDI. Court-house and Lock up .. .. .	Repairs .. .. .	"	.. .. .	0 9 9	.. .. .	0 9 9
MANILDRA. Pilot Station—Erection of Boatmen's Cottage .. .. .	Erection .. .. .	"	.. .. .	22 10 0	.. .. .	22 10 0
MANILDRA. Police Station (Temporary Cell) .. .. .	Erection .. .. .	"	.. .. .	987 10 0	987 10 0	.. .. .
MOUNT McDONALD. Police Buildings .. .. .	Additions .. .. .	"	.. .. .	64 16 3	64 16 3	.. .. .
MONGARLOWE. Police Buildings .. .. .	Repairs .. .. .	"	.. .. .	27 10 0	.. .. .	27 10 0
NEWCASTLE. Hospital for Insane .. .. .	Alterations .. .. .	1897	.. .. .	5 13 7	5 13 7	.. .. .
" .. .. .	Additions .. .. .	1898	.. .. .	3 19 4	.. .. .	3 19 4
" .. .. .	Repairs .. .. .	"	.. .. .	209 10 0	209 10 0	.. .. .
Court-house .. .. .	Alterations and repairs .. .. .	"	.. .. .	24 10 0	.. .. .	2,375 18 6
Post and Telegraph Office .. .. .	Repairs .. .. .	"	13 5 10	29 17 4	.. .. .	43 3 2
Government Architect's Office .. .. .	Alteration .. .. .	"	30 19 6	105 1 1	.. .. .	136 0 7
Police Barracks .. .. .	Repairs .. .. .	"	.. .. .	21 14 3	.. .. .	21 14 3
Water-police Barracks .. .. .	Incidental .. .. .	"	.. .. .	0 4 9	.. .. .	0 18 3
Custom house .. .. .	Repairs, &c. .. .. .	"	.. .. .	28 13 4	.. .. .	28 13 4
Boatmen's Quarters .. .. .	" .. .. .	"	7 11 2	1 12 6	.. .. .	1 12 6
Morgue .. .. .	Additions .. .. .	"	.. .. .	51 5 5	.. .. .	58 16 7
Pilots' Quarters .. .. .	Repairs .. .. .	"	.. .. .	140 4 0	.. .. .	140 4 0
Lock-up (Lake Road) .. .. .	Repairs .. .. .	"	.. .. .	10 19 5	.. .. .	10 19 5
Water and Sewerage Board's Office .. .. .	Additions .. .. .	1897	.. .. .	83 17 1	.. .. .	203 9 1
Post and Telegraph Office (Newcastle West) .. .. .	Erection .. .. .	1898	.. .. .	22 6 6	.. .. .	22 6 6
Police Station, Hunter-street .. .. .	Repairs .. .. .	"	.. .. .	3,895 2 6	3,895 2 6	.. .. .
NARRABRI. Gaol .. .. .	Additions, &c. .. .. .	"	.. .. .	1,360 7 7	1,360 7 7	.. .. .
Court house .. .. .	.. .. .	"	.. .. .	1 9 0	.. .. .	1 9 0
NARRANDERA. Lock-up, Gaol .. .. .	Repairs .. .. .	"	.. .. .	185 8 0	.. .. .	185 8 0
Court-house .. .. .	Additions .. .. .	"	.. .. .	69 18 0	.. .. .	69 18 0
Post and Telegraph Office .. .. .	Repairs .. .. .	"	8 12 8	0 4 1	.. .. .	8 16 9
Police Station .. .. .	Additions .. .. .	"	1 8 2	261 13 4	.. .. .	263 1 6
Land and Survey Office .. .. .	Repairs .. .. .	"	.. .. .	96 15 0	.. .. .	96 15 0
Nowra. Court-house .. .. .	Furniture .. .. .	"	6 9 10	4 5 7	.. .. .	4 5 7
Post and Telegraph Office .. .. .	Repairs .. .. .	"	.. .. .	3 1 4	.. .. .	3 1 4
NYNGAN. Court-house .. .. .	Additions .. .. .	"	.. .. .	1,235 11 0	1,235 11 0	.. .. .
NYMAGEE. Police Station .. .. .	Repairs .. .. .	"	.. .. .	12 0 0	.. .. .	12 0 0
Alterations .. .. .	.. .. .	"	.. .. .	12 0 0	.. .. .	12 0 0

RETURN OF EXPENDITURE ON PUBLIC WORKS, &c.—*continued.*

Work	Whether Constructing or under Repair	When Commenced	Furniture	Expenditure from 1 July, 1898, to 30 June, 1899	If Unfinished, amount of Expenditure to 30 June, 1899	If Finished, actual amount of Expenditure
			£ s d	£ s d	£ s d	£ s d
COUNTRY— <i>continued</i>						
NARROMINE						
Court house and Police Station	Additions	1898		821 17 3		821 17 3
ORANGE						
Court house	Repairs	"	1 13 6	10 14 0		12 7 6
Gaol	"	"		25 0 0		25 0 0
Police Station	"	"		9 18 0		9 18 0
Government Architect's Office	Incidental	"	12 9 1	12 3 3		24 12 4
Police Barracks and Officers Quarters	Additions, &c	"		265 7 2		265 7 2
Roads Office	Repairs	"		0 6 6		0 6 6
OBERON						
Court house and Police Station	Additions, &c	"		477 13 9		477 13 9
OXLEY						
Court house	Furniture	"	6 11 6			6 11 6
Police Station	Repairs	"		6 10 9		6 10 9
OBLFY						
Court house	Furniture	"	1 1 9			1 1 9
PEVRITH						
Police Station	Repairs	"		2 6 0		2 6 0
PICTON						
Post and Telegraph Office	"	"		0 14 2		0 14 2
Court house	Repairs and alterations	"		13 6 0		13 6 0
PORT MACQUARIE						
Court house	Repairs	"		23 10 0		23 10 0
Police Station and Lock up	Erection	"		1,106 13 6	1,106 13 6	
Pilot Station	Additions, &c	"		30 4 6		30 4 6
Post and Telegraph Office	Repairs	"		18 18 0		18 18 0
PARKES						
Court-house	"	"		0 5 0		0 5 0
Lock up	Alterations and repairs	"		77 10 4		77 10 4
PATERSON						
Court house and Police Station	Repairs	"		94 10 0		94 10 0
PILLIGA						
Court and Watch House	Furniture	"	6 12 10			6 12 10
POONCARIE						
Post and Telegraph Office	Repairs	"		2 10 0		2 10 0
PAMBUIA						
Police Station	"	"		4 19 0		4 19 0
PALMER'S ISLAND						
Police Station	"	"		49 4 3		49 4 3
PEAT'S FERRY						
Lock up	Erection	"		767 7 10		767 7 10
PEAK HILL						
Court house	"	1897		114 14 9		1,329 10 10
" "	Additions	1898		40 4 0	40 4 0	
Police Station	Repairs	"		6 0 11		6 0 11
Post and Telegraph Office	Erection	"		417 17 0	417 17 0	
QUIRINDI						
Police Station and Lock up	"	1897		214 6 9		1 023 2 5
Court house	"	"		72 16 4		195 17 1
Government Architect's Office	Incidental	1898		2 8 2		2 8 2
QUEANBEYAN						
Gaol	Repairs	"		1 0 0		1 0 0
Court house	Additions	"	0 12 3	216 2 6		216 14 9
Post and Telegraph Office	Additions, &c	"		63 0 0	63 0 0	
RAYMOND TERRACE						
Court house	Additions	"		14 0 0		14 0 0
" "	Repairs	"	16 2 7	17 10 6		33 13 1
Police Station	Repairs, &c	"		137 1 0	132 1 0	
Post and Telegraph Office	"	"		39 12 6		39 12 6
ROCKLFY						
Court and Watch house	Repairs	"	1 8 10	28 17 6		30 6 4
Post and Telegraph Office	Additions &c	"		184 15 6		184 15 6
Mining Warden's Office	Furniture	"	0 9 0			0 9 0
RIHMOND						
Court house	Repairs	"		8 9 0		8 9 0
Post and Telegraph Office	Additions	"		25 4 6		25 4 6
Agricultural College—						
Irrigation Works	Construction	1897		196 7 1		980 0 0
Drainage	"	"		76 1 6		141 13 6
Culvert at Entrance	"	1898		24 15 0		24 15 0
Repairs, Electric Light Plant and Machinery	Repairs	"		73 18 11		73 18 11
Additional Cooking plant	Erection	"		291 0 0	291 0 0	
ROBERTSON						
Post and Telegraph Office	Repairs, &c	"		47 5 0		47 5 0
SINGLETON						
Police Station and Barracks	Additions	"		22 1 6		22 1 6
Lock up Gaol	Cost of land	1897		197 3 6		449 2 8
Court house	Additions and repairs	"		82 19 6	244 6 6	
Post and Telegraph Office	Repairs	1898		36 13 5	36 13 5	
SCOVE						
Post and Telegraph Office	Additions	"		219 16 0		219 16 0
Court house	Repairs	"	0 2 6	1 3 6		1 6 0
SOFALA						
Lock up	Incidental	"		1 6 1		1 6 1
SUNNY CORNER						
Court house	Furniture	"	16 3 0			16 3 0
STROUD						
Court house	Repairs	"		29 15 6	29 15 6	
Police Station	"	"		9 13 9		9 13 9
STOCKTON						
Police Station	Additions	"		4 2 6		4 2 6
ST ALBANS						
Court house	"	"	3 3 6	18 4 0		21 7 6
SOMERTON						
Police Station	"	"		98 10 0		98 10 0
SHELLHARBOUR						
Lock up	Repairs	"		3 0 0		3 0 0
SOLITARY ISLAND						
Lighthouse	Furniture	"	0 18 0			0 18 0
SUTTON FOREST						
Governor's Residence, "Hill View"	Repairs	"		204 17 10		204 17 10
" " "	Additions, &c	1897		198 13 3		488 0 8
" " "	Furniture	1898	13 16 8			13 16 8
TEMORA						
Post and Telegraph Office	Repairs, &c	"		12 9 6		86 1 4
Court house	Repairs	"	9 2 4	1 10 0		10 12 4
TENTERFIELD						
Police Buildings	"	"		5 0 0		5 0 0
Court house	"	"		109 0 0		109 0 0
Gaol	Furniture	"	1 3 0			1 3 0

RETURN OF EXPENDITURE ON PUBLIC WORKS, &c.—*continued.*

Work	Whether Constructing or under Repair	When Commenced	Furniture	Expenditure from 1 July, 1898, to 30 June, 1899	If Unfinished, amount of Expenditure to 30 June, 1899	If Finished, actual amount of Expenditure
COUNTRY— <i>continued</i>						
			£ s d	£ s d	£ s d	£ s d
TAMWORTH						
Police Station, &c	Additions	1897		167 0 7		660 13 2
"	Repairs	1898	1 15 0	4 18 0		6 13 0
Court house "	Cost of land	"		468 4 1		468 4 1
"	Additions	"		488 13 2	488 13 5	
"	Alterations, office	C P S		40 15 0	40 15 0	
Post and Telegraph Office Gaol	Additions	"		20 0 0		20 0 0
Land and Survey Office	Additions, &c	repairs, 1896		297 2 2		1,978 18 2
	Erection	1898		414 0 0	414 0 0	
TUMUT						
Police Station	Repairs	"		3 0 0		3 0 0
Court house	"	"		1 12 0		1 12 0
TIBOOBURRA	Additions, &c	1897		622 6 8		785 16 8
TOWAMBA	Repairs	1898		2 0 2		2 0 2
TINONELE						
Court house and Lock up	Erection	1897		170 9 5		1,567 12
"	Additions	1898		92 13 7		92 13
TRUNDLF	Repairs	"		0 7 6		0
TILIA	Erection	1897		870 7 6		876
THE ROCK	Additions	1898		0 6 0		0 6
TILBA	Furniture	"	22 16 2			22 16
TRUNFY	Alterations and repairs	"		139 1 0		139 1
TARFF	Cost of land	"		308 3 9		308 3 9
Post and Telegraph Office	Erection	"		588 1 3	588 1 3	
Court house "	Repairs	"	14 8 9	11 13 0		26 1 9
Lock up Gaol	Alterations	"	6 4 0			6 4 0
TWEED HEADS	Additions	"		234 12 0		234 12 0
TINGHA	Repairs, &c	"		82 19 6		82 19 6
TRIAL BAY	Repairs	"		3 6 1		3 6 1
PRISON	"	"		6 7 9		6 7 9
TUMBULGUM	Cost of land	"		1,029 11 9		1,029 11 9
TUMBARUMBA	Additions	"		5 12 0		5 12 0
URALLA	Repairs	"		1 7 6		1 7 6
ULMARRA	Repairs fencing	"		20 0 6		20 0 6
Government Buildings	Footpath, kerbing, &c	"		11 10 0		11 10 0
UNGARIE	Additions	"		56 15 0	56 15 0	
URANA	Repairs	"		4 10 0		4 10 0
WOLLONGONG						
Gaol	"	"		15 6 5		15 6 5
Court house	"	"	6 0 3	41 6 6		47 6 9
Custom house	"	"		44 0 2		44 0 2
Police Barracks and Lock up	Erection	"		283 0 0	283 0 0	
WAGGA WAGGA	Additions	"		65 7 0		65 7 0
Gaol	Repairs and alterations	"		11 3 1		11 3 1
Court house	Erection	"		37 7 0	37 7 0	
Police Station and Officers Quarters	Furniture	"	1 17 0			1 17 0
Lands and Survey Office	Repairs	"	0 2 0	5 8 0		5 10 0
	Additions	"	0 4 6	21 15 0		21 19 6
WINDSOR	Repairs	"	39 14 0	137 13 0		177 7 0
Court house	"	"		113 4 4		113 4 4
Lock up Gaol						
WARRIALDA	Alterations	"		10 0 0		10 0 0
Police Station	Repairs	"		1 10 0		1 10 0
WINGHAM	Additions	"		244 5 0		244 5 0
WILCANNIA						
Lock up Gaol	"	"		384 1 11		384 1 11
Court house	Repairs	"	9 14 6	33 0 3		42 14 9
	"	"		4 10 6		4 10 6
WATTF FLAT	Furniture	"	17 12 10			17 12 10
MINING OFFICE						
WALGETT	Repairs	"		6 0 0		6 5 6
WELLINGTON	Additions	"		356 5 0		356 5 0
Gaol	Repairs	"		43 7 6		43 7 6
Court house	"	"	4 14 6	44 0 0		48 14 6
WENTWORTH	Erection of Post master's quarters	"		550 0 0	550 0 0	
Court house	Repairs	"		5 14 6		5 14 6
Lock up	Erection	"		1,373 8 3	1 373 8 3	
Gaol	Repairs	"		1 0 0		1 0 0
Custom House	Additions	"		11 11 2		11 11 2
Police Station	Repairs	"		2 19 6		2 19 6
WEE WAA						
Court house	"	"	15 10 8	67 1 10	67 1 10	15 10 8
WARATAH	Repairs, &c	"		7 15 0		7 15 0
Court and Watch House						
WALCHA						
Police Station	"	"		48 9 0		48 9 0
WARREY	Additions	"		17 2 0		17 2 0
Post and Telegraph Office						
WYALONG	Erection	"		1,340 0 0	1,340 0 0	
Court house	Repairs	"		1 15 0		1 15 0
Lock up	Additions	"		668 10 8		668 10 8
WYALONG WEST	Incidental	"		0 5 0		0 5 0
Post and Telegraph Office						

RETURN OF EXPENDITURE ON PUBLIC WORKS, &c—*continued.*

Work.	Whether Constructing or under Repair	When Commenced	Furniture	Expenditure from 1 July, 1898, to 30 June, 1899	If Unfinished amount of Expenditure to 30 June, 1899	If Finished, actual amount of Expenditure
			£ s d	£ s d	£ s d	£ s d
WALEBUNDRIE Court house	Erection	1898		0 8 2	0 8 2	
WICKHAM Post and Telegraph Office	Repairs	"		78 4 0		78 4 0
WINDHAM Court house and Lock up	Erection	1897		686 19 3		1,021 14 3
WOODBURN Police Station	Additions	1898		90 10 0	90 10 0	
WALLENEND Court house and Police Station	Repairs, &c	"		39 5 3	39 5 3	
WALLENEND Post and Telegraph Office	"	"		12 12 0		12 12 0
WALLANDBURN Police Station	"	"		46 9 6		84 10 6
WHITE CLIFFS Police Station and Court house	Furniture	1898	2 14 6			2 14 6
WOLLOMBI Police Station	Additions	"		4 0 0		4 0 0
WOLLOMBI Court-house	"	"		29 0 0		29 0 0
WOLLOMBI Post and Telegraph Office	"	"		14 2 0		14 2 0
WARDELL Court house and Police Station	Erection	"		795 9 8	795 9 8	
WHITTON Court house and Police Station	"	"		13 10 0	13 10 0	
WARROO Police Station	"	"		577 17 6	577 17 6	
WOMBAT Police Station	Repairs	"		85 10 0		85 10 0
WALCHOPE Police Station	Cost of site	1897		1 9 6	1 14 6	
WOLLAR Police Station	Additions	1898		3 17 6		3 17 6
YASS Gaol	Repairs	"		10 11 10		10 11 10
YASS Lock up	"	"		9 6 0		9 6 0
YASS Court house	"	"		34 8 6		34 8 6
YOUNG Gaol	Additions	"		375 13 0		375 13 0
YOUNG " "	Repairs	"		46 19 6		46 19 6
YOUNG " "	Electric light main	"		6 11 2		6 11 2
YOUNG Court house	Repairs	"		11 6 6		11 6 6
YOUNG Police Station	Furniture	"	4 10 6			4 10 6
YOUNG Post and Telegraph Office	Repairs	"		1 1 6		1 1 6
YALGOGRIV Court house	Furniture	"	0 12 6			0 12 6
MISCELLANEOUS						
Salaries, Travelling Expenses, &c		1898		19,150 10 9		19,150 10 9
Incidental Expenses		"		307 1 10		307 1 10
Ballot boxes		"		106 12 3		106 12 3
Lighting Government, Street, and Park Lamps		"		1,19 18 5		1,195 18 5
Fuel and Light		"		1,166 7 2		1,166 7 2
Transfer to Postal Department Vote—Post and Telegraph Offices, purchase of Site, Loans, 62 Vic 36 (1898)		"		3,000 0 0		3,000 0 0
Public Buildings generally—Wages, Materials, &c		"	9 3 11	4 953 9 1		5,048 13 0
			£6,990 11 2	274,146 19 1	311,411 14 2	233,384 4 7

## SUMMARY OF EXPENDITURE from 1 July, 1898, to 30 June, 1899

	£	s	d
Loans	195,777	2	6
Consolidated Revenue	75,212	3	9
Services for other Departments	10,148	4	0
Total	£281,137	10	3



APPENDIX A.  
EXPENDITURE, Government Architect's Branch.

Year.	Loans.	Revenue.	Services for other Departments.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1863 .....	.....	.....	.....	95,052 10 2
1864 .....	.....	.....	.....	81,792 0 11
1865 .....	.....	.....	.....	51,063 19 8
1866 .....	.....	.....	.....	52,118 4 4
1867 .....	.....	.....	.....	73,202 6 4
1868 .....	.....	.....	.....	85,903 1 10
1869 .....	.....	.....	.....	96,313 9 0
1870 .....	.....	.....	.....	65,304 3 2
1871 .....	.....	.....	.....	67,651 6 5
1872 .....	.....	.....	.....	54,329 17 7
1873 .....	.....	.....	.....	96,875 11 9
1874 .....	.....	.....	.....	148,650 0 5
1875 .....	.....	.....	.....	199,982 6 7
1876 .....	.....	.....	.....	129,803 3 6
1877 .....	.....	.....	.....	164,889 17 11
1878 .....	.....	.....	.....	208,394 14 9
1879 .....	.....	.....	.....	457,317 1 5
1880 .....	.....	.....	.....	633,274 8 8
1881 .....	.....	.....	.....	421,896 13 7
1882 .....	.....	.....	.....	355,552 15 8
1883 .....	.....	.....	.....	367,377 18 5
1884 .....	.....	.....	.....	408,436 4 6
1885 .....	.....	.....	.....	428,881 5 8
1886 .....	.....	.....	.....	376,521 18 8
1887 .....	.....	.....	.....	281,033 12 11
1888 .....	.....	.....	.....	259,136 13 6
1889 .....	.....	.....	.....	225,574 16 9
1890 .....	.....	.....	.....	267,801 6 6
1891 .....	.....	.....	.....	334,253 7 6
1892 .....	.....	.....	.....	300,587 6 1
1893 .....	.....	.....	.....	222,147 16 5
1 January, 1894, to 30 June, 1895 .....	113,928 13 8	93,059 2 8	.....	206,987 16 4
1 July, 1895, to 30 June, 1896 .....	141,672 13 10	65,508 7 3	.....	207,181 1 1
1 July, 1896, to 30 June, 1897 .....	166,183 0 0	60,249 2 10	23,720 3 10	250,152 6 8
1 July, 1897, to 30 June, 1898 .....	166,516 17 8	62,597 9 5	16,586 3 0	245,700 10 1
1 July, 1898, to 30 June, 1899 .....	195,777 2 6	75,212 3 9	10,148 4 0	281,137 10 3
Totals .....	£ 784,078 7 8	356,626 5 11	50,454 10 10	8,202,279 5 0

## Roads and Bridges.

### VIII.

#### Report of the Principal Assistant Engineer for Roads and Bridges.

Sydney, 6 November, 1899.

I HAVE the honor to present, for the information of the Under Secretary for Works and Commissioner for Roads, a report upon the works carried out by this branch during the year ending 30 June, 1899, together with tabulated statements of the expenditure for that year, the lengths of roads and bridges of various classes directly or indirectly under the charge of the branch, and other statistical information.

#### EXPENDITURE.

From these returns it will be seen that the expenditure on roads and bridges was £645,569 5s. 3d.—an increase over last year of £29,471 10s. Of this sum, £566,510 3s. 8d. were derived from revenue and £79,059 1s. 7d. from Loan Funds. A sum of £291,491 3s. 5d. remained unexpended from Loan Votes, and was carried forward.

Road works absorbed £454,009; bridges, £109,715; ferries, £14,067; and miscellaneous works, £29,161; while £54,076 were expended in salaries, supervision, equipment, travelling expenses, rent, &c.

The sum of £359,214 was expended by contract, and £162,051 by day-labour under the supervision of the Departmental officers, while £20,757 were paid to various municipal councils to assist in the maintenance of roads within their boundaries.

Of the total expenditure, contracts absorbed 55.61 per cent.; wages, 25.10 per cent.; stores, materials, and sundries, 7.66 per cent.; subsidies to municipalities, 3.22 per cent.; and supervision, rents, equipment, travelling, &c., 8.38 per cent.

Thirty-three new bridges were opened during the year, and 38 old structures were replaced at a cost of £59,585 16s. 7d.; while, on 30 June, 37 were in course of erection, at an estimated cost of £89,950 4s. 9d.

The cost of working ferries was £12,839 0s. 10d., and the revenue derived from them amounted to £5,886 15s.

#### STATISTICS.

A total length of 42,178 miles 66 chains of road have been dealt with during the year, classified as follows:—

Scheduled roads receiving a regular annual expenditure	...	28,386 miles 59 chains.
Municipal roads subsidised by the Department	... ..	1,156 ,, 40 ,,
Unclassified roads receiving grants as required	... ..	12,635 ,, 47 ,,
Total	... ..	42,178 miles 66 chains.

Of the scheduled roads, 461 miles, and of the unclassified roads, 237 miles 40 chains, are under the control of trustees, the Department exercising only a general supervision over the expenditure.

There are 2,914 bridges on these roads, consisting of 8,111 spans, having a total length of 275,994 feet, or 52 miles 22 chains. Of these, 71 bridges, having 279 spans and a length of 9,791 feet, or 1 mile 68 chains, have been built during the year.

The culverts number 36,158, of which 1,012 are constructed of stone, brick, or concrete, 22,978 of timber, and 12,168 are pipe-culverts. Their total length is 535,342 feet, or 101 miles 31 chains.

Causeways number 16,006, and have a total length of 388,029 feet, or 73 miles 39 chains.

There are 101 punt ferries and 45 boat ferries in operation, and the Department owns 1 steam-launch, 11 iron punts, 96 timber punts, 3 horse-boats, 74 flood-boats, and 134 other boats.

There are also 13 punt slips for executing repairs.

Two new punts were built during the year, and on 30 June 2 steam-launches were in progress.

The branch regularly employed 57 foreman and overseers, 905 road maintenance men, and 84 others, including ferrymen, &c. In addition to these, an average of 29 foremen and overseers, 370 road maintenance men, and 167 other men received temporary and intermittent employment, thus raising the average number of men regularly earning wages during the year to 1,612.

The average number of contractors and contractors' men employed was 5,684.

The contracts let during the year numbered 4,387, of which 4,127 were road contracts and 260 bridge contracts. These range in value from £2 to £2,546. The aggregate value was £412,895.

Three thousand four hundred and forty-seven contracts were completed during the year, and 476 were in progress on 30 June.

The number of reports, minutes, and returns received and registered at head office was 31,931, and 19,988 vouchers were examined and submitted for payment.

HEAD

## HEAD OFFICE AND FIELD STAFF.

The Roads Staff was on 30 June as follows:—

District Engineers ... ..	5
Assistant Engineers ... ..	2
Road Superintendents ... ..	56
Field Assistants... ..	20
Clerks in District Offices ... ..	15
Survey Draftsmen ... ..	2
” ” (temporary) ... ..	2
Foremen... ..	6

The Bridges Staff was on 30 June as follows:—

Assistant Engineer ... ..	1
Engineer in charge of bridge designs... ..	1
Bridge Superintendent... ..	1
Draftsmen ... ..	15
Inspector of Ironwork... ..	1
” Timber ... ..	1
Resident Engineers ... ..	4
Clerk ... ..	1
Bridge Inspectors and Overseers ... ..	4
Bridge Caretakers ... ..	7

NOTE.—Since 30 June transfers to another Department have considerably reduced the staff, and several alterations in title have also taken place.

The Colony is divided into 61 road districts, ranging in area from 74,230 square miles in the west to as low as 230 square miles in the more densely-populated areas on the coast. The greatest road mileage in charge of any district officer is 3,801 miles, and the smallest 257 miles.

In the execution of their duties road superintendents travelled 257,279 miles by road and 89,580 miles by rail. Field assistants travelled 94,756 miles by road and 29,269 miles by rail, and foremen and overseers travelled 69,632 miles by road and 6,094 miles by rail. These figures give a total of 646,610 miles travelled—421,667 miles by road and 124,943 miles by rail. The cost to the Department was £5,139 10s., equal to about 2½d. per mile.

## GENERAL.

In view of the rapidly-increasing road mileage, and the limited funds placed at the disposal of the branch, it has been necessary to exercise the most rigid economy in the expenditure. When it is remembered that the applications for grants amount to many millions a year, it will be seen that at once the most laborious and least pleasant duty of officers has been the careful sifting of claims.

The inspection of roads on which expenditure has been applied for, and subsequently refused, has involved many thousands of miles of travelling, and much labour in collecting statistical information as to traffic, produce raised, and persons to be served. It has been, of course, impossible to altogether avoid charges of unfair treatment; but the fact that these have been so remarkably few, and on further investigation have usually proved unfounded, indicate that the officers have carried out their duties with impartiality and discretion.

In view of these facts, it is gratifying to note that the cost of supervision—which includes salaries, equipment, travelling, rent, wages of overseers, &c., &c.—has not exceeded 8·38 per cent. of the total expenditure.

In the expenditure of the annual and special grants the district officers have exercised the greatest care. Although over four thousand contracts have been dealt with, in no instance has a contractor exercised his right of appeal to legal process, and in very few has it been found necessary to reverse at head office the decision arrived at by those in charge of the work.

With regard to the bridges erected during the year, I have nothing to add to the exhaustive report submitted by the Assistant Engineer in immediate charge of such work, and beg, therefore, to forward it without comment for the information of the Under Secretary and Commissioner.

W. J. HANNA,

Principal Assistant Engineer, Roads and Bridges.

Under Secretary and Commissioner for Roads.

## BRIDGE CONSTRUCTION, RENEWALS, AND REPAIRS.

## IX.

## Report of the Assistant Engineer for Bridges.

I HAVE the honor to report that, during the year ended 30 June, 1899, 71 new bridges were completed and opened for traffic, at a total cost of £59,585 16s. 7d. (for details, see Appendices A and B). The total length of these bridges is 9,791 feet, consisting of 265 timber beam spans and 14 timber truss spans. Of these, 38 bridges, having a length of 6,793 feet, and costing £12,797 18s. 8d., were constructed, to replace previously existing structures which had become unfit for traffic.

The more important bridges completed were:—The renewal of the timber viaduct in approach to the iron bridge over the Murrumbidgee River at Gundagai, having a total length of 2,719 feet, consisting of 78 timber beam spans, and costing £12,292 6s. 2d.

Union bridge over the Murray River at Albury, having a total length of 323 feet, consisting of two timber truss spans of 110 feet each and three timber approach spans, costing £6,813 13s. 5d.

Bridge over the Bega River at Bega, having a total length of 433 feet, consisting of four 90-foot timber truss spans and two 35-foot timber approach spans, and costing £4,251 9s. 3d.

The year's work adds 33 bridges to those previously existing, and there were, on the 30th June, 1899, 2,914 bridges, with a total length of 275,994 feet, or 52 miles 22 chains, under the control of the Department.

The materials used in the construction of these works may be summarised as follows:—

Round timber in piles and girders...	...	...	...	62,262	lin. ft.
Hewn timber and sawn timber	...	...	...	159,338	cub. ft.
Ironwork	...	...	...	322	tons.
Masonry	...	...	...	297½	cub. yds.
Concrete	...	...	...	1,066	„

NOTE.—The figures given on above, as also on the returns attached, represent the cost of bridge structures without engineering and incidental expenses.

## WORKS IN PROGRESS.

At the close of the period under review a large number of important works were in progress, viz.:—Thirty-seven new bridges, estimated to cost £89,950 4s. 9d. (see Appendices C and D), of which 20 are to replace previously existing structures, and 17 are at new sites, the more important being—

*Kempsey Bridge.*—Estimated cost, £22,000. It will be noticed that in the report for the year ending 30 June, 1898, reference is made to this bridge, for which a contract had been let. Good progress has been made with the work during the year, and the completion may be looked for early in 1900. The bridge consists of 4 timber truss spans of 154 feet each, on cylinder piers, with 305 feet of approach spans, the width of deck being 22 ft. 6 in. throughout.

*Dunmore Bridge, Paterson River.*—contract cost, £12,433—was also referred to in the last report, and its completion may be looked for in December next.

*Hinton Bridge, Paterson River.*—This bridge is to complete the line of communication between Morpeth, Hinton, and northwards via Phoenix Park, in connection with which the bridge over the Hunter River at Morpeth was built last year. It will consist of two 90-foot timber truss spans with a steel lift span, and 340 feet of beam spans in approach, and a contract has been let for £9,845.

*Murwillumbah Bridge, Tweed River.*—The recent opening of the railway line from Lismore to the Tweed, which has its terminus on the south side of the Tweed River, opposite Murwillumbah, made the construction of a bridge at the place necessary. A contract for £12,941 17s. 6d. was let in November, 1898, and the work is proceeding rapidly. The bridge will consist of four 90-foot timber truss spans, and a steel lift span on cylinder piers, with 100 feet of approach spans.

In connection with the Hinton and Murwillumbah bridges, reference may be made to the improved machinery for raising the lifting span, where, by the adoption of a system of wire ropes in lieu of shafting overhead, a considerable economy in construction is effected.

*Queanbeyan Bridge.*—This bridge is rapidly nearing completion, and is of considerable interest, as, with the exception of the bridge over the Lachlan River at Cowra, it is the first in which the composite form of truss has been used in New South Wales, and also because the Pratt style of truss, with vertical posts and inclined tension members, has been adopted, in lieu of the Howe type; in order to obtain a stiff cross-section. The superiority of steel over timber in tension, and the great cost of replacing the timber chords, which, from their position, are the first portion of the truss to decay, points to a great economy in maintenance being effected by the use of this type for important bridges.

*Moruya Bridge.*—The work of rebuilding the bridge which carries the South Coast road across the Moruya River was put in hand towards the end of the year, and a system of sinking foundations has been adopted, which, so far as this Colony is concerned, is new, and gives promise of a considerable saving. The old bridge was a very light timber structure, 850 feet in length, erected in 1875, and now quite past service. The river at this place is a sandy estuary, the depth to rock from H.W. varying from 9 feet at the shore to 46 feet in the centre. It was considered advisable that the piers of the new bridge should be of a permanent character, but the depth to rock made the sinking of cylinders a very costly matter. Piers consisting of three cast-iron piles (see Plan appended), each 12 inches in diameter, and having a specially-formed shoe 18½ inches in diameter, have been adopted, the piles after fixing being joined together with steel bracing. These piles are sunk to a depth of 20 feet by means of a powerful jet of water, which, entering the top of the hollow pile and passing through orifices in the shoe, displaces the sand and causes the pile to sink to the required depth. This system has been successfully used in other countries, but in New South Wales only to a limited extent in connection with timber piles, and then chiefly as an aid to withdrawing them. I made a trial of sinking these large cast-iron piles, prior to their use at Moruya, at Lake Macquarie in May last, when one of them was rapidly sunk 23 feet through sand and clay bands, and was also withdrawn, so successfully as to fully justify the adoption of the system.

An extension of this system of hydraulic sinking has also been used at Moruya to remove timber which may be met with in sinking the piles to reach the rock, when the depth of overlying sand does not afford sufficient holding for the piles, and the ebb and flow of the tide causes the silting-up of any excavation

excavation made unless a coffer dam be sunk at great cost. A steel cylinder, 3 ft. 6 in. in diameter and 25 feet in height, is provided, with an air-lock at one end, and is sunk through the sand till rock is reached by pumping water into the upper part of the cylinder. The air-lock is then brought into operation and the men descending through it cut a hole in the rock and fix the pile, when the cylinder is withdrawn and the operation repeated at the next pile.

The more usual system of sinking such a cylinder to the rock has been to excavate the material inside the cylinder, lifting it through the top, a process much lengthened by the fact that as the material was removed more was often carried in at the bottom by the influx of water. In the system now described, on the contrary, no material is excavated, the water pumped into the cylinder forcing the sand away from the bottom of the cylinder, so that the men descending after the air has been applied, find the rock swept clean of sand, and can proceed with the work of fixing the pile at once.

The plant by means of which these operations are conducted at Moruya is a very compact and perfect one, consisting of a double-action Worthington pump, 10-inch steam cylinders, 6-inch water cylinders, and 10-inch stroke, and capable of working against a pressure of 160 lb. per square inch for the hydraulic process, and a Marsh patent air-compressor, 10-inch steam, and 10-inch air cylinder for supply of air to the air-lock. Both these pumps, which are the best of the class, are supplied with steam by a 12-h.p. vertical boiler, working at a pressure of 80 lb. per square inch.

*Cockle Creek Bridge and the Monier system.*—This bridge (see Plan appended), though not of importance in point of magnitude, being only 343 feet in length, and costing £3,800, is of considerable interest, owing to the use in its construction of Monier cylinders in lieu of cast-iron, and also Monier pipes as a protective covering for the piles. The difficulty of protecting timber piers in saltwater from the attacks of the cobra leads to the use of the cylinders, generally of cast-iron filled with concrete, for important piers such as those under truss spans, and the cost of the cast-iron cylinders has been a very serious item. The success of the Monier system in connection with pipes of all sizes suggested that it might be used as a substitute of cast-iron in cylinders, and it was tried for the first time at Cockle Creek, as now described.

The main piers of the bridge each consist of two cylinders 3 ft. 6 in. internal diameter, and 2½ inch thick, constructed on the Monier principle, and having one layer of wire-netting (1-inch mesh and 16 gauge), and two spirals of 10 gauge steel wire wound completely round the cylinder, the turns being 1 inch apart. The longitudinal connection is formed by six steel bars 1½ inch by ¼ inch placed between the wire spirals; these bars are so arranged that those of adjoining lengths of cylinder can be coupled together by means of a small fish-plate and steel wedges.

In sinking the cylinders the joints were made with red lead to prevent leakage, and it was found that when several segments were joined together, they could be lifted without disturbing the joint. A cast-iron cutting segment was used (see Fig. 4) to protect the bottom edge of the cylinder, and as a precaution against damage by the men's picks, a thin steel plate guard was provided for the inside of the cylinder up to a height of 4 feet, but this was not found necessary. The cylinders were sunk through gravel, sand, and clay, 36 to 41 feet below the water, and as it was found possible to keep them pumped dry if well pressed down by means of screw-jacks, the air-lock was not required. When a satisfactory foundation was reached the cylinders were filled with concrete in the usual way, the inside surface of the Monier being carefully cleaned to get as good a bond as possible with the concrete.

The cost of these cylinders delivered at site was 24s. per foot, as against £3 per foot for cast-iron cylinders of the usual type, making a saving of £264 5s. on these two small piers alone, and there is no doubt that their use in suitable localities will result in a very large saving in future.

Hitherto where protection from the teredo has been necessary for timber piles, muntz metal has been generally employed, or in some cases earthenware pipes filled with concrete, but these latter, owing to their fragile nature, and the difficulty of making a joint with the necessary longitudinal strength, have not proved very satisfactory. At Cockle Creek the experiment was made of using Monier pipes for a pile covering. These are exceedingly strong to resist fracture, and even if cracked do not fall to pieces; they can be jointed so as to have a good strength longitudinally, which makes them easy to handle; and, what is most important, a series of pipes can be forced down with screw-jacks without danger of cracking.

Fig. 1 on plan shows the Cockle Creek Bridge, in which 5 timber piers, having 3 piles in each, or 15 piles in all, have been protected by Monier pipes.

The formation is sand mixed with vegetable matter overlying stiff clay to a depth of about 5 feet, and it was considered desirable that the piles should be protected down to the point where they entered the clay, so as to provide against removal by scour of the soft upper strata. The piles were of ironbark, about 40 feet long, 14 inches diameter at the small and 18 inches diameter at the large end, driven 15 feet into the clay. From the level of the clay to high water, 4 hardwood battens were spiked to act as guides for the pipes, and the piles received a coating of Stockholm tar before driving. Driving having been completed, a small platform was attached to the pile above high water, and upon this were erected, by threading over the head of the pile, a sufficient length of 21-inch diameter Monier pipes to reach from high water to the clay-bed. The pipes were then jointed with a wire-netting cover and cement, the joint being the ordinary Monier pipe-joint, swelling the diameter of the pipe about 2 inches; but I may mention that the contractors for the pipes are now making an improved joint (shown in Fig. 2), which will suit better and be more sightly. While the joints were setting the capwales were fixed on to the piles so as to bring them into position and avoid movement after the pipes were sunk. The platform was then removed, and the pipe-casing lowered by means of hooks under the bottom length of the pipe, until it rested upon the bottom. A jet of water from an inch and a half pipe was then worked round the bottom of the pipe-casing to loosen the material, and pressure was applied by means of screw-jacks at the top, when the casing sank easily to the clay bottom. The space between the casing and the pile having then been scoured out with the jet, was filled with clean sand, finished with 9 inches of concrete at the top to form a cap. The casing presents a neat appearance, and I have no doubt will prove of great durability, probably outlasting the pile.

The pipes used are constructed on the usual Monier principle, being 1½ inch thick, of cement mortar on a groundwork of wire-netting 1½-inch mesh and 16 gauge.

*P. and B. Pile covering.*—This pile covering, of which favourable reports reach us from America, is of a bituminous nature, and it is claimed that the growths of marine plants on it protect it from the friction of sand suspended in the water, which is so destructive to copper. A trial of this covering has been made at Murwillumbah Bridge, and also at Webb's Creek, but no opinion can be formed until a considerable time has elapsed.

## DRAWING OFFICE.

During the months of July to April inclusive almost the whole of the drawing office staff were employed on the plans for the Pymont and Glebe Island Bridges (under Mr. Darley), and this necessarily held back other works; but after April every effort was made to put out as much work as possible. Excepting the Pymont and Glebe Island Bridges, plans were prepared and tenders invited for 74 bridges and 3 punts, with a total contract value of £78,073.

## REPAIRS TO BRIDGES.

During the year a sum of £46,107 6s. 2d. was expended upon repairs to 642 bridges, the system adopted being to invite tenders for supply of material required and carry out the work by day-labour under the Department's overseers. In those districts where timber is not available, or in cases of extreme urgency, the timber is sent from the depôt at Cockatoo Island, where a supply is kept which has proved most valuable. The expenditure on replenishing this stock of timber during the year has been £989 17s. 4d., but it is intended to carry a heavier stock in future, as any sudden demand reduces the present small stock below working limits. Although established in the first case for the use of this branch only, other branches of the Department have found the supply very useful from time to time.

The most important work under the head of repairs was the partial rebuilding of the bridge over the Hunter River, at Denman. The main portion of this bridge consisted of two spans of 90 feet each, on timber piers, and the flood of February, 1898, caused a subsidence of one of the river piers, followed by the collapse of about 70 feet of the superstructure. Three new piers have been erected, the most important being of iron cylinders, while the damaged superstructure has been rebuilt at a cost of £3,707 12s. 2d.

## INSPECTION OF TIMBER FOR EXPORT.

In the month of August, 1898, the New Zealand Railway Department placed orders in the Colony for the supply of about 4,000,000 superficial feet of hewn and sawn timber, and about 35,000 lineal feet of round piles (£43,500 worth), and at the request of the New Zealand Government arrangements were made for inspection before shipment by the officers of this branch. In addition to the services of one inspector (Mr. Kane) sent to the Clarence from New Zealand, this work has required the undivided attention of three officers, as well as the constant supervision of the Department's timber inspector. Up to 30 June the following had been shipped:—25,000 lineal feet of round piles, 1,250,000 superficial feet of squared and sawn timber, the money value of which, delivered in New Zealand, is £15,000, and it is satisfactory to note that the New Zealand Government state that their views have been met as to the quality of timber sent forward.

## PUNTS.

A contract was let, and the work of constructing a new steam punt for the vehicular traffic at Grafton ferry, Clarence River, is in progress. The punt will have a length of 64 feet, width 30 ft. 6 in., and depth 4 ft. 6 in., providing a carriage-way of 17 ft. 6 in. in the clear, and is worthy of note as being the first ferry-punt of the class in which compound surface condensing engines were used. The engines, which will indicate 40 h.-p., have been built by Messrs. Simpson and Strickland, of Dartmouth, while the punt itself is being constructed at Newcastle, N.S.W. It is anticipated that the reduction of noise due to the use of condensing engines will be greatly appreciated by the public, as reducing the risk of bringing restive horses on the punt, while a large saving in consumption of fuel will be effected. The cost of the punt when complete will be £2,700.

Two new punts were completed for Broadwater Creek and Bega River ferries, at a cost of £373 4s. 10d.

## USE OF OIL-ENGINES FOR PROPULSION OF PUNTS.

The need for some intermediate class of ferry-punts, between the ordinary hand-punt, costing about £250, and travelling at a speed not exceeding 1.2 miles per hour, and the large steam punts, costing £2,500, and travelling at a speed of 4 miles per hour, has been much felt. At present experiments are being conducted to ascertain if an oil-engine can be adapted to this purpose. The fact that the standard class of oil-engines do not reverse, and have practically only one speed, renders the problem somewhat difficult of solution, but it is thought that these difficulties are in a fair way to be overcome, and that in the ensuing year practical use may be made of the system.

## STEAM-LAUNCHES.

Two steam-launches, for passenger traffic and towage purposes on the Hunter and Clarence Rivers, are now nearing completion. These launches are each double-ended, 70 feet long, 15 feet beam, 5 feet depth, with hardwood keel and Oregon side planking. They are propelled by compound surface-condensing engines, with 8-inch and 16-inch cylinders, 9-inch stroke. The engines will indicate 50 horsepower, at 300 revolution per minute. The boilers are return tubular boilers, 6 feet long, 7 feet diameter, wholly constructed of steel, and designed for a working pressure of 115 lb. per square inch. Propellers are fitted at either end of each launch, 3 ft. 3 in. diameter, 4 ft. 6 in. pitch, which will drive the boat at a speed of 9½ knots per hour. An electric light installation will be fitted, supplying side and mast-head lights, in addition to the lights for deck and engine-room.

The launches are provided with coal-bunkers, water-tanks, and cabin for the crew, and will each have seating accommodation for more than 100 passengers.

## MISCELLANEOUS WORKS.

The wood-blocking of King-street, Newtown, from Bligh-street to the Newtown railway bridge, was relaid (a considerable improvement in levels being effected), at a cost of £8,266 1s. 2d., and the street which previously came under the control of the Department as part of the main road from Sydney, *via* dam at Cook's River, to Half-way House, was handed over to the Newtown Council, who agree to maintain it for the future.

E. M. DE BURGH,  
Assistant Engineer for Bridges.

## SCHEDULE A.

NEW BRIDGES completed and opened for traffic between 1 July, 1898, and 30 June, 1899.

Name.	Length in feet.	Number of Spans.		Cost.
		Truss.	Beam.	
Yellow Gully .....	33	.....	1	£ s. d. 157 14 2
Deep Creek .....	63	.....	2	392 19 3
Sullivan's Creek .....	38	.....	1	237 8 10
Rocky Creek (Coast Road to Perrett's) .....	38	.....	1	494 7 0
Burton's Creek.....	63	.....	2	398 18 11
Whiskey Creek.....	53	.....	2	380 18 3
Jandra Creek .....	78	.....	3	441 5 11
Richmond River at Newpark.....	73	.....	2	261 1 6
Taylor's Creek .....	153	.....	6	417 11 11
Puckawidgee Creek .....	29	.....	1	193 0 6
Crooked Creek .....	63	.....	3	335 17 1
Cowal at Trangie .....	108	.....	5	471 10 5
Wattle Creek (or Bong Bong) .....	68	.....	2	529 3 0
Fortis Creek .....	1837	1	3	1,045 19 5
Willandra Creek .....	67	.....	4	769 1 6
Muggabah Creek .....	96	.....	4	574 10 0
Lagoon Creek .....	164	.....	5	874 15 11
Lower Creek.....	183	2	.....	1,936 0 3
Cook's River at Wardell-road.....	248	.....	7	824 13 2
Glendon.....	153	.....	5	1,847 18 7
Greek's Creek .....	63	.....	2	361 6 0
Kendall .....	253	.....	7	990 17 5
Wheaney Creek .....	108	.....	3	332 5 7
Burrill Creek .....	153	.....	5	491 13 4
Killabakh Creek .....	63	.....	2	193 12 4
Plumbago Creek .....	123	.....	4	672 13 9
Leddy's Creek .....	53	.....	2	152 3 9
Old School Gully.....	23	.....	1	150 4 11
Three Bridges, Narrandera to Buckinbong .....	109	.....	4	461 9 7
Murwillumbah Creek .....	68	.....	3	220 2 5
Little Bumble Creek .....	28	.....	1	176 13 3
Totals.....	2,998	3	93	16,787 17 11

## SCHEDULE B.

BRIDGE Renewals completed and opened for Traffic between 1 July, 1898, and 30 June, 1899.

Name.	Length in feet.	Number of Spans.		Cost.
		Truss.	Beam.	
Union at Albury .....	323	2	3	£ s. d. 6,813 13 5
Wollomombi River .....	183	1	3	1,508 9 10
Bega River .....	433	4	2	4,251 9 3
Brogo.....	136	.....	4	383 11 10
Cuttagee Lake .....	153	.....	4	482 12 8
Moorhead's Creek.....	38	.....	1	199 9 0
Deep Creek, Bombala .....	28	.....	1	184 3 11
Saucy Creek .....	183	.....	6	923 12 2
Allen's Creek .....	93	.....	3	488 7 5
Bunyan, Cooma Creek.....	115	.....	4	496 3 8
Urana Creek .....	178	.....	7	752 15 10
Rickter's Mill Creek .....	38	.....	1	153 18 8
Rocky Creek, Solferino .....	73	.....	2	541 18 11
Blackbird Creek .....	38	.....	1	250 3 10
Tapitella Creek.....	73	.....	2	450 0 0
Charcoal Creek .....	53	.....	2	224 17 9
Towradgi Creek .....	53	.....	2	255 13 0
Parnell's Creek .....	30	.....	1	184 16 4
Collin's Creek .....	28	.....	1	158 1 9
Hooligan's .....	53	.....	2	200 18 9
Cox's River .....	183	.....	2	1,590 16 9
Deep Creek, Edgar's .....	23	.....	1	431 9 0
Prout's Bridge .....	30	.....	1	523 2 0
Cockwhy Creek.....	93	.....	3	309 18 10
Stoney Creek.....	193	.....	6	630 18 4
Nattai Creek .....	63	.....	2	883 7 3
Cabramatta Creek.....	93	.....	3	229 14 4
Rocky Creek, Clarencetown .....	38	.....	1	125 8 11
Oakey Creek .....	93	.....	3	485 0 0
Dowes' Gully .....	28	.....	1	263 2 7
Anstey's Creek.....	28	.....	1	215 8 10
Bluff River .....	178	1	3	1,356 15 3
Slaty Creek .....	63	.....	2	292 5 6
Gundagai Bridge .....	2,719	.....	78	12,292 6 2
Gilmore Creek .....	47	.....	2	353 17 7
Dinsey's Creek .....	59	.....	2	187 10 6
Albury-street .....	213	.....	7	1,168 10 11
Rossi's .....	347	3	2	2,553 7 11
Totals.....	6,793	11	172	42,797 18 8

SCHEDULE C.  
NEW BRIDGES in progress, 1 July, 1899.

Name.	Length in feet.	Number of Spans.			Cost.
		Truss.	Beam.	Iron.	
Die Happy Creek .....	73	.....	2	.....	£ s. d. 225 0 0
Nana Creek .....	53	.....	2	.....	204 6 0
Paroo River .....	278	.....	11	.....	2,372 16 0
Carragatel Swamp .....	128	.....	5	.....	773 17 5
Terrigal Lake .....	103	.....	4	.....	379 15 0
Marrowie Creek .....	103	.....	4	.....	495 0 0
Kempsey .....	922	4	9	.....	18,650 0 0
George's Creek .....	158	.....	5	.....	723 12 10
Wallerawang Creek.....	63	.....	2	.....	225 0 0
Hinton .....	589	2	10	1	9,845 0 0
Wallangunda Creek.....	63	.....	2	.....	398 18 0
Goolma Creek .....	99	.....	4	.....	492 0 0
Buckton's .....	73	.....	2	.....	216 10 0
Branch Creek .....	73	.....	2	.....	400 0 0
Murwillumbah.....	523	4	3	1	12,941 17 6
Burrangong Creek .....	122	.....	4	.....	689 0 0
Boolaroo .....	338	1	8	.....	3,000 0 0
<b>Totals .....</b>	<b>3,761</b>	<b>11</b>	<b>79</b>	<b>2</b>	<b>52,032 12 9</b>

SCHEDULE D.  
BRIDGE Renewals in progress, 1 July, 1899.

Name.	Length in feet.	Number of Spans.			Cost.
		Truss.	Beam.	Iron.	
Styx River.....	143	1	2	.....	£ s. d. 1,284 9 0
Chandler River .....	193	.....	6	.....	1,119 9 6
McLachlan River.....	108	.....	3	.....	598 0 0
Stone-quarry Creek .....	124	.....	.....	3	3,249 0 0
Wambrook Creek.....	53	.....	2	.....	362 0 0
Commissioners' Creek.....	38	.....	1	.....	399 4 4
Conargo Bridge .....	153	.....	6	.....	426 5 0
Little River .....	193	.....	6	.....	878 8 0
Bangalee Creek .....	53	.....	2	.....	390 10 0
Dunmore .....	427	3	1	1	12,433 0 0
Bishops .....	33	.....	1	.....	153 13 0
Méhi River .....	303	1	7	.....	2,981 17 6
Kangaroo Creek .....	43	.....	1	.....	195 12 0
Rylstone .....	228	1	4	.....	1,800 0 0
Queanbeyan .....	340	3	2	.....	5,966 12 2
Elberg's Gully.....	28	.....	1	.....	266 15 1
Dingo Creek .....	233	1	4	.....	1,765 0 0
Greg Greg River .....	203	.....	7	.....	784 0 0
Brungle.....	143	1	2	.....	1,280 6 9
Yass River .....	153	1	2	.....	1,673 9 8
<b>Totals .....</b>	<b>3,192</b>	<b>12</b>	<b>60</b>	<b>4</b>	<b>37,917 12 0</b>

SCHEDULE E.

Hand-gearred punts completed between 1 July, 1898, and 30 June, 1899.

Broadway Creek .....	£ s. d. 190 4 10
Bega River .....	183 0 0
<b>Total .....</b>	<b>£373 4 10</b>

Wood-blocking completed between 1 July, 1898, and 30 June, 1899.

Newtown Road .....	£8,266 1 2
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Timber supplied between 1 July, 1898, and 30 June, 1899.

Tallow-wood for Cockatoo Island.....	£ s. d. 156 0 0
Hardwood " " .....	676 13 4
Tallow-wood " " .....	157 4 2
<b>Total .....</b>	<b>£989 17 6</b>

Launches in progress, 30 June, 1899.

Two steam-launches .....	£4,070 0 0
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## Roads and Bridges Yearly Statistical Report, from 1 July, 1898, to 30 June, 1899.

### SUMMARY.

TABLE A.—EXTENT OF DISTRICT.

Classification	Number	Mileage	
<b>ROADS.</b>			
1. Scheduled Roads under Road Superintendent .....	1,497	miles. 27,925	chains. 59
2. Unclassified Roads under Road Superintendent .....	1,339	12,398	07
3. Scheduled Roads under Trustees .....	66	461	0
4. Unclassified Roads under Trustees .....	49	237	40
5. Roads subsidised by Department under Municipal Councils .....	457	1,156	40
Totals .....	3,408	42,178	66
<b>BRIDGES</b>			
6. Bridges (20-ft span and over), under care of Road Superintendent or Trustees, or built at cost of Government, on all classes of Roads, within or outside Municipal limits	Number, 2,914. Total length overall, 275,994 feet.		
<b>FERRIES.</b>			
7. Ferries, subsidised, leased, or worked by Department or Trustees, including emergency Punts and Boats.	No of Punt Ferries, 101. No of Boat Ferries, 45 Total No. of Punts in district, 112. Total No of Boats in District, 209, 1 Basket Ferry.		
<b>MUNICIPALITIES</b>			
8. Municipalities within limits of district in receipt of subsidies, for which Road Superintendent is required to give Certificates	Number, 174.		

TABLE B.—CONTRACTS.

Classification	Number	Amount
1. Aggregate Number and Amount of Contracts as let .....	4,387	£ 412,895
2. Amount of smallest Contract .....	.. ..	2
3. Amount of largest Contract .....	.. ..	2,546
4. Average value of Contracts let by Road Superintendent .....	.. ..	90
5. Contracts as completed during 1898-9, including those let prior to 1898-9, Number and Value ..	3,447	325,226
6. Contracts incomplete on 30th June, 1899, and Amount due thereon .....	440	88,850 2 4

TABLE C.—ANALYSIS OF EXPENDITURE.

Inclusive of all Vouchers rendered during 1898-9, and Progress Payments on Contracts incomplete on 30 June, 1899.

	Wages	Contracts	Stores, Materials, and Sundries *	Supervision †	Municipal Expenditure ‡	Total.
	£	£	£	£	£	£
Roads .....	136,942	276,694	19,736	{ ..... } 38,617	20,637	454,009
Bridges .....	18,650	78,894	12,051		120	109,715
Ferries .....	5,961	3,500	4,606		.....	38,617
Other Works .....	498	126	28,537	.....	.....	14,067
						29,161
Total Value of Vouchers, as per Voucher Register, 1 July, 1898, to 30 June, 1899. }	162,051	359,214	64,930	38,617	20,757	645,569
Equipment and Travelling Expenses .. }	.. ..	.. ..	15,459	15,459	.....	.....
	.....	.....	49,471	54,076	.....	.....
Vouchers submitted for payment.....						No. 19,988

\* Include goods obtained under annual contracts or locally, freight, compensation, &c  
† Include engineering and travelling expenses, office and store rent, cleaning, lighting, fuel, wages, and expenses of overseers, but not wages of working foreman or gangers  
‡ The amount of certificates given on account of municipal subsidies.

TABLE D.

TABLE D.—PROPORTION OF CLASSIFIED EXPENDITURE TO TOTAL EXPENDITURE.

Classified Expenditure.	Amount.	Percentage on Total Expenditure.
	£	
1. Wages .....	162,051	25.10
2. Contracts .....	359,214	55.64
3. Stores, Materials, and Sundries .....	49,471	7.66
4. Supervision* .....	54,076	8.38
5. Municipal .....	20,757	3.22
Total Expenditure .....	645,569	100.00

\* The amount will be that quoted in Table C, plus the salaries and equipment allowances paid by head office to the officers and assistants who were employed in the district during the year.

TABLE E.—TRAVELLING AND COST THEREOF, 1898-9.

Local Officers.	Miles travelled.			Total Amount of Travelling Expenses Vouchers for above period.
	Road.	Rail.	Total.	
1. Road Superintendent .....	257,279	89,580	346,859	£ s. d. 3,275 19 1
2. Assistants .....	94,756	29,269	124,025	1,277 15 4
3. Foremen, Overseers .....	69,632	6,094	75,726	328 18 1
Totals .....	421,667	124,943	546,610	4,882 12 6

TABLE F.—LABOUR STATISTICS. (Monthly Average.)

Classification of Labour.	Permanent.	Temporary.	Total.
By Department.			
Foremen, Overseers .....	57	29	86
Road Maintenance Men .....	905	370	1,275
All others (Ferry-men, &c.) .....	84	167	251
Totals .....	1,046	566	1,612
Contractors and Contractors' Men .....			5,684

TABLE G.—REPORTS, MINUTES, RETURNS, &amp;C.

Official Papers, including Reports, Minutes, and Returns (other than Vouchers) registered from 1 July, 1898, to 30 June 1899. Number, 31,931.

TABLE H.—SUMMARY OF WORK EXECUTED.

SHOWING Work completed (inclusive of Contracts in progress on 1 July, 1898, but not including Contracts in progress on 30 June, 1899) on Roads under Road Superintendent during the year 1 July, 1898, to 30 June, 1899, and carried out under Contract or by day-labour. Ordinary maintenance not to be included.

Class of Work.	Unit.	Scheduled Roads outside Municipality.	Scheduled Roads within Municipality.	Unclassified Roads outside Municipality.	Unclassified Roads within Municipality.	Totals.
1. Road construction, including formation, metal-ling, gravelling, ballasting, or corduroying, exclusive of clearing or draining .....	chains	26,135	464	1,870	135	28,604
2. Formation, including cuttings, embankments, not metalled, gravelled, &c., exclusive of clearing or draining .....	chains	22,693	442	5,251	.....	28,386
3. Clearing, any width .....	chains	43,637	216	32,727	.....	76,580
4. Draining .....	chains	22,770	108	5,124	.....	28,002
5. Maintenance metal, gravel, or ballast obtained .....	cub. yds.	323,465	43,833	4,814	1,126	373,238
6. First-class timber culverts .....	No.	53	1	5	.....	59
7. Second-class timber culverts .....	No.	176	3	26	.....	205
8. Other timber culverts .....	No.	1,116	13	150	.....	1,279
9. Pipe culverts .....	No.	288	5	46	.....	339
10. Causeways, any class .....	No.	858	4	243	4	1,109
11. Stone, brick, or concrete culverts .....	No.	31	.....	1	.....	32
12. " " " walls with timber deck .....	No.	2	.....	.....	.....	2
13. " " " " iron " .....	No.	1	.....	.....	.....	1
14. Fencing, split .....	rods	3,817	.....	580	4	4,371
15. Ordnance fencing .....	rods	361	.....	.....	.....	361
16. Punts built .....	No.	1	.....	2	.....	3
17. Boats—new, built or supplied .....	No.	10	.....	1	.....	11
18. Punts overhauled and repaired .....	No.	52	.....	3	.....	55
19. Boats " " .....	No.	50	2	3	.....	55

TABLE H—continued.

BRIDGES CONSTRUCTED (20-ft. Span and over). Under the Superintendence of Departmental Officers.

Totals.	Details of Spans.		No.	Total Length in feet.
Number of Bridges built—				
New Bridges ..... 33	71	With iron or steel superstruction, and timber or iron deck.....	0	0
Renewals ..... 38				
Number of Spans of all kinds—				
New Bridges ..... 96	279	Timber truss or arched spans.....	14	1,302
Renewals ..... 183			16	528
Overall length of Bridges built—				
New Bridges ..... 2,998	9,791 ft.	Timber beam spans.....	249	7,961
Renewals ..... 6,793			0	0
		Totals .....	279	9,791

TABLE I.—GENERAL SUMMARY OF WORK EXECUTED TO 30 JUNE, 1899.

Irrespective of time or date of effecting same.

Classification.	ROADS.											
	Metalled, Gravelled, Ballasted, or Corduroyed.		Formed.		Cleared and Drained.		Cleared only.		Bush or Untouched Road.		Total Mileage (of all the preceding columns).	
	Miles.	Chains.	Miles.	Chains.	Miles.	Chains.	Miles.	Chains.	Miles.	Chains.	Miles.	Chains.
UNDER ROAD SUPERINTENDENT.												
1. Scheduled; outside Municipalities	70,88	59	4,911	66	4,720	46	6,740	65	4,889	74	28,351	70
2. Scheduled; within Municipalities	509	70	67	06	21	70	73	42	37	71	710	19
3. Unclassified; outside Municipalities	307	73	667	75	880	14	2,329	43	8,457	06	12,642	51
4. Unclassified; within Municipalities	94	69	28	42	1	63	12	55	8	70	146	59
Totals .....	8,001	31	5,675	29	5,624	33	9,156	45	13,393	61	41,851	39
5. Works superseded by deviations ...	18	19	19	74	5	77	65	22	1	20	110	52

CULVERTS (under 20-ft. Span).				BRIDGES (20-ft. Span and over).			
Classification.	Number.	Total Length in feet.*		Classification of Spans.	No. of Spans.	Total Length in feet.	
Iron Decked .....	99	1,439		Iron or Steel, with Iron Deck .....	395	275,994	
Stone, Brick, or Concrete Arched .....	719	5,235		Iron or Steel, with Timber Deck .....			
Stone, Brick, or Concrete Walls, with Timber Deck .....	194	2,581		Timber Trusses or Arches .....	7,806	275,994	
Timber, all classes .....	22,978	219,528		Stone, Brick, or Concrete Arched.....			
Pipe.....	12,168	306,559		Timber Beam Spans .....			
	36,158	535,342		Totals .....	8,111	275,994	
				Total No. of Bridges.....		2,914	

\* Length of deck, measured along line of traffic, except in case of pipe culverts, which shall represent length between inlet and outlet.

CAUSEWAYS.		PUNTS, BOATS, FERRIES.						
Number.	Total Length in feet along line of traffic.	Classification.	How Worked.					
			Oars only.	Wire Rope without Gear- ing.	Hand Gear- ing and Wire Rope.	Steam Gear- ing and Wire Rope.	Total No.	Total Width between Mooring Posts.
16,006	388,029	Iron Punts .....	...	...	3	8	11	8,839
		Timber Punts.....	...	15	81	...	96	52,146
		Steam Launches.....	...	...	...	...	1	...
		Horse-boats .....	...	3	...	...	3	780
		Flood-boats, iron .....	9	...	...	...	9	...
		Ditto timber .....	65	...	...	...	65	...
		Other Boats .....	134	...	...	...	134	...
		Punt slips, for execution of repairs.....	...	...	...	...	13	...
		Totals .....	208	18	84	8	332	61,765

Ferry-men's, Bridge Caretakers' or other houses, or buildings, the property of the Department, Number, 42.

## XI.

## RETURN of Expenditure on Public Works carried on by Roads and Bridges Branch, from 1 July, 1898, to 30 June, 1899.

ROADS.	When Com- menced.	Expenditure from 1 July, 1898, to 30 June, 1899.			If unfinished, amount of Expenditure to 30 June, 1899.		
		£	s.	d.	£	s.	d.
Aberdeen, up Narrow Passage and Scrumlow .....	1882	366	2	7	5,073	7	4
Aberdeen, Narrow Passage Road Extension to D. Kennedy at Mount View ...	1898	43	1	0	43	1	0
Aberdeen <i>via</i> Segenhoe to Gundy Road .....	"	53	13	0	53	13	0
Attunga to Somerton .....	1887	60	0	0	1,044	3	7
Attunga to Hall's Creek .....	1895	50	0	0	250	9	6
Amosfield School towards Stanthorpe ...	1894	48	18	0	2,663	18	5
Amosfield School to Acacia Creek towards Wylie Creek. ....	1898	26	19	0	26	19	0
Amosfield to Acacia Creek .....	1890	350	12	3	4,800	3	2
Acacia Creek <i>via</i> The Scrub to Tooloom .....	1895	98	19	8	633	16	6
Acacia Creek to the Border at White Swamp .....	1888	238	17	9	3,143	11	3
Armidale to Long Swamp .....	1887	51	0	6	899	4	5
Armidale to Mihi Creek .....	1879	99	4	7	4,645	3	6
Armidale <i>via</i> Hillgrove to Perrett's .....	1864	1,480	11	4	96,460	13	8
Armidale <i>via</i> Hillgrove to Perrett's towards Rockvale .....	1898	25	8	0	25	8	0
Armidale to Yarrowick .....	1884	141	12	0	2,898	11	7
Armidale Road to Taylor's Arm .....	1894	377	8	0	2,617	8	9
Armidale Road to Wabro Creek .....	1890	85	8	9	409	11	7
Armidale to Kangaroo Hills .....	1886	362	18	1	4,930	13	11
Armidale—Kangaroo Hills Road to Great Northern Road to Puddledock .....	1898	12	0	0	12	0	0
Armidale Road to Head of Hickey's Creek .....	1894	130	0	0	1,732	1	2
Armidale to Eastern Plains .....	1888	247	17	8	3,253	7	0
Armidale to Gostwyck .....	1884	94	3	6	2,191	5	10
Armidale to Duval .....	1890	61	6	0	564	12	6
Armidale <i>via</i> Kelly's Plains to Bald Knob .....	1894	91	12	0	468	16	7
Armidale to Castle Doyle .....	1886	60	12	2	1,262	4	4
Armidale Road, Timagog to Willi Willi .....	1895	50	0	0	459	0	0
Armidale Road to Upper Five Day Creek .....	"	140	0	2	490	16	8
Armidale Road up Mungay Creek .....	1896	79	19	0	239	16	3
Armidale Road up Nulla Creek .....	"	70	0	0	116	5	6
Armidale, Hillgrove Road to M'Donald's Crossing to Temporary Common .....	1898	21	5	0	21	5	0
Armidale—Eastern Plains Road to Eversleigh .....	"	32	0	0	32	0	0
Armidale—Eastern Plains Road at Thom's Gully to Dural Platform .....	"	38	3	0	38	3	0
Armidale—Eastern Plains Road to Eastern Plains, Tenterden Road .....	"	59	16	3	59	16	3
Armidale—Eastern Plains Road to Pearson's to Dural .....	"	15	0	0	15	0	0
Armidale—Eastern Plains Road to Great Northern Road .....	"	22	10	0	22	10	0
Angledool towards Hebel to the Border .....	"	.....	.....	.....	.....	.....	.....
Ash Island Road .....	1896	40	10	6	135	13	7
Ashlea to Upper Dingo Creek .....	1892	386	10	4	1,859	1	10
Adamstown to Swansea .....	1885	363	18	5	6,723	17	1
Adamstown Road .....	1898	48	12	0	48	12	0
Allandale Road to Greta .....	1895	66	0	0	264	0	0
Arnold's to Appletree Flat .....	1874	940	16	9	21,082	9	0
Alstonville to Pearce's Creek .....	1895	280	0	0	1,023	7	5
Alstonville, Booyong Road to Napier's .....	1897	39	4	7	96	10	1
Alstonville, Booyong Road to Teven Junction .....	"	256	16	4	420	16	4
Aberglassyn <i>via</i> Lowry's to the River .....	1896	15	0	0	44	0	0
Appin to Brook's Point .....	"	61	4	10	144	18	5
Appin <i>via</i> Wilton to Maldon .....	"	163	3	6	624	18	8
Araluen Road <i>via</i> Kiora to Larry's Mount .....	"	32	5	0	72	0	6
Araluen <i>via</i> Bettowind to Back Creek .....	"	20	0	0	96	9	0
Adelong to Hillas Creek .....	1895	229	4	5	786	17	7
Adelong Crossing to Bago .....	1892	505	9	7	3,524	6	5
Adaminaby to Jindabrne .....	1888	160	19	11	1,343	17	11
Adaminaby to Dry Plain .....	1895	39	19	0	214	14	9
Albury to Urana .....	1872	777	14	6	29,610	1	8
Albury and Corowa Road to Urana .....	1874	691	10	3	22,364	3	0
Albury to Boomanoomana .....	1864	1,054	17	7	77,523	13	1
Albury to Cookardina .....	1892	289	6	1	2,555	15	11
Alick's Creek to Bloom Hill .....	"	45	9	10	281	19	11
Awaba to Freeman's Waterholes .....	1895	182	18	4	1,008	1	10
Approach to Warren Railway Station .....	1898	25	0	0	25	0	0
Albion Park, <i>via</i> Macquarie Pass, to Robertson .....	1896	211	16	7	5,056	19	9
Alfred Town towards Humula .....	1898	2	5	6	2	5	6
Allynbrook to Upper Williams .....	"	51	15	0	51	15	0
Balala to Kingstown .....	1881	139	3	0	3,727	19	6
Byangum up Middle Arm .....	1894	100	0	0	609	5	6
Byangum to Dumbible Creek .....	1892	50	0	0	319	9	11
Burringbar to Mooball .....	1888	89	0	3	1,500	11	8
Burringbar to Upper Burringbar .....	1894	95	2	0	441	6	2
Burringbar to Cudgera .....	1895	100	18	8	647	16	5
Bexhill to Woodlawn .....	1891	30	0	0	337	17	7
Bexhill, Woodlawn to North boundary of Bexhill at Camerons .....	1897	24	0	0	69	0	0
Bexhill to Monticollum Road .....	1884	763	6	6	8,876	4	3
Bexhill, Monticollum Road, &c., to McPherson's Crossing .....	1898	19	11	2	19	11	2
Bexhill to Numulgi School and Cross Selections .....	1890	173	17	0	896	0	6
Ballina to Bangalow .....	1883	523	10	11	17,876	7	7
Ballina, <i>via</i> North Creek, to Byron Bay .....	1887	239	0	0	4,051	12	7
Beechwood to Rolland's Plains .....	1885	199	0	0	1,804	19	9
Boggy Creek to Opttee's .....	1892	146	8	11	444	13	0
Blakebrook to Keerong .....	1890	239	6	8	952	19	9
Blakebrook to Petersen's .....	1894	166	15	0	845	18	3

## RETURN OF EXPENDITURE ON PUBLIC WORKS—continued.

ROADS.	When Com- menced	Expenditure from 1 July, 1898, to 30 June, 1899.			If Unfinished, amount of Expenditure to 30 June, 1899		
		£	s.	d.	£	s.	d.
Bogaldie towards Pilliga .....	1893	74	3	11	505	13	3
Brush Grove, <i>via</i> Bluff Point, to Maclean...	1887	352	10	10	3,057	16	4
Brush Grove, <i>via</i> Tyndale, to Maclean .....	1890	248	10	6	1,782	8	5
Barney Downs to Millera .....	1883	51	10	0	3,449	18	4
Bukeley to Cedar Brush Mountain .....	1898	30	0	0	30	0	0
Bingara to Top Bingara .....	1895	34	12	0	169	11	7
Bingara to Bora, between Spring Creek and Mountain .....	1898	21	0	0	21	0	0
Bingara to Warnald .....	1884	562	9	1	11,262	19	0
Bingara to Bundarra .....	1878	274	10	6	6,288	16	9
Bingara to Barraba .....	1891	895	10	4	10,576	10	3
Bingara, <i>via</i> Pallal, to Eulowrie .....	1888	100	0	0	1,414	12	8
Bingara Road, <i>via</i> Gineroi, to Yagobie .....	1895	251	1	1	936	6	11
Black Creek, <i>via</i> Pretty Gully, to Tooloom .....	1891	593	19	0	3,302	17	4
Buddabadah Bridge to Lansdale .....	1898	43	15	0	43	15	0
Barraba to Bundarra .....	1894	169	13	4	3,239	15	9
Barraba, <i>via</i> the Gap, to Horton River .....	1893	162	9	5	1,529	19	8
Barraba to Burrindi .....	1898	50	0	0	50	0	0
Bungonia to the Look down .....	"	26	13	0	26	13	0
Bow to Idaville .....	1893	10	18	0	298	8	7
Butts and Wells Lanes, near Beaconsfield .....	1898	174	10	8	174	10	8
Bobbiwoa Creek to Rocky Creek .....	1893	200	0	0	1,192	12	14
Bungonia Road past Carey's .....	1898	28	0	0	28	0	0
Binnaway to Merrygoen .....	"	50	0	0	50	0	0
Booralong towards Aberfoyle .....	1888	116	17	3	1,773	7	6
Bunnerong Road to Botany Cemetery .....	1898	192	12	3	192	12	3
Branxton to Dalwood Bridge .....	1895	73	0	0	281	0	0
Branxton, <i>via</i> Elderslie, to Singleton Road .....	"	36	6	0	472	6	0
Barlow's Mill to Howard's .....	1894	31	2	3	215	7	7
Blaxland's Flat Road .....	"	122	1	9	467	16	5
Bellingen Road up Missabotti Creek .....	1882	246	8	9	8,640	4	6
Bellingen, <i>via</i> Bowraville, to Congarini .....	1895	675	3	1	2,098	2	0
Boat Harbour to Cowlong .....	1887	384	6	6	2,526	6	11
Baker's Creek to West Hillgrove .....	1895	28	19	2	179	5	11
Bowraville to Upper South Arm... ..	1890	340	17	7	1,454	5	11
Bowraville to Upper North Arm .....	1879	462	9	2	5,941	9	1
Burril Creek to Kimbnki .....	1890	143	17	0	1,390	11	6
Bulladelah down the Myall River .....	1891	59	16	6	600	19	7
Bulladelah to Bungwall .....	1878	429	17	3	10,742	2	2
Bulladelah to Larry's Flat .....	1892	524	15	11	4,068	11	1
Bulladelah to Coolongoolook .....	1895	97	2	6	2,038	10	4
Booral to Bulladelah .....	1876	550	9	11	12,190	2	5
Booral to Karuah River .....	1897	239	19	0	299	16	0
Bendolba to Upper Wangat .....	1896	513	3	0	6,129	10	6
Bullock Wharf to Coolongoolook .....	1894	316	10	3	1,421	9	2
Bullock Wharf to Coolongoolook to the River .....	1898	69	0	0	69	0	0
Blandford to Isis River .....	1882	129	19	8	2,933	15	2
Blandford, <i>via</i> Box Tree, to Timor .....	1895	38	0	0	379	2	11
Barrington to Cobark Road .....	1892	213	2	11	741	0	5
Brandy Creek, <i>via</i> Goorangoola, to Dry Creek .....	1895	75	1	6	266	11	0
Barker's Lodge to Oakdale .....	"	76	9	8	300	10	9
Barker's Lodge, <i>via</i> Thirlmere, to Bargo River .....	1892	75	12	0	604	7	4
Berowra Station to the School House .....	1898	39	11	5	39	11	5
Balgowlah, <i>via</i> French's Forest, to Gordon .....	1895	120	0	0	363	9	6
Belltrees to Stewart's Brook and Top Camp .....	1889	169	7	0	2,099	19	5
Barrenjoey to M'Garr's Creek .....	1895	95	12	0	451	16	5
Bald Knob towards Emmaville .....	"	95	16	0	521	11	0
Booloroo Bridge to Goondiwindi .....	"	350	10	0	1,709	17	4
Belah to Tannabah .....	"	49	12	1	391	13	1
Black Mountain to Guyra .....	"	60	0	0	281	0	8
Brookstead to Guyra .....	"	44	17	3	139	3	11
Blackman's Point to Ennis Ferry .....	"	20	15	6	186	2	0
Blackman's Point and Ennis Road to Walcha Road .....	"	26	16	6	111	10	11
Berrigan and Mulwala Road to Barooga .....	1897	106	7	0	171	14	1
Berrigan to Boomanoomana .....	1891	184	0	8	1,010	7	10
Berrigan to Momalong .....	1896	172	19	2	237	19	2
Berrigan to Savernake .....	1895	201	17	0	293	12	6
Berrigan to Lalaltee .....	1898	67	18	0	67	18	0
Berrigan to Cottadidda .....	"	69	15	6	69	15	6
Bowral to the Briars .....	1892	95	14	0	786	16	10
Bowral to Robertson .....	1874	559	19	0	19,717	18	9
Bundanoon to Ferndale .....	1888	125	9	7	1,554	16	10
Bulli, <i>via</i> Coal Cliff, to Blue Gum Forest .....	1882	339	11	2	5,236	9	3
Bulli Pass to Cataract River .....	1880	106	8	4	1,843	18	3
Buggy's Hill to Oak's Road (Bob's Range Road) .....	1897	46	6	0	76	1	0
Burrawang to the Robertson Road .....	1884	74	0	6	1,477	16	11
Berrima to Bowral .....	1882	176	2	8	2,614	0	2
Berrima to Joadja .....	1890	155	16	2	1,238	13	4
Blenkinsopp's to Myra Vale .....	"	69	9	0	1,233	1	7
Binalong to Coppabella .....	1897	24	18	0	124	18	0
Bungendore to Captain's Flat .....	1889	1,219	9	3	13,718	10	8
Bungendore towards Doughboy Hill .....	1888	52	5	1	4,635	1	6
Bungendore to Black Range .....	1881	63	11	0	1,190	16	10
Bungendore to Upper Gundaroo .....	1893	192	9	10	885	8	0
Bookham to Illalong .....	1884	66	4	6	966	0	5
Bookham to Chidowla .....	1885	152	12	0	1,136	7	9

## RETURN OF EXPENDITURE ON PUBLIC WORKS—continued.

ROADS	When Com- menced.	Expenditure from 1 July, 1898, to 30 June, 1899			If Unfinished, amount of Expenditure to 30 June, 1899		
		£	s.	d.	£	s.	d.
Bookham to Cooradigbee	1881	133	15	7	2,038	5	9
Burrowa to Breakfast Creek	1892	188	12	1	1,210	7	8
Burrowa to Narrawa	"	293	19	11	1,992	6	9
Burrowa to Kenyu	1885	145	4	1	2,500	1	3
Burrowa to Binalong	1887	389	19	6	15,050	15	8
Burrowa to Cunningham	1892	300	1	3	2,118	9	4
Bendick-Morell to Marengo, and Branch to Windermere	1897	147	6	3	261	17	8
Bredbo to Nimbo	1890	270	0	1	21,492	18	7
Braidwood to Annmbo	1893	299	19	11	2,993	10	8
Braidwood to Elrington	1872	173	16	2	5,896	15	3
Braidwood to Nerriga	"	449	3	10	3,983	6	3
Braidwood towards Queanbeyan	1890	198	0	3	4,287	1	0
Braidwood and Tarago Road, via Larbert, to Tarago	1881	189	19	9	2,844	4	0
Braidwood to Sergeant's Point	"	179	3	9	3,399	14	6
Braidwood, via Reidsdale, to Bell's Creek	1872	99	10	3	3,411	12	3
Braidwood and Araluen Road near 14 M P, to Upper Araluen	1898	30	0	0	30	0	0
Braidwood, via Bell's Creek, to Araluen	1864	402	6	5	21,580	18	11
Braidwood to Euradux	1898	25	0	0	25	0	0
Braidwood to Nelhgen	1863	946	6	0	32,132	7	1
Bodalla to Dignam's Creek	1893	223	17	1	2,388	18	0
Bodalla, via Noorooma, to Tilba	"	370	8	9	2,609	19	8
Bega to Bermagui	1877	497	18	0	9,240	12	2
Bega to Tathra	1873	64	1	2	13,466	5	10
Bega to Brogo (Old Road)	1890	237	0	0	1,253	4	2
Bega to Pambula	1895	50	0	0	693	13	9
Bega to Brianderry	"	50	0	0	153	8	0
Bega to Nimitybelle	1892	1,030	17	10	6,047	16	10
Branch Road to Oswald	1897	38	8	6	67	15	6
Bombala to Delegate	1871	600	10	11	14,973	19	4
Bombala, via Gunningrah, to Bobundarah	1881	167	8	0	2,662	12	6
Bombala, via Mahratta, to Cragie	1892	155	13	9	1,021	8	10
Bombala, via Mahratta and Saucy Creek Bridge, to Bondi	1897	70	9	0	114	14	9
Bombala, via Mahratta, to Bondi	1868	29	10	0	29	10	0
Bombala to Buckley's Springs	1889	40	0	0	347	17	0
Bombala to Nimitybelle	1892	1,164	13	5	9,422	2	9
Bombala to Merimbula	1864	2,204	13	11	99,131	4	3
Bri Brl to Gundle Tin Mines	1898	199	0	0	199	0	0
Brogheda to Bunnan	"	28	0	0	28	0	0
Bobundarah to Adaminaby	1880	146	6	8	4,238	8	6
Burrogate to Percece	1897	15	15	0	47	14	0
Brewarrina to Engonia	1895	11	15	3	440	16	2
Buckley's Crossing towards Jimenbuen	1889	50	0	0	413	7	11
Buckley's Crossing to Maffra	"	42	15	0	379	14	4
Buckley's Crossing to Jindabyne	1883	95	0	0	2,955	5	0
Berridale to Buckley's Crossing	1891	53	8	3	124	6	9
Botobolar to Barra Creek	1898	40	0	0	40	0	0
Bethungra to Cooba Creek	1897	15	0	0	80	17	8
Bethungra and Cooba Creek Road towards Gundagai	"	101	12	0	101	12	0
Bredalbane towards Gurrundah	1890	239	3	6	2,597	13	3
Billyingra to Adaminaby	1888	236	5	6	2,315	11	0
Brungle Bridge to Gobarralong	1889	310	4	3	2,138	19	3
Brungle to Wyangle	1887	160	4	6	2,560	13	2
Balranald to Swan Hill Bridge	1880	18	16	0	3,966	8	1
Boohgal to Hillston	1892	257	8	4	2,441	6	3
Boohgal to Ivanhoe	1897	179	4	2	410	10	2
Burrangong to Emu Creek	1893	632	18	3	2,513	0	6
Berry to Barrangary	"	209	17	10	1,652	19	4
Brooman to Nelhgen	1898	10	19	0	10	19	0
Bateman's Bay to Heads	1895	25	0	0	118	9	2
Boloco to Popong	1890	80	0	0	1,015	0	5
Bermagui to Quama	1895	363	13	2	1,912	8	2
Bermagui to Cobargo	"	174	1	6	897	7	4
Bermagui to Tilba Tilba	1894	482	12	10	1,690	11	11
Baulkham Hills to round corner at Dural	1895	29	14	4	91	6	5
Baulkham Hills to Seven Hills Road (Chapel Road)	"	200	11	9	853	6	2
Blacktown, via Seven Hills, to Windsor Road	1891	384	15	11	1,111	8	7
Blacktown Road, via Mt. Cricque, to Chatsworth	1896	60	0	0	169	15	6
Bulga Road to West Portland	1895	212	3	0	569	9	4
Barham to Moulamien	1896	160	0	0	486	3	11
Bell Station to Mount Wilson	1895	21	10	0	92	15	0
Bingie to Dwyer's Creek	"	150	0	0	529	11	5
Binda to Tuena	1896	120	8	1	294	19	3
Belmont Road, via Box Hill, to Bell's Line	1871	778	11	4	15,497	10	3
Bell's Line to Putty	1888	339	4	3	1,845	12	5
Blackland's Ridge, via Morass Rock, to Upper Colo	1895	56	9	3	536	16	7
Bowenfels to Stony Point	1896	194	0	2	489	0	4
Bowenfels to Tarana	1895	86	1	4	351	8	5
Blackheath to Hat Hill	"	79	8	9	973	10	8
Blackheath to Megalong	1898	73	19	2	73	19	2
Blackheath to Shipley	1893	208	13	8	1,109	9	4
Bathurst to Icely	1870	2,635	5	0	123,773	15	7
Bathurst, via Blayney and Cowra, to Grenfell	1895	1,602	12	1	7,320	16	9
Bathurst to Burruga	"	98	0	10	431	12	10
Bathurst to Bellview	1898	148	2	6	148	2	6

## RETURN OF EXPENDITURE ON PUBLIC WORKS—continued.

ROADS.	When Com- menced.	Expenditure from 1 July, 1898, to 30 June, 1899			If Unfinished, amount of Expenditure to 30 June, 1899		
		£	s.	d.	£	s.	d.
Blayney to Millthorpe .. .. .	1883	172	6	9	3,878	7	1
Blayney to Neville .. .. .	1877	299	3	0	11,842	4	5
Blayney to Guyong .. .. .	1881	225	6	0	3,497	7	3
Blayney to Hobby's Yards .. .. .	1883	268	19	9	2,275	4	6
Blayney to Newbridge .. .. .	1895	197	0	1	997	7	11
Blayney to Brown's Creek .. .. .	1880	100	0	0	5,229	8	11
Blayney to Grahamstown .. .. .	1897	117	12	3	236	5	3
Bull Ridge to Isabella River .. .. .	1895	..	..	..	311	10	8
Borec to Manildra .. .. .	..	111	14	0	465	6	0
Bourke to Louth .. .. .	1897	54	11	3	385	8	9
Bourke to Cobarr .. .. .	1895	11	17	0	3,749	14	3
Bourke to Barrington .. .. .	1888	667	5	3	4,910	9	8
Bourke to Hungerford .. .. .	1885	268	5	2	8,228	4	7
Bourke to Wanaaring .. .. .	..	329	19	11	8,441	18	11
Bourbah to Gulargambone .. .. .	1897	70	0	0	137	3	9
Broken Hill to Menindie .. .. .	1892	29	8	0	1,042	1	4
Broken Hill to Cobham .. .. .	1887	199	10	8	3,072	16	0
Broken Hill to The Pinnacles .. .. .	1898	199	13	10	199	13	10
Broken Back Bridge to Pennant Hills .. .. .	1891	149	2	0	1,370	16	1
Bogan Gate to Trundle .. .. .	1897	645	3	10	757	9	2
Bridgewater to Yeoval .. .. .	1895	296	2	6	1,318	6	10
Balmam, over Iron Cove and Parramatta River Bridges, to Ryde .. .. .	1893	1,258	0	5	4,974	0	10
Bettington's Lane, Dundas .. .. .	1891	29	6	8	257	3	4
Brewarrina to Boorooma .. .. .	1898	129	6	8	129	6	8
Barrington to Little Manning River .. .. .	1896	38	8	0	209	4	3
Baker's Creek, via Herbert Park, to Lochabar .. .. .	..	123	11	4	315	13	10
Bingara to Rocky Creek .. .. .	..	148	17	9	427	9	5
Budgeon to Gulgandra .. .. .	..	60	0	0	175	11	1
Binna Burra to Byron Bay .. .. .	..	557	0	0	1,042	11	5
Bexhill to Pearce's Creek .. .. .	..	194	18	11	619	18	11
Ballina, Tenterfield Road, to Savilles .. .. .	..	92	12	7	278	16	1
Blanch's to Byrnes' Point Ferry .. .. .	..	269	16	0	950	9	0
Bargo to Rockford .. .. .	..	103	8	6	252	1	1
Brawstone to Coutt's Crossing .. .. .	..	170	12	10	324	2	11
Bargo Bridge, via Buxton, to Aylmerton .. .. .	..	174	13	5	759	6	1
Bellingen Road up South Arm .. .. .	..	184	6	8	538	1	8
Bungwall to Forster .. .. .	..	282	19	3	632	19	3
Barrengarry to Robertson .. .. .	..	25	13	1	382	14	10
Branxton towards Cessnock and Branch, via Railway Station .. .. .	..	105	0	0	284	0	0
Branxton to McMullan's .. .. .	..	29	0	0	85	0	0
Bendola Road to Jack's Corner .. .. .	..	47	16	0	174	17	6
Baulkham Hills School to Toongabbie .. .. .	..	51	0	4	172	14	6
Blackheath to Govett's Leap .. .. .	..	39	18	11	89	9	8
Buckety to Pemberton's .. .. .	..	186	16	0	357	0	2
Broke, via Nine-mile Creek, to Singleton Road .. .. .	..	59	12	0	158	7	6
Boggy Flat Crossing towards Dight's Ford .. .. .	..	28	0	0	79	0	0
Boggy Flat to Holmes Creek .. .. .	..	70	0	0	183	4	6
Bendemeer to Retreat Station .. .. .	..	24	16	0	103	6	8
Barber's Creek to Barrengarry .. .. .	..	594	12	7	1,647	14	2
Burradoo to Kangaloon Road .. .. .	..	152	3	8	397	13	10
Bowling to Binalong .. .. .	..	172	6	0	461	8	2
Bilumbil Creek to Cowan's .. .. .	..	66	13	5	683	17	1
Bell Bird to Mount View .. .. .	..	88	13	6	148	2	9
Bongongolong to Coolac Railway Station .. .. .	..	10	0	0	63	14	6
Bridger's to Laverly's Gap .. .. .	1897	69	10	6	313	10	11
Brundah to Monteagle Platform .. .. .	1890	182	3	2	1,617	7	9
Brown's at Bobbin to Main Road, Road from .. .. .	1898	50	0	0	50	0	0
Byron Bay to Broken Head .. .. .	1897	155	18	0	213	2	0
Breeza to Gora Lakes .. .. .	..	23	3	10	29	3	10
Brien's Road .. .. .	..	..	..	..	25	3	4
Bilpin to Mountain Lagoon .. .. .	..	1	15	0	9	16	0
Bogg's Lane .. .. .	..	36	18	0	46	18	0
Baker's Corner via Cooyal Reserve to Cooyal Butter Factory .. .. .	1898	50	0	0	50	0	0
Badgery's Crescent, Lawson .. .. .	..	4	5	0	4	5	0
Bakers Road, Carlingford .. .. .	1897	9	0	0	61	0	0
Bathurst Flood Damages .. .. .	1898	50	15	0	50	15	0
Ballalaba to Captain's Flat .. .. .	..	14	14	3	14	14	3
Belford to Lower Belford .. .. .	..	48	0	0	48	0	0
Ben Lomond, via Hockey's, &c., to Gayra-Inverell Road .. .. .	..	32	2	3	32	2	3
Bembooka, via Green's Crossing, to Yankey's Gap .. .. .	1897	106	10	0	186	10	0
Beaufort to Wellingrove .. .. .	1898	36	14	0	36	14	0
Bergalia to Congo .. .. .	..	51	10	0	51	10	0
Begg's Corner, via Wilson's, to Rye Park Bridge .. .. .	1897	14	8	6	69	1	4
Bielsdown Creek, Road on West Bank .. .. .	1898	26	11	8	26	11	8
Black's Creek, Road up .. .. .	..	40	0	0	40	0	0
Blackland's Arm, Road up .. .. .	..	2	1	3	2	1	3
Bonshaw, via Rocky Creek, to Emmaville .. .. .	..	98	15	0	98	15	0
Borah to Upper North Arm to Graces .. .. .	..	65	16	7	65	16	7
Borah Road up Low's Creek .. .. .	..	8	14	0	8	14	0
Boyd's Point to Frutes Bay .. .. .	..	80	0	0	80	0	0
Bolva to the Sandy Flat .. .. .	..	79	14	0	79	14	0
Bogan Gate to Gunning Gap .. .. .	..	105	8	6	105	8	6
Bolderodgery to Bungundry Public School .. .. .	1897	152	18	1	258	14	9

RETURN OF EXPENDITURE ON PUBLIC WORKS—*continued.*

ROADS.	When Com- menced.	Expenditure from 1 July, 1898, to 30 June, 1899.			If Unfinished, amount of Expenditure to 30 June, 1899.		
		£	s.	d.	£	s.	d.
Boree Creek to Morundah Railway Station .....	1898						
Boloco to Buckley's Crossing to Jimenbuen .....	"	32	4	0	32	4	0
Bombala Delegate Road to Burrumbooka .....	1896	22	2	0	22	2	0
Bomaderry Railway Station to Nowra Bridge .....	1898	11	5	0	37	6	7
Boggabri towards Manilla .....	"	438	18	3	438	18	3
Bobadah to Walker's Hill .....	"	55	16	0	55	16	0
Cassilis to Turi Vale .....	"	15	19	6	15	19	6
Crabbe's to Lloyd's .....	1894	83	1	0	83	1	0
Cudgeon Wharf to Teranora .....	1898	100	0	0	494	0	0
Cowlong to Marom Creek .....	1890	105	0	0	105	0	0
Clunes to Booyong .....	1898	381	10	5	2,370	3	0
Clunes to Stagg's .....	1887	40	0	0	40	0	0
Clunes to McKenzie's .....	1890	149	2	8	1,751	5	7
Clunes to Beardow's .....	1896	220	0	0	1,270	15	5
Clunes to Binna Burra .....	1887	169	4	10	501	5	7
Casino to Mount Lindsay Road at Reynolds .....	1896	240	16	3	7,463	5	11
Casino, Mount Lindsay Road, to Queensland Border .....	1898	55	8	0	149	10	0
Casino to Mount Lindsay .....	1876	59	9	6	59	9	6
Casino to Eden Creek, via Little's .....	1898	731	12	10	17,770	3	7
Casino to Coraki .....	1886	3	12	0	3	12	0
Casino to Ellangowan .....	1890	553	8	3	7,714	3	9
Casino to North Codrington Road, via Tomki Public School, to Tatham .....	"	173	13	1	2,397	11	2
Casino to North Codrington .....	1892	142	12	3	526	8	2
Casino, North Codrington Road, to Rankin's Wharf .....	1898	431	3	4	3,360	13	2
Casino to Myall Creek .....	1873	592	9	9	592	9	9
Casino, North Codrington Road, to Buggy's .....	1898	753	17	8	29,568	11	4
Coraki to Broadwater .....	1889	43	17	3	43	17	3
Coraki to Wvralah .....	1888	180	0	0	1,807	18	8
Coraki to Tuckerumba .....	1892	222	5	0	2,643	4	2
Coraki, Tuckerumba Road, to River Bank .....	1898	150	0	0	815	11	8
Coraki to Myall Creek .....	1892	30	0	0	30	0	0
Coraki to Swan Bay .....	1893	179	17	10	1,708	11	9
Carrington Road .....	1898	87	10	0	568	3	6
Carrington to Newcastle (Denison-street) .....	"	18	19	5	18	19	5
Caramana to Seeland's .....	1890	140	0	0	147	0	0
Caramana to Eatonsville .....	"	60	0	0	315	19	10
Coff's Harbour to Sharp's .....	"	67	16	0	658	4	5
Cadgee Hill to Upper Tuross .....	1898	783	7	3	10,911	19	4
Coolatai to Wallangra .....	1884	13	0	0	13	0	0
Coolatai to Graman .....	1898	55	4	0	728	10	7
Cobbedah to Rocky Creek .....	1874	19	19	6	19	19	6
Coff's Harbour to Sharpe's Road to Upper Bucca Mines .....	1896	161	15	6	13,810	17	5
Cregan's to Rocky River .....	1886	98	2	0	549	10	3
Coolongalook to Bunyah .....	1898	63	10	9	825	17	3
Collarendabri to Narrabri .....	1893	50	0	0	50	0	0
Cocland to Rawden Vale .....	1998	49	7	6	828	12	2
Collarendabri to Angledool .....	1892	39	18	0	39	18	0
Copmanhurst, via Morrison's, to Smith's Creek .....	1898	150	19	9	1,192	8	8
Coonamble to Tundabrine .....	1895	18	9	10	18	9	10
Coonamble to Combogolong .....	1892	95	10	0	470	18	1
Coonamble towards Coonimbria .....	1897	293	7	9	1,786	17	8
Coonamble to Gulgandra .....	1891	52	0	0	104	0	0
Coonamble to Pilliga .....	1897	389	9	10	3,612	6	6
Coonamble towards Baradine .....	1894	88	12	1	180	12	1
Coonamble towards Quambone .....	1897	99	18	8	514	7	8
Coonamble to Warren .....	1892	64	12	6	131	4	7
Coonamble towards Billaroy .....	1895	461	0	3	3,003	13	2
Cregan's to Invergowrie .....	1898	30	0	0	156	17	0
Congarim, up Taylor's Arm .....	1885	13	14	0	13	14	0
Congarim, up North Bank, Taylor's Arm .....	1897	731	3	8	6,155	15	0
Congarim Road to Behmbopini .....	1898	101	18	7	201	9	8
Congarim to Rolland's Plains .....	1894	41	19	0	41	19	0
Congarim Road, Frederickton, to Christopher Town .....	1898	1,447	5	10	8,755	5	1
Coast Road to Rolland's Plains .....	1894	43	10	0	43	10	0
Coast Road to Campbell's .....	1889	110	0	0	522	15	5
Coast Road to Ferrett's .....	1894	77	8	0	1,708	15	3
Coast Road to Sullivan's .....	1895	1,025	12	10	6,361	16	7
Cohen's Crossing over Corindi Creek .....	1898	201	8	0	819	14	1
Cooperook to Harrington .....	1884	16	0	0	16	0	0
Cransdown's Hill—Pembroke Road, Carlingford .....	1898	149	18	5	2,483	13	1
Cedar Party Road to Taree and Wingham Road .....	1891	20	0	0	20	0	0
Cedar Creek to Narabucca Heads .....	1893	222	17	9	1,220	2	0
Cedar Party Creek, up Killabakh Creek .....	1890	84	9	9	558	3	5
Cameron's Crossing to Morill Creek .....	1891	124	0	0	1,161	7	5
Cessnock, via Mount View, to Millfield .....	"	40	0	0	256	5	7
Cessnock, via Allandale, to Harper's Hill .....	1879	350	0	0	2,519	7	0
Cessnock and Allandale Road towards Branxton .....	1897	570	4	8	2,277	7	3
Cessnock to Josephson's .....	1884	80	0	0	160	0	0
Cooranbong to Mandalong .....	1896	128	12	6	2,572	0	8
Cooranbong to Dora Creek Platform .....	1897	30	0	0	222	18	8
Cooranbong to Freeman's Waterholes .....	1892	96	6	8	1,057	17	6
Cooranbong to Wattagan Mountain .....	1893	213	6	2	1,473	9	2
Cooranbong and Wattagan Road to Humphre's C.P. ....	1897	249	5	8	1,435	0	10
Currawong to Lake Bathurst .....	1898	120	0	0	234	9	2
Charlestown to Dudley .....	1889	42	14	0	42	14	0
		84	7	4	2,256	5	1



## RETURN OF EXPENDITURE ON PUBLIC WORKS—continued.

ROADS.	When Com- menced	Expenditure from 1 July, 1898, to 30 June, 1899.			If Unfinished, amount of Expenditure to 30 June, 1899.		
		£	s.	d.	£	s.	d.
Charlestown to Warner's Bay	1897	28	19	9	78	9	7
Clarencetown, <i>via</i> Glen William, to Brookfield	1896	198	0	0	576	0	0
Clarencetown to Dungog	1877	459	2	2	22,169	0	3
Clarencetown to Limeburner's Creek	1884	244	18	8	4,394	12	10
Clarencetown to Thalaba	1896	181	18	6	522	0	7
Coonabarabran to Bomera	1891	250	0	0	2,937	14	1
Coonabarabran to Timor Rock	1895	120	0	0	249	13	4
Coonabarabran to Mundooran	1891	923	6	2	7,969	19	1
Coonabarabran to Mundooran Road to Merrygoen	1898	129	17	6	129	17	6
Coonabarabran to Malally	1887	750	0	0	7,230	14	9
Coonabarabran to Black Stump	1892	334	4	7	3,315	5	0
Coonabarabran, <i>via</i> Madderty, to Ulamambri	1895	103	8	1	303	8	1
Coonabarabran to Tenandra	1895	473	17	7	1,601	9	7
Confoy's to Marsden's Bridge (Mary's Mount Road)	1898	56	6	0	56	6	0
Currabubula to Piallaway	1891	79	19	3	733	13	3
Chandler Bridge to foot of Jeogla Mountain	1893	423	19	2	1,905	13	0
Commandant Hill to Port Macquarie	1894	41	5	0	221	4	0
Coolabah to Bogan River at Monkey	1897	189	5	10	234	18	1
Coolah to Cassilis	1895	75	0	0	459	9	6
Cooper's Flat Road, up Karakoorra Creek	1896	37	0	0	108	0	0
Chatham to Taree and Wingham Road	1891	40	0	0	249	13	8
Copmanhurst to Upper Smith's Creek	1896	82	0	0	272	13	0
Copmanhurst to Mann River Goldfields	1897	99	12	0	105	6	0
Croki Punt to Main Road	1894	49	19	7	161	10	7
Cochran's to Duncan's	1892	24	0	0	250	1	10
Cheer's Hill to Algomera Junction	1890	139	11	11	1,930	1	1
Cundle, <i>via</i> Savilles, to Coopernook	1895	299	15	9	1,155	13	8
Cowan Creek Road	"	50	0	0	176	1	10
Cowan Creek to Waterview	"	20	0	0	90	10	7
Cooney to Metz	"	84	13	2	351	4	5
Corinda to Nine-mile Dam	"	8	12	6	489	6	7
Condong to Durambah	"	350	0	0	1,165	13	1
Cudgen to Norrie's Head	"	49	19	7	204	6	1
Coraki to Buckendoon	"	90	0	0	338	0	2
Carne's Hill, <i>via</i> Brungelly, to Greendale	"	199	18	3	1,255	18	3
Campbelltown to Narellan	1892	64	0	0	866	2	10
Cambewarra to Lumsden's Corner	1895	139	5	2	441	17	4
Camden to Werombi	1889	295	17	2	1,163	14	6
Camden to Oaks	1893	397	5	1	3,284	7	11
Collector to Gundaroo	1895	65	0	0	745	13	0
Collector to Gunning	1890	135	15	2	4,192	17	11
Collector to Gunning Road to Murray's Lagoon	1898	4	19	6	4	19	6
Collector to Tiranna	1882	200	0	0	5,727	4	10
Collector to Bredalbane	1881	46	17	5	2,854	15	7
Cotta Walla to Roslyn	1892	110	11	0	764	3	5
Cronulla Beach Road towards Gunnamatta Bay	1898	88	12	10	88	12	10
Crookwell to Bigga	1896	354	4	0	1,785	17	6
Crookwell to Mount Wayo	1892	545	6	3	4,953	1	9
Crookwell to Laggan and Binda Road	1883	74	19	8	1,219	2	4
Crookwell to Gullen	1882	278	10	0	4,914	10	8
Crookwell to Taralga	1874	368	6	0	12,010	17	1
Crookwell to Gunning	1895	299	0	0	952	12	7
Carter's to Pomeioy	1896	60	0	0	143	17	10
Captain's Flat to Norongo	1892	46	16	6	770	15	11
Captain's Flat and Cooma Road to 24-mile post	1893	228	5	9	961	15	10
Catheart to Mount Marshall	1898	26	0	0	26	0	0
Catheart to Bibbenluke	1888	22	6	7	1,497	1	2
Catheart to Road, Holt's Flat to Tantawanglo	1898	38	0	6	38	0	6
Catheart to New Buildings	1896	443	19	11	957	19	5
Craigie to Delegate	1890	Nil			438	17	3
Craigie, <i>via</i> Quiburra, to Border	1896	15	0	0	90	9	6
Crowby's Selection to Barraba-Bingara Road	1898	15	0	0	15	0	0
Cobargo to Wadbilliga	1888	45	12	0	3,487	1	7
Candelo to Wyndham	1882	161	17	0	4,661	10	1
Cooma, <i>via</i> Green Hills, to Numeralla	1887	146	1	8	1,362	6	4
Cooma to Boburdaah	1880	357	0	6	5,383	14	6
Cooma, <i>via</i> Mvalla, to Bobundarah	1897	196	9	9	301	4	9
Cooma, <i>via</i> Mawson's Mill, to Murrumbucca	1898	70	0	0	70	0	0
Cooma to Jindabyne	1881	911	15	4	11,772	0	8
Cooma, <i>via</i> Rosebrook, to Cowra	1889	150	0	0	1,200	14	11
Cooma to Murrumbucca	1895	100	5	6	584	2	3
Cooma to Nimitybelle	1892	715	2	6	6,093	13	5
Cooma and Jindabyne Road to Kiandra	1879	959	19	11	20,594	9	0
Cooma, <i>via</i> The Peak, to Dry Plain	1887	113	13	3	2,758	14	11
Cooma to Big Badger	1879	166	0	0	4,567	5	7
Cooma, <i>via</i> Dangelong, to Kydra	1895	130	0	0	654	6	8
Croki Public School, Jones' Island Road to	1898	29	19	6	29	19	6
Coolringdon to Buckley's Crossing	1896	182	1	4	538	9	10
Cootamundra to Stockinbinal	1885	68	13	8	2,116	18	7
Cootamundra to West Jindalee	1895	40	0	0	299	6	11
Cootamundra to Junee	1892	332	18	2	1,693	7	0
Cootamundra to Binalong	"	407	19	11	2,762	13	1
Cootamundra to Temora	1882	183	0	6	17,124	13	0
Cootamundra, <i>via</i> Kilrush, to Wallendbeen	1892	90	0	0	947	14	7
Cootamundra, <i>via</i> Ironbong, to Bethungra	1891	160	0	0	1,426	6	0

## RETURN OF EXPENDITURE ON PUBLIC WORKS—continued.

ROADS.	When Com menced	Expenditure from 1 July, 1898, to 30 June, 1899	If Unfinished, amount of Expenditure to 30 June, 1899
		£ s d	£ s. d.
Cootamundra, <i>via</i> Cowong's, to Jugiong .....	1898	145 12 6	145 12 6
Cootamundra to Coolac .....	1875	174 7 4	7 536 2 4
Cootamundra to Berthong .....	1891	83 2 0	716 2 4
Coolac to Gobarralong .....	1887	341 16 2	2,711 4 1
Coolamon to Cowabee .....	1892	350 0 0	2 192 17 1
Coolamon to Currawarna .....	1897	9 7 0	33 7 11
Coolamon, <i>via</i> Springwood, to Beaconsfield .....	1896	363 14 6	945 15 5
Coolamon, <i>via</i> Kindra, to North Berry Jerry .....	"	211 16 7	573 1 10
Carabost to Kyamba .....	1880	87 2 0	4,886 10 3
Conargo towards Moonbria .....	1892	54 7 6	847 8 4
Curraghmoor Siding to Tocumwall .....	1895	120 9 0	683 13 9
Culcairn to Germanton .....	1882	464 7 9	13,033 4 8
Culcairn to Walbundrie .....	1895	308 6 3	531 2 8
Corowa, <i>via</i> Merton, to Mulwala .....	1898	64 15 0	64 15 0
Corowa to Piney Range .....	1885	264 16 6	5,361 19 10
Corowa to Coreen and Jerilderie Road at Momalong .....	1892	436 13 10	3,048 5 7
Coonong Siding to Urana .....	1885	529 17 9	7,869 0 10
Carrathool to Hillston .....	1881	274 19 8	8,614 6 4
Camberwell to Goorangoola Road, to Kermode's .....	1895	39 15 0	170 15 9
Courabyra to Oberne .....	"	91 12 0	289 12 11
Candelo to Bembooka .....	"	107 3 0	524 15 0
Condong to Palfrey's .....	"	70 0 0	278 0 2
Cadgangarry to Upper Brogo .....	"	84 6 0	238 8 6
Canberra Post Office to 7-mile post on Uriarra Road.....	"	10 18 0	68 0 3
Corruna Public School to Main South Coast Road .....	1898	65 0 0	65 0 0
Carragabal to Clifton .....	1895	392 6 4	1,854 17 6
Cotta Walla to Crookwell .....	1898	9 9 0	9 9 0
Comboyne Reserve, Road to .....	1897	12 10 0	45 0 0
Cawdor to Westbrook .....	1894	52 0 11	187 2 7
Coolongolook Road down South Bank of Wallamba River .....	1898	20 0 0	20 0 0
Cobba Road .....	"	10 0 0	10 0 0
Clarendon to Cornwallis .....	1884	25 2 2	840 10 0
Clay Hill to Stanmix Park .....	1898	33 0 0	33 0 0
Cheshire Creek to Turon River, at Wild's .....	1898	99 12 0	99 12 0
Churchill's Wharf to Page's Ferry Road .....	1895	79 16 8	289 13 6
Caloola Road to Trunkey .....	1894	99 19 4	297 18 8
Caloola Road, <i>via</i> Wimbleton, to Newbridge .....	1878	77 3 0	2,456 9 11
Cobborah to Gilgandra .....	1893	545 1 5	3,815 11 6
Cobborah to Demson Town.....	1895	70 13 0	384 6 10
Carcoar to Felltumber Creek .....	1896	74 3 11	205 12 5
Carcoar to Millthorpe .....	1895	282 5 2	988 15 4
Carcoar to Flyer's Creek .....	1879	200 0 0	2,464 11 11
Carcoar towards Barry .....	1894	99 18 6	765 3 7
Cudgegong to Wollar .....	1891	628 18 10	2,971 11 3
Cudgegong-Wollar Road, at Stoney Creek Bridge, &c., to Cooyal R. C. Church .....	1898	24 18 0	24 18 0
Cudgegong-Wollar Road, at Stapleton's, to Gleeson's .....	"	24 19 7	24 19 7
Cudgegong-Wollar Road, at Cooyal Church, to Ironbarks .....	"	20 0 0	20 0 0
Cudgegong to Merendee .....	1896	124 9 8	349 15 7
Cudgegong-Wollar Road, at Taylor's, to the Drip, Road from .....	1898	40 1 0	40 1 0
Cudgegong to Hill End .....	1873	479 19 10	28,647 18 9
Cudgegong to Rylstone .....	1883	264 18 10	5,150 0 5
Cudgegong Village to Rylstone .....	1885	246 2 10	3,928 14 7
Cudgegong to Home Rule .....	1881	119 19 5	1,921 12 11
Cudgegong to Demson Town .....	1893	1,332 13 11	8,338 18 10
Camboon, <i>via</i> Pyangle, to Dungaree .....	1896	55 10 0	139 11 9
Cowra to Glen Logan .....	1890	12 0 0	408 8 1
Cowra to Koorawatha .....	1875	40 0 0	6,942 13 7
Cowra, <i>via</i> Darby's Falls, to Hovell's Creek ..	1883	193 15 4	3,219 13 5
Cowra, <i>via</i> Binn Creek, to Walli .....	1886	14 0 0	2,505 4 9
Cowra to Goolagong .....	1878	579 9 5	6,543 9 4
Cowra to Canowindra .....	1880	455 2 0	6,492 17 2
Cowra to Breakfast Creek .....	1888	457 15 1	3,903 7 3
Capertee to Glen Alice .....	1896	2 3 12 7	624 14 8
Capertee to Glen Alice, at Turn-off to Airley .....	1898	1 11 0	1 11 0
Cargo to Canowindra .....	1882	228 13 10	3,641 7 9
Cargo to Cudal .....	1883	116 16 10	3,531 12 9
Cooyal Public School to Keene's Flat .....	1898	19 14 5	19 14 6
Clear Hills to Daysdale .....	"	17 12 0	17 12 0
Canowindra to Toogong .....	1897	57 10 0	167 6 0
Canowindra to Eugowra .....	1876	210 13 2	6,790 13 6
Canowindra to Goolagong .....	1890	94 7 1	965 14 9
Canowindra to Long's Corner .....	1895	80 19 6	182 16 9
Cumnock to Balderogery .....	1888	309 6 0	1,923 1 11
Cullenbone to Cobborah .....	1890	1,339 11 4	12,271 17 1
Crimmins's to Four-mile Creek .....	1896	9 9 0	417 2 4
Cobar to Jacob's Well .....	1895	312 7 0	1,352 18 4
Cobar to Nyngan .....	1887	78 12 0	2,158 10 4
Cobar to Priory Tank .....	1889	185 13 6	2,863 11 8
Cobar to Louth .....	1893	Nil.	553 5 10
Cobar to Balarabon .....	1896	Nil.	235 0 0
Cudgellico to Hillston .....	1895	127 6 0	794 7 2
Cudgellico to Pullitop Tank .....	1892	Nil.	3,828 2 9
Curra Creek to Balderogery .....	1880	173 8 0	10,368 11 0
Curra Creek to Arthurville .....	"	100 14 3	3,324 5 0
Cobbity to Vermont .....	1898	22 5 0	22 5 0

## RETURN OF EXPENDITURE ON PUBLIC WORKS—continued.

ROADS.	When Com- menced.	Expenditure from 1 July, 1898, to 30 June, 1899.	If Unfinished, amount of Expenditure to 30 June, 1899.
		£ s. d.	£ s. d.
Cudal to Barragan Hall .....	1895	59 15 5	370 18 2
Centennial Park Roads .....	1887	Nil.	67,521 4 9
Comleroy to Sackville Ferry .....	1895	129 5 5	563 11 9
Castle Hill to Windsor Road .....	"	40 8 9	125 3 0
Castle Hill to Old Parramatta Road .....	1897	19 3 9	43 0 9
Cattai Creek, at Clarke's, to Fisher's .....	1896	37 0 0	108 0 0
Cattai Creek, at Pearce's, to Old North Road .....	"	65 0 0	185 0 0
Canterbury Trust Road .....	1897	35 14 8	122 16 9
Condobolin to Nymagge .....	1894	174 2 0	912 2 3
Condobolin towards Wagga .....	1897	86 1 6	152 17 10
Condobolin to Palsthan .....	"	55 0 0	159 10 0
Condobolin to Palsthan to Cugong .....	1898	154 3 4	154 3 4
Cabramatta to Mulgoa .....	"	50 0 0	50 0 0
Calabash Road to Dust-hole Bay .....	"	50 0 0	50 0 0
Calabash Road from Bay Road to Calabash Hills .....	"	10 0 0	10 0 0
Canyonleigh Road to Tugalong .....	"	75 0 6	75 0 6
Camp Bay, &c, to Point Perpendicular .....	1897	3 0 0	84 9 10
Conn's to Morangarell .....	1887	149 2 6	6,808 11 10
Curlewis towards Goran Lake .....	1898	29 3 0	29 3 0
Cardiff to Lake Macquarie .....	1897	46 5 0	192 0 0
Coutt's Crossing to Toothul .....	"	17 18 0	40 4 0
Coonanbarra Road, Wahroonga .....	"	Nil.	84 0 0
Chalker's to road Robertson, &c, to Genquarry .....	1898	290 9 0	290 9 0
Cundle, &c, to Cooperook to Lansdowne River .....	"	46 12 0	46 12 0
Davistown Road, Gosford .....	1898	15 0 0	15 0 0
Dungowan to Swamp Oak .....	1893	193 4 0	1,539 4 6
Dungowan Creek, south bank, to Cadell's .....	1892	30 0 0	1,026 8 0
Dungog to Thalaba .....	1896	94 15 0	741 14 10
Dutton's to Marom Creek .....	1890	153 16 0	1,442 6 9
Deepwater, via 9-mile, to Tent Hill .....	1888	454 8 11	5,835 3 10
Deepwater to Ranger's Valley .....	1898	30 0 0	30 0 0
Drice's Gate to Wallungarra .....	1888	125 18 0	2,341 8 6
Drinan's Gate to Grestford .....	1896	85 12 0	225 12 0
Darkwater Bridge up left bank Belmore River .....	1888	99 19 2	1,618 18 0
Darkwater Bridge up right bank Belmore River and Branch Road .....	1892	160 0 0	352 6 0
Dungog to Weismantles .....	1883	350 19 0	19,046 17 10
Dungog to Posterton .....	1877	444 14 9	3,338 14 4
Dungog to Underbank .....	1892	421 14 1	8,123 13 2
Denman to Doyle's Creek .....	1898	39 0 0	39 0 0
Dangyar's Creek, via Glendon Post Office, to Drinan's Gate .....	1896	83 0 0	241 0 0
Dunbible to Stokers' .....	1898	41 19 0	41 19 0
Dagworth Bridge to East Maitland Road .....	1887	110 3 5	986 6 4
Dunmore to Clarence-town .....	"	325 2 6	9,262 14 4
Dunmore Road to Largs-Tocal Road .....	1897	72 10 0	136 0 8
Duri, via Colly Blue, to Bomera .....	1894	1,021 12 1	3,618 2 1
Deep Creek Bridge fencing Approach .....	1897	....	30 0 0
Deep Creek to Bisby's Flat .....	1890	286 13 6	2,069 1 11
Deep Creek Crossing to Lasecock's .....	1897	4 17 0	26 3 0
Deep Lead Mine, Corowa—Road to .....	1898	21 11 5	21 11 5
Duval to Pearson's .....	1895	5 12 0	83 8 0
Doran's up Mullumbimby Creek .....	"	60 14 4	549 13 2
Dungay's to Skinner's .....	"	128 14 4	656 7 3
Deegan's to Irvine's .....	1896	42 0 0	124 1 0
Doran's to Risley's .....	1895	333 8 7	1,084 17 5
Doran's—Risley's Road to Simmons' .....	1898	113 6 8	113 6 8
Darke's Forest to Heathcote Road .....	1892	98 11 3	681 14 11
Dalton to Narrawa .....	1882	313 7 1	5,062 1 2
Dolly's Flat Road, past Waroo, to road Wingham, via Ashlea, to Kelvin Grove .....	1893	35 14 1	35 14 1
Delegate to the Border, near Bendock .....	1887	9 2 0	704 10 9
Delegate, via Carrawang, to Wollondibby .....	1891	131 4 6	1,258 14 2
Delegate to the Border, near Kirkanong .....	1895	19 14 0	156 2 0
Devlin's Siding, via Cowabee, towards Warri .....	1898	134 3 6	134 3 6
Devlin's Gate, via Junction Hotel at Mandemah .....	1897	250 4 7	443 6 7
Denilquin to Berigan .....	1892	107 19 7	6,32 11 8
Denilquin to Urana .....	1874	492 18 7	22,641 5 6
Denilquin to Colimo .....	1895	177 2 0	874 19 5
Denilquin to Wakool Lane .....	1892	184 6 9	1,815 6 8
Denilquin to Wangonilla .....	"	297 18 11	2,344 2 1
Denilquin to Moama .....	1891	198 9 3	1,484 7 9
Denilquin towards Morocco .....	1893	67 12 0	1,164 9 9
Denilquin to Boomanoomara .....	1895	456 3 10	2,127 10 8
Denilquin to Narrama .....	"	28 10 11	718 10 7
Doughboy Hill towards Bungendore .....	"	82 10 6	341 16 3
Danglong Road to Tom Grogan's Creek .....	1896	43 1 0	143 1 2
Douglas Park to 13-mile peg on Mount Kerra Road .....	"	107 8 6	248 15 2
Dover Point Ferry to Heathcote Railway Station .....	"	109 13 4	546 16 1
Diamond Swamp to Tarana .....	1894	124 19 10	569 1 4
Dubbo to Yeoval .....	1878	135 4 0	6,866 1 11
Dubbo Yeoval Road to the Springs Crossing, Paddy's River .....	1898	10 0 0	10 0 0
Dubbo towards Cobborah .....	1890	477 7 3	4,732 0 8
Dubbo towards Cobborah Road at Dubbo Cemetery to Bunnengong Public School .....	1897	91 4 11	99 19 11
Dubbo to Peak Hill .....	1895	399 14 0	1,594 18 2
Dubbo to Gilgandra .....	1897	1,108 6 4	9,120 19 1
Death's to Euroka .....	1898	34 0 0	34 0 0

## RETURN OF EXPENDITURE ON PUBLIC WORKS—continued.

ROADS.	When Com- menced	Expenditure from 1 July, 1893, to 30 June, 1899			If Unfinished, amount of Expenditure to 30 June, 1899		
		£	s	d	£	s	d
Dairy Creek to Galley Swamp .....	1895	118	13	10	410	18	1
Dundoo to Stolls .....	1896	31	0	0	131	5	4
Defence Road to Pittwater Road .....	1888	330	0	0	2,926	2	7
Duckamloi Hill to Hazelgrove .....	1898	32	13	6	32	13	6
Dog Trap Creek to Pheasant's Nest .....	1895	11	17	6	146	10	0
Dripstone to Newrea .....	"	199	6	10	962	10	3
Duramana to Peel .....	"	27	6	0	271	1	8
Dargaville Crossing, up the River <i>via</i> Stevens' .....	1897	154	3	9	304	4	9
Denman Embankment (Muswellbrook to Merriwa) .....	1898	20	14	1	20	14	1
Eureka to Duraby .....	1888	220	14	1	1,603	19	1
Eureka to O'Mara's .....	1898	59	0	0	59	0	0
Eureka to Gay's .....	1891	39	15	6	293	10	7
Emmaville to Deepwater .....	1895	416	19	0	2,124	6	9
Emmaville to Strathbogie .....	1885	106	15	0	2,630	8	2
Eatonswill to Whiteman's Creamery .....	1898	64	14	0	64	14	0
Emmaville to Webb's .....	1897	57	2	0	111	9	0
East Kempsey to Spencer's Creek and Branch Road .....	1877	785	14	7	8,423	8	0
East Kempsey to Spencer's Creek Road, <i>via</i> Pola Creek, to Macleay River .....	1898	34	2	6	34	2	6
East Kempsey to Verge's Swamp .....	1895	73	19	0	227	3	0
East Kempsey to Sherwood .....	1880	189	19	0	3,598	5	0
East Kempsey to Crescent Heads .....	1889	267	19	3	2,308	5	2
Erina, <i>via</i> Kincumber, to Terrigal .....	1893	220	8	6	1,785	5	3
Ennis and Gowrie Road <i>via</i> McLennan's to Carney's and Branch to Somerville's Gate .....	1895	334	19	0	1,060	4	4
Ellenborough Bridge towards Jackey's Bulga .....	1896	35	13	3	179	0	6
Eaton Bridge to Copmanhurst Wharf .....	1898	133	0	0	133	0	0
East Maitland to Minmi Road .....	1897	130	12	4	219	3	7
East Maitland to Freeman's Waterholes .....	1891	527	14	9	6,713	12	0
East Maitland to Raymond Terrace to East Maitland—Minmi Road .....	1897	234	3	6	275	18	6
East Maitland to Raymond Terrace .....	1894	484	0	6	3,893	16	11
East Maitland to Pitnacree Bridge .....	1898	100	0	0	100	0	0
Ennis Road to Glen Esk Upper Plains .....	1895	179	16	0	791	3	5
East Wardell Post Office to the Beach .....	1898	49	17	0	49	17	0
Elrington to Araluen .....	1870	84	0	6	3,419	2	6
Eurobodalla to Nerrigundah .....	1889	62	7	0	1,351	1	5
Eurobodalla to Billa Bilbow .....	1897	40	0	0	92	17	4
Eden, <i>via</i> Kiah River, to Timbillica .....	1896	220	0	0	420	0	0
Eden to Start .....	1879	440	16	1	8,669	11	7
Eden to Pambula .....	1881	289	10	0	8,759	10	11
Eden-Pambula Road to Day's Selection .....	1898	40	17	0	48	17	0
Exete to Great South Road .....	1895	183	7	0	821	2	1
E McGuire's to Pitt Town Bottoms .....	1893	103	17	6	474	9	8
E McGuire's to Cattai Creek, at Pearce's .....	1896	90	17	8	192	15	3
Eastern Plains to Tenterden .....	1895	61	14	9	284	16	5
Evan's Plains to Perth .....	"	46	19	0	257	9	6
Eshick's to Four-mile Creek .....	"	42	4	6	235	6	10
Ellalong to Wallaby Gully .....	"	38	0	0	172	18	8
Eight-mile to Puddledock .....	"	Nil.			113	1	0
Elsmore to Kangaroo Camp .....	"	160	17	10	515	6	7
Engowra to Bindogundra .....	"	239	11	6	715	2	4
Engowra to Goolagong .....	1893	6	12	0	6	12	0
Engowra to Goolagong Road to Frazere Public School .....	"	15	0	0	15	0	0
Idendge's towards Wheeo Post Office .....	"	60	0	0	60	0	0
Euabalong to South Condobolin .....	"	52	0	0	52	0	0
Euabalong to Willandra Bridge .....	"	108	13	4	108	13	4
Eccleston to Upper Alyn River .....	1896	59	0	0	172	0	0
Enfield Road to Reiby's Grant .....	"	64	12	10	285	16	2
Erskine Corner towards Coolamon .....	1897	7	10	0	12	0	0
Fox's to McCormack's .....	1892	120	0	0	1,225	16	2
Fidden's Wharf Road .....	1893	36	0	0	174	3	0
Fernmount to Tyson's .....	1894	30	0	0	220	7	8
Flanagan's Swamp to Upper St Leonards and Orandumbry .....	1891	180	17	3	892	8	11
Flyer's Creek to Dorney's .....	1884	288	2	3	4,471	3	1
Foot of Mountain up the Wollondilly River .....	1882	161	6	0	2,059	4	5
Fitzroy Falls to Robertson .....	1890	690	16	6	5,777	13	11
Foxlow-street, Captain's Flat .....	1897	Nil			75	13	2
Four-mile Tree to Charlton .....	1899	77	0	0	2,016	17	9
Forbes to Gunningbland .....	1883	218	12	7	5,967	17	3
Footpath, North side of Victoria Park .....	1898	409	9	6	409	9	6
Forbes to South Condobolin .....	1882	850	0	3	14,301	3	4
Forbes to Condobolin .....	1879	398	0	4	12,486	19	1
Forbes to Goolagong .....	1896	222	16	9	871	16	8
Forbes to Bogolong .....	1887	135	0	0	3,833	6	7
Forbes to Parkes .....	1878	60	16	2	3,161	18	4
Forbes to Burrawong .....	1898	25	12	0	25	14	0
Favell's to Byng .....	1884	100	0	5	1,904	11	6
Field of Mars Cemetery, Road to .....	1898	50	0	0	50	0	0
French's Forest to Greendale .....	1890	160	0	0	1,470	6	9
Frogmore towards Rye Park .....	1898	90	14	5	90	14	5
Fleck's to the Quarry .....	1895	81	12	1	219	7	7
Frogmore, <i>via</i> Boolong, to Taylor's Flat .....	1898	3	10	0	3	10	0
Fall's Creek towards Jarvis Bay .....	1896	78	13	1	125	13	7
Foot's Road (Oummbah Creek Road) .....	1898	25	0	0	25	0	0
Foster's Gate to Wingello .....	"	60	15	0	60	15	0
Foster's Gate to Wells' Creek .....	1896	83	13	6	197	19	10

RETURN OF EXPENDITURE ON PUBLIC WORKS—*continued.*

ROADS.	When Com- menced.	Expenditure from 1 July, 1898, to 30 June, 1899.	If Unfinished, amount of Expenditure to 30 June, 1899.
		£ s. d.	£ s. d.
Five-mile Creek, across the Main Range, to Patterson's .....	1898	38 15 6	38 15 6
Flemming's Hill to Grono's Farm .....	1896	39 3 2	94 12 4
Frederickton, <i>via</i> Jack's Crossing, to Deep Creek .....	1898	178 15 0	178 15 0
Farley, <i>via</i> Ravensfield, to Bishop's Lodge .....	"	25 0 0	25 0 0
Fellon's Road, Carlingford .....	1897	5 0 0	18 0 0
Flood-gate, Salt-water Creek, Jones' Island .....	1898	25 0 0	25 0 0
Fox Valley to Thornleigh Station .....	1897	62 10 0	100 15 9
Granuaile to Bangalow .....	1889	70 0 0	2,759 0 4
Gundurmbah to Marshall's .....	1892	154 12 3	860 4 6
Goonellebah to Rous .....	1895	361 9 0	80 1 11
Grafton, <i>via</i> Glen Innes, to Inverell .....	1866	6,070 13 3	299,639 19 10
Grafton, <i>via</i> Southgate, to Broadwater .....	1894	918 18 6	5,044 12 1
Grafton-Broadwater Road to Government Home for Aborigines .....	1898	46 17 0	46 17 0
Grafton to Flying Horse .....	1890	505 7 1	11,161 11 2
Gears' to Coval-lane, Coval-lane and Deep Gully Roads .....	1897	150 0 0	293 18 0
Goorangoola, <i>via</i> Danolly, to Dyring Road .....	1898	49 8 0	49 8 0
Grebert's to Solferino .....	1886	420 18 0	6,921 16 9
Glynn's to Nymbodia .....	1890	44 18 6	491 1 0
Glen Innes to Red Range .....	1895	190 2 5	608 7 1
Glen Innes to King's Plains .....	1875	177 17 1	10,104 6 7
Glen Innes to Shannon Vale .....	1891	55 11 0	676 18 6
Glen Innes to Mount Mitchell .....	1888	112 1 3	1,785 17 9
Glen Innes to Emmaville .....	1881	246 10 1	8,690 1 8
Glen Innes-Inverell Road, <i>via</i> Westphalyn's Vineyard, to Old Armadale Road .....	1898	12 5 0	12 5 0
Glencoe to Mount Mitchell .....	1890	143 10 7	1,568 3 2
Gaspard to Wallabadah .....	1895	9 2 0	9 2 0
Guyra to Glencoe .....	1895	326 15 2	1,465 9 2
Guyra to Coff's Harbour .....	1898	155 19 6	155 19 6
Guyra to Sandy Creek .....	1890	69 19 9	654 17 4
Guyra to Kangaroo Camp .....	1893	286 4 8	3,734 0 1
Guyra to Oban .....	1889	55 4 0	2,673 10 4
Gundy Road, <i>via</i> Brushy Hill, to Rouchel Road near Wilkinson's .....	1897	42 0 0	109 12 1
Gudy to Timor .....	1896	43 10 10	108 12 10
Great Northern Road at New Treugh Hill, <i>via</i> Muncmbah to Wittingham Creamery .....	1898	69 19 6	69 19 6
Great North Road up Dry Creek .....	1895	26 12 2	72 11 2
Great Northern Road, <i>via</i> Russell's, towards Guyra Swamp .....	1898	39 11 10	39 11 10
Great Northern Road, <i>via</i> Long Reach, to Armadale Gostwycke Road .....	"	46 8 8	46 8 8
Green Hills, <i>via</i> Sherwood Bridge, to Dungay Creek .....	1892	269 18 2	1,650 19 6
Gostwycke to New Park .....	1882	265 6 0	8,041 7 7
Gostwycke to Vogel's Selections .....	1896	45 17 10	95 17 10
Gosford to the Blood-tree .....	1890	144 10 6	1,693 14 4
Gosford-Tuggerah Beach Road, to Terrigal .....	1898	10 0 0	10 0 0
Glenmie's, <i>via</i> Chillcott's Flat, to Goorangoola Road .....	1891	28 0 0	246 13 11
Gunnedah to Malally .....	1888	343 4 4	8 160 6 9
Gunnedah to Wandobah .....	1889	30 0 0	344 17 5
Gunnedah to Carroll, <i>via</i> north side of Namoi .....	1893	69 13 0	409 15 4
Gunnedah to Somerton .....	1890	239 19 0	2,428 6 9
Gunnedah to Boggabri .....	1894	101 11 1	523 5 10
Gunnedah to Burburgate .....	1898	29 15 0	29 15 0
Glen Elgin Station to Pheasant's Creek .....	"	33 15 0	33 15 0
Gulgandra, <i>via</i> Collie, to Bemunnel .....	1897	66 3 11	91 3 11
Glenreagh to Moul Creek .....	1898	30 0 0	30 0 0
Glenreagh to Tallawadjah Creek Mines .....	"	35 0 0	35 0 0
Gloucester to Copeland .....	1880	197 2 6	6,045 4 9
Gloucester to Cobark .....	1885	280 6 0	3,911 12 3
Glen Ora, <i>via</i> Public School, to Milkin's Road .....	1898	20 0 0	20 0 0
Green's-lane to Hartford Gully .....	1891	30 0 0	308 3 10
Grindley's Corner to Pipeclay Siding .....	1898	184 16 6	184 16 6
Geraghty's to Bryant's .....	1891	102 0 0	875 5 6
Goddard's, <i>via</i> Torrington, to Tent Hill .....	1898	69 18 1	69 18 1
Goorangoola Road to Carrow Brook .....	1895	103 14 0	452 18 3
Goorangoola Road to Bower's and Bowman's Creek .....	"	50 0 0	200 0 0
Gladstone, East Street, to Back Lands .....	1898	41 8 0	41 8 0
Gresford to Eccleston .....	1896	465 5 10	738 3 8
Glebe to Adamstown .....	1898	84 5 0	84 5 0
Gresford to Lostock .....	1895	204 11 2	792 11 2
Gresford and Eccleston Road towards Dungog .....	"	34 10 0	139 10 0
Gara to Kunopia .....	1895	144 16 0	283 19 6
Gosford to Cooranbong .....	1892	820 5 9	6,035 9 4
Gosford and Cooranbong Road to Tuggerah Lakes .....	1895	46 6 4	342 10 3
Gosford and Cooranbong Road to Jillaby and Mandalong Road .....	1897	60 0 0	115 14 10
Gosford-District Flood Damages .....	"	2 0 3	33 9 7
Gosford to Tuggerah Beach .....	"	302 2 8	1,395 9 1
Gosford and Blood-tree Road to Narara Station .....	1896	98 18 4	252 5 3
Gosford and Blood-tree Road to Bushell's C.P. .....	1898	15 0 0	15 0 0
Gosford and Blood-tree Road to Somersby Water Falls .....	"	80 9 7	80 9 7
Gordonville to McFadden's .....	1895	149 16 0	715 7 7
Green's Gunyah towards Borce Creek .....	1898	28 15 0	28 15 0
Green Ridge to Tatham, <i>via</i> Knight's Farm .....	1895	106 9 0	357 3 6
Green Ridge, Wharf Approach .....	1897	76 1 8	122 11 8
Goulburn to Cooma .....	1874	1,209 7 1	132,529 18 4
Goulburn to Pomeroy .....	1880	208 9 6	5,808 14 10
Goulburn to Roslyn .....	1878	284 17 9	9,376 10 8
Goulburn to Mount Wayo .....	1892	294 11 8	2,229 16 5

RETURN OF EXPENDITURE ON PUBLIC WORKS—*continued.*

ROADS.	When Com- menced	Expenditure from 1 July, 1898, to 30 June, 1899			If Unfinished, amount of Expenditure to 30 June, 1899		
		£	s.	d.	£	s.	d.
Goulburn to Mummel Bridge .....	1892	240	0	0	1,984	5	7
Goulburn to Bungonia.....	1874	190	3	0	7,821	16	7
Goulburn to Taraiga .....	1888	482	6	10	10,531	5	8
Goulburn District Flood Damages .....	1898	9	16	8	9	16	8
Goulburn to Windellama .....	1876	151	13	0	10,134	3	10
Goulburn, <i>via</i> Boxer's Creek, to Great South Road .....	1897	65	6	0	119	6	0
Gunning to Berrybanglo ...	1891	119	11	1	879	14	2
Gunning to Upper Gundaroo ...	1893	206	13	0	1,712	1	8
Gunning, <i>via</i> Dalton, to Burrowa ..	1892	543	11	6	2,710	4	9
Gumnderra towards Gundaroo .....	"	43	7	0	381	1	10
Gumnderra towards Bungendore ..	1890	35	5	6	1,580	6	11
Gurrundah, <i>via</i> Bialla, to Fish River .....	1898	35	12	0	35	12	0
Golong to Binalong .. ..	1897	1	5	7	113	4	0
Galong to Marengo .....	1892	467	8	6	1,479	1	4
Galong towards Burrowa .....	1890	137	7	9	1,430	19	0
Gundagai to Bongongolong .....	1883	92	2	9	3,347	13	4
Gundagai to Wantabadgery .....	1892	167	7	5	1,247	7	5
Gundagai to Wantabadgery, &c, to Cooba Creek .....	1898	66	5	6	66	5	6
Gilmore to Reilly's Crossing .....	1872	118	5	6	4,155	2	3
Gunnary to Reid's Flat .....	1897	251	2	0	400	12	3
Glenroy to Mundaroo .....	1890	7	18	0	864	1	8
Glenroy to Coppabella .....	1896	84	7	6	219	13	6
Gardener's Road, Botany .....	1898	602	2	0	602	2	9
Germanton to Jingellie .....	1886	167	3	0	5,383	13	6
Germanton to Cookardina .....	1883	117	14	0	2,335	15	6
Gerogery to Howlong .....	1881	237	8	5	12,641	10	6
Gerogery, <i>via</i> Jindera, to Bungowannah .....	1876	161	0	6	6,715	12	4
Glenquarry to Yarrunga .....	1896	169	8	5	671	16	6
Glenbrook Railway Station to Great West Road .....	1898	49	12	2	49	12	2
Gerogery Station to Walla Walla .....	1876	146	15	1	7,314	15	1
Germanton to Bowler's Gap .....	1895	120	3	2	529	16	2
Gratta to Sally's Flat .....	1888	465	7	0	4,905	14	8
Grenfell to Marsden .....	1883	236	6	0	7,028	17	1
Grenfell to Weddin Gap.....	1890	59	1	6	1,137	8	10
Grenfell, <i>via</i> Holey Camp, to Weddin Mountain .....	1898	53	7	5	53	7	5
Grenfell to Goolagong .....	1885	137	7	0	3,842	16	1
Grenfell to Bimbi .....	1882	169	16	6	5,649	15	6
Guntawang to Goolma .....	1878	261	11	7	13,092	5	7
Ganman to Coolomon-Cowabee Road .....	1898	94	0	0	94	0	0
Ganman Siding to Wagga-Narrandera Road .....	"	63	4	11	63	4	11
George's Plains to Caloola ..	1894	93	18	6	707	17	1
Golspie to Yalbraith .....	1888	42	2	0	42	2	0
Goolooga to Brewarrina ..	1895	8	8	0	570	17	7
Grahamstown School-house to Milthorpe Road .....	1898	173	3	5	173	3	5
Glason's Woolshed to Moorilda .....	1895	51	14	8	247	6	2
Gorrick's Hill to Wilberforce .....	1898	154	11	3	134	11	3
Gulgong to Martin's Crossing .....	1896	92	0	0	142	8	2
Gulgong, <i>via</i> Barney's Reef, &c, to Uarby .....	1898	25	12	9	25	12	9
Gulgong, <i>via</i> Barney's Reef, to Birnwa ..	1897	10	0	0	102	0	3
Gulgong to Jackson's Crossing .....	1896	40	0	0	111	7	1
Gladesville, <i>via</i> Gordon, to Pittwater ..	1890	355	1	1	2,343	1	6
Grimlambone to Copper mine Township ..	1898	52	7	3	52	7	3
Grong Grong to Warr. ....	1895	280	0	0	1,113	12	3
Grong Grong Post Office, Road fronting .....	1898	13	0	0	13	0	0
Galston Road to Berowra Creek .....	1896	69	0	0	132	0	0
Galston to Dural .....	"	90	0	0	243	10	0
Galston to Fagan's .....	"	124	13	6	24	13	6
Galston to Middle Dural .....	1898	19	9	0	54	9	0
German's Hill to Boree .....	1896	96	10	0	371	14	2
Govett's Leap to Grose Valley .....	1898	60	0	0	60	0	0
German's Hill to Kite's Swamp .....	1896	153	0	8	412	10	8
Great West Road to Wentworth Falls Reserve .....	"	31	5	0	66	13	3
Gillenbah to Buckingham .....	1898	14	0	0	14	0	0
Gillenbah to Darlington Point .....	1898	160	1	0	160	1	0
Gowrie to Duri Platform .....	1897	293	19	8	305	19	8
Gum Flat to Little Plain .....	1898	55	0	0	55	0	0
Glenbrook to Lucasville .....	"	37	10	0	37	10	0
Glen Logan towards Bungaroo .....	"	13	5	0	13	5	0
Great Northern Road .....	1857	5,582	17	10	640,629	19	9
Great Western Road .....	"	13,626	17	1	640,736	1	4
Great Southern Road .....	"	6,752	5	4	713,249	15	7
Glebe Island Bridge to Petersham .....	1885	675	13	6	10,712	10	1
Glebe to Adamstown .....	1898	42	3	0	42	3	0
Henderson Road, Teven Creek .....	"	80	10	9	80	10	9
Howlong to Walbundry .....	1892	169	10	0	5,066	4	6
Howlong to Goombargana .....	1896	74	18	4	282	7	11
Hay to Balranald to Burrabogie Run .....	1898	62	0	0	62	0	0
Hay to Boolgal .....	1883	326	14	7	12,980	19	0
Hay to Gunbar .....	1879	99	16	0	7,229	14	6
Hay to Wanganella .....	1881	151	7	6	1,160	4	7
Henwood's and Graham's Farms, Road between.....	1898	3	7	6	3	7	6
Holt's Flat to Tantawanglo .....	1892	87	10	10	343	2	8
Hartley to Jenolan .....	1890	590	2	10	9,576	14	8
Hill End to Duramana .....	1887	173	2	10	1,656	11	6
Hope-street, Barmedman, to Attewell's Selection .....	1898	10	13	6	10	13	6

RETURN OF EXPENDITURE ON PUBLIC WORKS—*continued.*

ROADS.	When Com menced.	Expenditure from 1 July, 1898, to 30 June, 1899.			If Unfinished, amount of Expenditure to 30 June, 1899		
		£	s.	d.	£	s.	d.
Hornsby to Galston .....	1893	478	13	11	8,167	7	3
Hill Top to The Ridge .....	1897	94	7	8	116	2	8
Harris to Rockview .....	1898	26	17	2	26	17	2
Harwood to Chatsworth .....	1883	52	16	4	1,627	19	0
Harwood-Chatsworth Road to Harwood Woodburn Road .....	1898	38	0	0	38	0	0
Harwood to Woodburn .....	1890	1,278	6	9	3,116	12	2
Hayden's to Watson's .....	1891	220	0	0	2,028	19	3
Hainsville, <i>via</i> Mullumbimby, to Byron Bay ..	1894	804	11	11	3,802	3	2
Hartigan's, up North Arm, Tweed River ..	1895	173	4	6	815	3	5
Hexham to Williamtown .....	"	153	17	9	847	19	6
Hinton to Nelson's Plains Road ..	1887	134	5	2	1,979	8	6
Hexham to Limeburner's Creek .....	1884	741	1	5	8,034	7	8
Henty Station to Pleasant Hills .....	1892	129	16	10	1,240	9	7
Henty to Munyabla to Eurangelme ..	1898	54	0	0	54	0	0
Humula to Kyamba .....	1896	47	9	0	246	3	11
Humula to Tarcutta .....	1892	30	0	0	720	11	2
Hellensburgh Railway Station, at 259 to 224 .....	1898	43	14	0	43	14	0
Hay to Balranald .....	1887	241	10	5	1,279	8	3
Hayes' Portion 92, Parish Bardsley, Road through .....	1898	22	0	6	22	0	6
Heathcote to Bulh Pass .....	1890	271	9	10	1,923	16	11
Hanley's Creek Road .....	1898	58	5	5	58	5	5
Heron's Creek, Wharf Approaches ..	"	59	11	0	59	11	0
Hoskingtown to Harold's Cross .....	1890	48	0	0	582	16	8
Honeyuckle to Burrogate .....	1882	36	15	0	1,265	7	4
Hillesborough, <i>via</i> Rosebrook, towards Matland ..	1887	250	0	0	2,991	15	5
Harrington Road North to Upper Cattai ..	1897	7	11	0	70	6	0
Holmwood towards Scrubby Rush ..	"	45	13	0	122	0	6
Harden to Marengo .....	"	160	0	0	338	9	6
Heffernan's to Upper Brogo ..	"	"	"	"	30	0	0
Honeyuckle Falls to Tarana-Bowentell's Road ..	"	10	0	0	18	3	7
Hawkesbury Road, Springwood, along Single's Ridge .....	1898	44	19	10	44	19	10
Hampton towards Boyd's Store .....	"	30	0	0	30	0	0
Inverell to Gum Flat .....	1899	145	14	7	2,305	15	6
Inverell, <i>via</i> Elsmore, to Glen Innes Road .....	1884	272	7	3	7,470	7	6
Inverell to Bundara .....	1892	249	16	6	1,358	2	8
Inverell, <i>via</i> Tingha, to Kangaroo Camp .....	1893	269	16	6	2,293	0	6
Inverell to Dinton Vale .....	1885	199	18	10	2,115	6	4
Inverell to King's Plains ..	"	366	19	5	4,515	5	10
Inverell to Wallangia .....	1878	862	10	10	21,353	7	10
Inverell towards Warialda .....	1877	949	18	1	25,527	17	10
Inverell to Strathbogie .....	1894	396	19	0	3,235	14	5
Inverell to Texas ..	1878	395	12	11	14,920	3	3
Inverell Road, at 23-mile Post, to Yetman Road, at 10-mile Post ..	1896	55	5	0	199	16	1
Irishtown to Wollum Platform .....	1893	39	18	0	224	2	6
Illabo Railway Station to Eurongilly ..	1895	37	4	0	226	17	3
Illabo to Junee Reefs ..	1898	26	13	0	26	13	0
Illaroo Road to Brown Mountain ..	1896	104	14	6	278	6	10
Illaroo Road to Burrier Cap .....	1898	64	4	9	64	4	9
Junee to Cooba Creek Bridge .....	1891	100	0	0	865	4	1
Junee, <i>via</i> Railway Line, to Narrandera ..	1896	66	12	8	274	18	1
Junee Junction to Wagga Junee Road .....	1898	15	19	0	15	19	0
Jessworgan to Uralba .....	1891	111	5	0	827	1	0
Jericho, over Big Swamp .....	1890	116	14	0	1,213	7	4
John's River Wharf to Upper Stewart's River ..	"	258	6	4	1,751	2	6
John McLeod's to Buchanan's .....	1891	150	19	3	769	17	8
Jerry's Plains to Denman ..	1884	115	7	0	2,491	5	9
Jerry's Plains to Oakhollow ..	1898	38	10	0	38	10	0
Johnston's Bridge to Moonbi Railway Station ..	1892	83	19	10	473	7	4
Jilliby to Little Jilliby ..	1895	141	10	6	629	9	0
Jugiong to Murrumburrah ..	1887	93	11	2	2,995	15	8
Jindabyne to Ingebyra ..	1892	56	3	9	527	0	2
Jingellie to Kancoban ..	1892	290	14	0	2,503	19	0
Jenilderie to Goolgumbbla ..	1891	162	7	8	1,230	5	10
Jenilderie to Tocumwal ..	1884	244	19	4	4,381	4	10
Jenilderie to Berrigan ..	1890	155	17	6	3,329	14	9
Jenilderie to Narrandera ..	1895	25	4	0	25	4	0
Jenilderie-Goolgumbbla Road to Coonong Siding ..	"	149	10	0	149	10	0
Jenilderie to Cooreen ..	1895	346	18	9	1,904	7	7
Jindera to Wagga and Albury Road ..	1897	9	2	0	18	4	0
Jindera to Walla Walla ..	1888	159	19	3	2,006	16	11
Jindabyne to Wollondilly ..	1895	25	0	0	115	15	6
Jones' Bridge to West Blowering ..	"	182	12	1	635	8	8
Jerry's Plains to Doyle's Creek ..	1895	17	6	0	77	14	8
Junction, Barnett and Little Manning Rivers, to Nowendoc ..	"	103	0	0	299	0	0
Jerrong to Wiaborough Vale ..	1898	92	3	5	92	3	5
Kynumboon to Nobby's Creek ..	1889	204	3	2	3,792	3	3
Kynumboon to Nottingham's ..	1898	85	1	0	85	1	0
Kelly's, <i>via</i> Sharpe's, to Moonce ..	1890	1,716	18	9	11,224	0	9
Kempsey to foot of Jeogla Mountain ..	1894	2,399	1	8	11,213	0	4
Kincumber to Lloyd's Wharf ..	"	46	0	0	206	10	9
Kincumber to Little Beach ..	1898	9	0	4	9	0	4
Kyle's to Quan's ..	"	53	3	8	53	3	8
Krambach to Kew (North Coast Road) ..	1893	1,392	2	2	10,202	16	3
Krambach to Kew to Long Point ..	1898	12	0	0	12	0	0
Krambach to Kew at Ghinni Ghinni to Mott's Plains ..	"	145	19	0	145	19	0

## RETURN OF EXPENDITURE ON PUBLIC WORKS—continued.

ROADS.	When Com menced	Expenditure from 1 July, 1898, to 30 June, 1898	If Unfinished, amount of Expenditure to 30 June, 1899
		£ s. d.	£ s. d.
Krambach to Tuncurry .....	1895	660 6 11	2,646 8 10
Krambach to Tuncurry, past Public School, to Khoribakh Creek .....	1898	18 18 0	18 18 0
Kayuga, <i>via</i> Baxter's, to Aberdeen .....	1894	38 4 5	507 9 7
Kyogie to Back Creek ..	1897	8 15 0	99 19 2
Kew, Rolland's Plains Road, to Cedar Creek .....	1896	107 12 0	165 16 7
Kew to Rolland's Plains ..	1895	1,208 16 4	4,892 17 3
Koolah Creek, Road up .....	1898	62 0 6	62 0 6
Kangaroo Valley to Budgong Gap ..	1897	175 15 6	228 12 0
Kangaroo Valley, up Brogher's Creek .....	1882	209 3 10	2,453 10 0
Kangaroo Mount to Cambewarra Mount .....	1897	165 15 :	251 13 6
Kendall to Grass tree Hill ..	1898	96 5 6	96 5 6
Kirlton Gate to the Branxton-Glendon Road, <i>via</i> the School and Fair Hall's Lane ..	"	68 10 :	68 10 3
Kendall Public School to Kew and Rolland's Plains Road .....	"	21 0 0	21 0 0
Kippielaw to Gurrundah .....	1888	336 13 4	2,590 17 10
Kippielaw to Bredalbane ..	1887	79 19 6	836 12 10
Kitty's Creek to Dog Trap Ford ..	1888	164 1 2	1,450 13 9
Kialla to Pegar ..	1898	10 4 0	10 4 0
Kialla to Middle Creek .....	1895	40 0 0	195 9 2
Kiernan's Creek, Road up ..	1898	14 18 6	14 18 6
Kanoona to Candelo .....	1895	99 2 0	450 9 5
Kangy Angy, Road over ..	1898	10 0 0	10 0 0
Kameruka to Bembooka .....	1895	75 13 0	185 6 3
Kamandra to Cobang ..	1898	23 0 0	23 0 0
Kirkconnel to Sunny Corner .....	1890	159 0 2	1,367 9 4
Koorawatha to Watkins .....	1898	19 15 0	19 15 0
Kelso, <i>via</i> Palmer's Oakey, to Sofala ..	1887	437 0 9	12,196 19 4
Kelso to O'Connell .....	1876	278 15 4	10,356 0 10
Kelso to White Rock .....	1896	29 8 0	124 15 9
Kelso to Kellosheil ..	1895	23 16 3	173 7 8
Kelso to Monkey Hill ..	"	914 6 10	4,611 11 0
Kellosheil to Gowan .....	1878	193 14 10	8,178 11 1
Kayuga Road to Castle Rock .....	1896	51 6 1	119 14 9
Kangaloon to Waratah Factory ..	"	50 17 3	141 15 3
King's Road, Cooranbong .....	1898	21 6 4	21 6 4
Kenthurst Post Office to Porter's ..	1896	27 0 0	79 0 0
Katoomba to the Caves Road .....	"	55 4 0	230 19 9
Koorawatha to Warrangong .....	1897	177 6 9	198 6 9
Kingsvale to Wallendbeen .....	1894	140 13 1	432 7 7
Kurrajong to the Hermitage ..	"	62 1 8	95 4 11
Lismore to Gundamba ..	1891	69 16 9	629 12 4
Lismore to Risley's .....	1896	599 12 6	1,649 6 3
Lismore to Blue Knob ..	1883	776 8 6	22,943 6 6
Lismore—Blue Nob Road at Morton's to Webster's .....	1898	20 4 0	20 4 0
Lismore towards Nightcap .....	1895	520 0 0	1,744 15 10
Lismore—Nightcap Road to McPherson's, at Duraby Grass ..	1898	38 5 10	38 5 10
Lismore to Tucki ..	1893	280 0 0	11,301 0 4
Lismore to Beardow's .....	1894	335 1. 4	1,096 1 7
Lismore District Flood Repairs .....	1897	Nil.	159 17 6
Louth Park to Portion 54, parish of Matland .....	1898	89 12 5	89 12 5
Little Plain to Reedy Creek ..	1894	117 15 5	484 2 4
Loxton's to Boggy Camp... ..	1898	149 4 5	149 4 5
Lawrence to Myall Creek .....	1864	721 3 5	140,206 10 6
Lawrence to Broadwater ..	1897	17 12 0	30 13 10
Law's and McNaughton's, at Harwood—Road between ..	1898	3 13 0	3 13 0
Leycester Creek Bridge to Campbell's .....	1887	422 5 2	3,843 0 11
Llangothlin towards Red Farm ..	1898	54 0 0	54 0 0
Levenstrath, <i>via</i> Kangaroo Creek, to Green's .....	1880	160 0 0	1,387 7 0
Laris to Toohey's Mill ..	1886	147 13 5	3,548 0 5
Long Reach to Clybucca ..	1890	39 19 10	519 2 9
Long Reach to Rainbow Reach ..	1891	39 8 0	385 2 0
Long's, <i>via</i> Piambong to Yamble ..	1893	100 6 3	100 6 3
Lauretton to Upper Camden Haven ..	1892	400 17 0	2,590 2 8
Lumbton to Waratah ..	1898	50 0 0	50 0 0
Lambton to Charlestown ..	1883	37 4 9	3,015 14 9
Lambton and Charlestown Road, <i>via</i> Cardiff, to Lake Macquarie Road ..	1894	136 19 0	344 3 6
Laguna to top Wattagan Mountain ..	1895	200 0 0	848 10 5
Lochinvar to Railway Station .....	1895	35 0 0	585 19 6
Lumburners' Creek to Krambach (North Coast Road) ..	1894	1,677 13 7	10,350 12 3
Little Plain to Bingera ..	"	690 12 11	3,809 13 5
Largs, <i>via</i> Tocal, to Paterson Bridge... ..	1896	154 0 0	490 14 6
Lochinvar, <i>via</i> Lamb's Creek, to Wardenmere... ..	1894	166 14 9	681 18 9
Lochinvar to Boyce's ..	1896	33 0 0	112 13 0
Limestone Hill to Newell's Crossing .....	1895	171 15 10	754 0 10
Lostock to Carraboler ..	1896	119 0 0	332 16 6
Liverpool, <i>via</i> Holdsworthly, to Eckersley .....	1894	139 16 11	426 8 9
Liverpool, <i>via</i> Penrith, to Bringelly Road .....	1896	250 0 0	463 16 6
Lake Bathurst to Bronti ..	1898	50 6 6	50 6 6
Leighwood to Stone Quarry .....	1887	75 13 0	1,009 0 4
Lugarno Ferry, Road to ..	1898	8 6 3	8 6 3
Laggan to Binda ..	1875	47 5 9	3,231 8 2
Laggan School to Strathaird .....	1895	Nil.	113 17 9
Laggan to Golspie ..	1892	80 0 0	612 8 8



RETURN OF EXPENDITURE ON PUBLIC WORKS—*continued.*

ROADS.	When Com- menced	Expenditure from 1 July, 1898, to 30 June, 1899.			If Unfinished, amount of Expenditure to 30 June, 1899.		
		£	s.	d.	£	s.	d.
Lower Tarcutta to Alfred Town .....	1892	249	17	1	2,109	13	9
Lochnel to Back Creek .....	1893	3	18	0	212	2	10
Laibert, <i>via</i> Reedy Creek, to Hallett's .....	"	Nil			175	16	3
Little Forest to Canyonleigh .....	1894	688	16	5	3,645	5	0
Lathgow to Hartley Vale Station .....	1896	133	5	6	553	2	7
Lithgow to Lidsdale .....	1890	198	0	0	1,885	10	11
Lidsdale to Wolgan .....	1893	77	3	0	603	3	3
Little Hartley to Hartley Vale .....	1885	194	1	6	3,543	10	4
Little Hartley to Lowther .....	1895	70	18	2	394	8	9
Lowther to Gambenang .....	1890	28	14	1	619	2	5
Lyndhurst to Bigga .....	1879	514	18	1	9,706	15	7
Leeholme to Tarana and O'Connell Road .....	1872	150	5	4	4,323	13	1
Lumekils to Wattle Flat .....	1893	101	15	3	101	15	3
Lucknow to Huntley .....	1895	107	7	9	426	14	4
Lucknow to Worbo's Junction .....	1896	331	0	8	1,255	6	1
Lane Cove to Cowan Creek, at Bobbin Head .....	1884	160	0	0	1,375	0	4
La Perouse to Little Bay .....	"	14	0	0	1,199	4	6
Loop Road, Glendarual, to Brownlow Hill .....	1896	18	17	6	50	0	6
Lavada, towards Ulmara .....	1898	75	0	0	75	0	0
Leadville to Cassilis .....	1897	75	0	0	150	0	10
Luscombe's Hotel to Weilmoringle .....	"	557	2	8	785	13	8
Larry's Flat Road, at Berry's, to Flyer's Creek Road, at Gorman's ...	"	25	0	0	45	0	0
Lumby's to Carnsdale .....	1898	95	8	8	95	8	8
Locket's Lane .....	"	10	1	3	10	1	3
Lane 24, Moama .....	"	15	0	0	15	0	0
Murwillumbah to Blue Knob .....	1894	613	3	11	3,980	14	0
Murwillumbah, <i>via</i> Risley's, to Possum Shoot .....	"	1,333	6	2	6,804	12	7
Murwillumbah to Cudgen Wharf .....	1892	502	0	0	2,954	7	9
Murwillumbah to Queensland Border .....	1891	360	0	0	3,348	9	4
Murwillumbah to Boyd's Point Ferry .....	1880	637	12	3	4,959	15	11
Murwillumbah Public Wharf to Ferry .....	1893	610	12	1	610	12	1
Murwillumbah District Flood Repairs .....	1897	Nil			969	4	8
Minmi to Thornton .....	1878	358	13	0	5,692	10	4
Minmi-Thornton Road, at Mount Elliot, towards Butta .....	1898	194	15	6	194	15	6
Mullumbimby, up Main Arm, Brunswick .....	1890	241	13	2	1,836	11	11
Mullumbimby, up Left Bank Mullumbimby Creek .....	1897	166	13	6	168	13	6
Mullumbimby Creek to Cemetery .....	1898	50	2	0	50	2	0
Maclean to Palmer's Channel .....	1890	105	15	5	1,165	16	6
Maclean to Broom's Head .....	1897	64	8	0	130	1	4
McLean's to Model Farm .....	1896	42	0	0	148	2	6
Merriwa to Cassilis .....	1891	578	15	4	7,053	1	8
Merriwa to Gilli Gilli Crossing, Conlon's Creek .....	1898	12	10	0	12	10	0
Merriwa to Bunnan .....	1896	33	14	0	166	2	5
Merriwa to Walla .....	1893	120	7	6	120	7	6
Merriwa, <i>via</i> the Flags, to Gungah .....	"	22	0	0	22	0	0
Moleville to Stockyard Creek .....	1889	60	0	0	666	4	3
Maybole to Ben Lomond .....	1892	46	11	4	368	11	4
Mehi River Crossing at Moree .....	1898	15	0	0	15	0	0
Moree, <i>via</i> Goonal, to Mogil Mogil .....	1887	202	14	4	6,317	5	5
Moree Road, <i>via</i> Reeves, to Pallal Road, at Bangheet .....	1894	66	11	1	309	17	7
Moree to Ironbarks .....	1876	48	9	8	24,697	11	2
Moree to Rocky Creek .....	1892	149	19	0	2,479	2	4
Moree to Mungindi .....	1894	948	0	0	4,927	3	10
Moree to Bogamildi .....	1895	211	10	3	1,266	11	9
Moree to Telerago .....	1893	49	0	0	49	0	0
Moree to Bingara .....	1895	244	16	11	1,680	6	2
Moree to Yallaroi .....	1898	290	12	5	290	12	5
Moonee to Congarrin (Coast Road) .....	1894	1,489	8	8	8,460	8	3
Marx Hill to South Arm .....	1896	117	17	8	353	15	2
Mosquito Island Road .....	1894	18	13	9	226	7	8
Mosquito Bay to Big Hill .....	1897	2	13	0	52	10	0
Mundooran to Tundabrine .....	1895	409	15	1	1,805	12	5
Myers' Crossing up Never Never .....	1884	216	17	10	2,607	1	10
Marlee Road to Gillogley's ...	1892	20	0	0	123	18	3
Myocum to Tyagarah .....	"	100	0	0	904	5	9
Morrissett to mouth of Dora Creek .....	1896	48	8	3	149	14	1
Miller's Forest Creamery to Tarro .....	"	132	0	0	386	0	0
Maitland Road to Earl's C.P. (Fox Gully Road) .....	1894	49	0	3	325	17	11
Maitland Road in Wickham .....	1898	113	10	0	113	10	0
Maitland Road, Broomfield Hill .....	1896	92	0	0	196	0	0
Maitland Road to Head of Ourumbah Creek .....	1897	7	18	5	116	5	5
Maitland District Flood Damages .....	"	77	14	3	197	2	4
Millfield to M. Hayes .....	1898	30	0	0	30	0	0
Morpeth to Raymond Terrace Road .....	1891	101	13	10	1,588	12	4
Morpeth to Four-mile Creek .....	"	110	0	0	370	0	0
Morpeth Road, through Phoenix Park, to Largs ...	1896	150	0	0	312	19	3
Morpeth, <i>via</i> Hinton, to Stuart's Corner .....	1892	258	15	0	1,228	12	0
Morpeth to Largs ...	1896	33	0	0	99	0	0
Martin's Wharf Road .....	1891	48	3	4	646	4	1
Muswellbrook, <i>via</i> Dartbrook, to Scone ...	1895	95	11	6	471	8	5
Muswellbrook Bridge to Sandy Hollow .....	1888	225	7	9	5,486	13	1
Muswellbrook, Merriwa Road to Piercefield, &c .....	1897	13	10	0	36	13	0
Muswellbrook to Merriwa .....	1893	665	19	11	6,574	16	0
Muscle Creek Road .....	1896	18	13	0	148	0	5
Moonan Brook to Glenrock Cattle Station .....	1895	169	6	4	668	12	5

## RETURN OF EXPENDITURE ON PUBLIC WORKS—continued.

ROADS.	When Com- menced	Expenditure from 1 July, 1898, to 30 June, 1899			If Unfinished, amount of Expenditure to 30 June, 1898		
		£	s.	d.	£	s.	d.
Moonan Brook to Johnstone's .....	1898						
Malally to Denison Town .....	1892	800	5	9	7,158	1	8
Mail Station to Llangothlin Railway Station .....	1890	30	0	0	464	2	6
McIntosh's to Nymboida .....	"	586	12	0	3,210	12	4
McIntyre's Flat to Puddledock .....	1880	38	14	6	898	17	10
Macksville to Upper Warrell Creek .....	1886	48	17	6	667	19	0
Macksville Ferry to Lower Nambucca Public School .....	1898	69	1	0	69	1	0
Macksville to Macleay Heads .....	1885	123	14	8	1,453	14	9
Macksville to Bradley's .....	1898	112	0	0	112	0	0
Meehan's Crossing, <i>via</i> Limestone, to Maloney's... ..	1895	138	19	7	588	11	9
Manilla up Right Bank Namoi and Blue Hole .....	1897	48	9	0	378	0	0
Manilla to Bendemere .. .. .	1898	60	0	0	126	0	0
Manilla to Somerton .. .. .	1891	58	18	0	467	7	9
Manilla to Crow Mountain .. .. .	1896	42	19	0	75	16	0
Manilla to Burindi .. .. .	1898	100	0	0	100	0	0
McIntosh's to Levenstrath .. .. .	1895	59	10	0	192	11	4
Moorland to Upper Stewart's River .. .. .	1890	250	0	0	1,742	16	4
Moorland to Upper Pipeclay Creek .. .. .	1898	57	14	0	57	14	0
Mobbs' Hill to Rogan's Hill .. .. .	1895	221	11	7	1,140	7	0
McDonald's River up Webb's Creek .. .. .	1893	40	0	0	425	7	6
McDonald's Road near Ourimbah .. .. .	1898	26	0	0	26	0	0
McDonald's Road near Quarroolong .. .. .	"	19	9	0	19	9	0
Moylan's to the Beach .. .. .	1895	28	0	0	196	3	2
Murray's Run to Yarramalong .. .. .	1896	250	0	0	596	17	3
Milo Post Office towards Bondi .. .. .	1898	21	6	0	21	6	0
Milo School to Duguid's Range .. .. .	1898	23	17	10	23	17	10
Menangle to Great Southern Road .. .. .	1895	43	18	6	251	10	7
Main South Road to Cobbity .. .. .	1896	89	13	3	241	14	11
Main South Road to Wombeyan Caves .. .. .	1890	11,511	8	3	15,526	17	8
Main South Road to Jellore .. .. .	1896	64	11	9	106	13	9
Main South Coast Road .. .. .	1879	7,651	5	10	148,655	11	10
Main South Coast Road to Bulli Park .. .. .	1898	21	5	3	21	5	3
Main South Coast Road, near Campbelltown, to Wedderburn .. .. .	1896	17	13	6	258	11	8
Main South Coast Road to Woronora Presbyterian Church .. .. .	1898	11	7	6	11	7	6
Mittagong towards Diamond Fields .. .. .	1879	Nil.			1,857	4	1
Mittagong to Glenquarry... .. .	1896	270	11	6	461	6	6
Moss Vale—Kiama Road to Carrington Falls .. .. .	1898	132	1	0	132	1	0
Moss Vale Flood Repairs .. .. .	1897	94	19	3	7,096	18	3
Moss Vale towards Jamberoo .. .. .	1890	676	5	4	7,514	3	5
Moss Vale to Meryla .. .. .	1896	436	13	5	1,170	2	5
Moss Vale to Barrengarry .. .. .	1890	395	12	7	8,851	5	4
Moss Vale to Mandemar .. .. .	"	239	14	8	2,527	10	3
Mayfield to Barrengarry .. .. .	1895	245	18	0	730	17	7
Menangle to Picton .. .. .	1892	358	7	9	1,034	13	8
Meejum, <i>via</i> Collinroobie, to Barrellan .. .. .	1895	200	0	0	529	16	7
Mount Wayo to Abercrombie Bridge .. .. .	1881	481	0	0	34,022	19	10
Marengo to Monteagle Platform .. .. .	1898	24	17	3	24	17	3
Marengo, <i>via</i> Stoney Creek, to Narellan .. .. .	"	132	5	6	132	5	6
Moorebank Avenue Road .. .. .	"	34	14	0	34	14	0
Mummel Bridge to Narrawa .. .. .	1892	473	3	7	3,348	16	0
Michelago to Naas Creek .. .. .	1898	40	0	0	40	0	0
Myabla to Nimitybelle, <i>via</i> the Peak, to Cooma—Nimitybelle Road .. .. .	"	19	19	0	19	19	0
Marulan to Taraiga .. .. .	1892	436	13	0	3,389	16	11
Milora, or Poverty Point, to Lyonsville .. .. .	1898	49	0	0	49	0	0
Monga to Major's Creek .. .. .	1871	111	0	6	6,938	4	5
Major's Creek to Berlang .. .. .	1898	23	7	3	23	7	3
Major's Creek to Snowball .. .. .	1880	301	5	10	5,980	17	11
Milton to Woodburn .. .. .	1898	76	7	8	76	17	8
Milton to Little Forest .. .. .	"	11	14	0	11	14	0
Mogo to Tomakin .. .. .	1887	18	11	0	89	9	5
Mogo to Runnymede .. .. .	1898	38	0	0	38	0	0
Mogo to Ryan's Creek Bridge .. .. .	1896	79	6	8	253	11	8
Mortlock's to Cowra Reefs .. .. .	"	39	12	8	253	7	6
Merimbula to Jellat Jellat .. .. .	1874	29	0	0	3,142	11	1
Moruya to Araluen .. .. .	1865	474	16	2	33,595	11	11
Mangoplah to The Rock .. .. .	1898	10	0	0	10	0	0
Mathoura to Bunaloo .. .. .	1888	72	8	0	1,803	6	11
Moama towards Moulamein .. .. .	1875	238	10	0	14,809	3	5
Murrumbateman to Gininderra .. .. .	1893	140	18	0	1,025	12	11
Mittagong to Billyrumbuck .. .. .	1891	22	15	8	202	9	10
Main North Road to Gubbamurra .. .. .	1898	11	5	0	11	5	0
Main South Road to Buriowa .. .. .	1895	229	19	5	893	18	0
Mundaroo to Ournie .. .. .	1898	30	0	0	30	0	0
Main West Road to Lapstone Range (Old Bathurst Road) .. .. .	1895	65	4	4	231	10	1
Main West Road to Prospect Reservoir .. .. .	1893	114	16	2	727	9	5
Main West Road at Springwood to Sassafra's Gully .. .. .	1898	20	3	0	20	3	0
Main West Road to Seven Hills (Toongabbie Road) .. .. .	1895	55	0	0	200	0	0
Main West Road near Dubbo to Barrabadden .. .. .	1898	167	15	0	167	15	0
Main West Road to Blacktown Road (Finscombe Road) .. .. .	1896	82	0	0	239	0	0
Main West Road at Minore to Minore Platform .. .. .	1898	80	19	2	80	19	2
Main West Road in East Orange .. .. .	1897	...	...	...	...	...	...
Mudgee to Cassils .. .. .	1873	947	1	6	4,420	4	9
Mount Victoria to Bell... .. .	1885	64	12	0	2,657	14	10
Mount Victoria to Mount Victoria Reserve .. .. .	1897	7	0	0	15	0	0
Mutton's Falls to O'Connell .. .. .	1890	100	9	0	840	2	8

RETURN OF EXPENDITURE ON PUBLIC WORKS—*continued.*

ROADS.	When Com- menced.	Expenditure from 1 July, 1898, to 30 June, 1899			If Unfinished, Amount of Expenditure to 30 June, 1899		
		£	s.	d.	£	s.	d.
Marangaroo to Meadow Flat .....	1890	269	16	10	2,267	5	4
Meadow Flat, <i>via</i> Sunny Corner, to Palmer's Oskey .....	1891	439	19	6	2,497	3	9
Mitchell's Creek to Road, Sunny Corner, to Palmer's Oskey .....	1879	13	6	0	4,289	9	8
Milthorpe to Cadra .....	1878	327	16	8	9,297	2	11
Milthorpe to Lewis Ponds .....	1890	199	9	2	1,807	2	4
Milthorpe to Byng .....	1882	145	4	4	3,387	14	9
Milthorpe to Spring Hill .....	1896	94	16	9	222	4	9
Monkey Hill to Hill End .....	1876	360	14	5	11,288	15	7
Mandurama to Burnt Yards .....	1889	81	1	9	989	11	0
Mandurama to Canowindra .....	1873	249	0	3	16,873	11	6
Mandurama to Neville .....	1895	217	3	0	873	9	7
Mingello to Bolderodgery .....	1898	17	3	0	17	3	0
Mount McDonald to Grabine .....	1889	37	3	0	1,101	16	4
Mount McDonald to Darby's Falls Post Office .....	1897	43	10	0	262	18	6
Matthew's to Forest Reefs .....	1885	123	5	0	2,497	18	5
Mullion to Belgravia .....	1891	64	19	8	560	5	7
March to Auberson's .....	1898	30	0	0	30	0	0
Mullion to Ophir .....	1897	49	5	0	122	3	0
Molong to Norah Creek .....	1890	60	10	0	774	14	3
Molong to Gregra .....	1897	80	1	8	156	6	1
Molong to Cargo .....	1889	39	13	11	1,827	0	1
Molong to Warne .....	1882	195	18	0	4,193	5	0
Molong-Warne Road to Dengate's .....	1898	36	0	0	36	0	0
Molong to Mauldra .....	1895	136	9	0	871	3	0
Molong to Redbank .....	1896	49	3	9	158	17	9
Murphy's Hill to Cudal .....	"	75	0	3	219	9	3
Moorilda to Neville .....	1893	473	0	2	2,759	17	0
McGrath's Hill to Marcota .....	1890	632	2	9	4,384	17	1
Marsden Park to Box Hill .....	1873	239	8	3	4,438	12	2
Maryvale to Cobborah Road .....	1896	149	18	9	385	7	4
Main Windsor Road to Toongabbie Road, over Hammer's Bridge .....	1895	59	18	2	136	6	1
Main Windsor Road to Model Farm's Road .....	1898	40	13	3	40	13	3
Mauldra to Toogong .....	1895	65	3	0	293	7	3
Milparinka to Wanaaring .....	1898	36	0	0	36	0	0
Moronglo Creek towards Burrowa .....	1895	256	0	3	1,150	2	3
Morven to Mullongandia .....	1898	45	18	3	45	18	3
Mundaroo to Ourme .....	"	50	0	0	50	0	0
Milson's Point, <i>via</i> Lane Cove Road, to Peat's Ferry .....	1875	2,021	2	5	57,171	18	5
Manly to Barrenjoey .....	1879	705	12	0	17,383	19	1
Manly Barrenjoey Road to Newport .....	1898	41	17	11	41	17	11
Military Road to St Leonards .....	1885	416	12	10	10,932	13	2
Military Road, Randwick .....	1895	225	0	0	899	0	0
Mount Mooby Road to Dartbrook Bridge .....	1896	13	8	6	74	13	6
Mount Victoria to Mount York .....	"	47	16	7	113	15	7
Mimosa to Temora .....	"	54	8	0	369	7	1
Monticollum Gap to Coorabel .....	1897	78	5	3	184	13	9
Midson's Road at Pringle's, East Carlingford .....	1898	25	0	0	25	0	0
McGilvray's Road .....	"	69	11	8	69	11	8
McInnes Lane, Ballina .....	"	24	12	0	24	12	0
McCue's Farm to Whiteman Wharf .....	"	40	0	0	40	0	0
Missenden Road .....	1897	82	10	0	232	10	0
Mogilla to Sam's Corner .....	"	160	13	4	213	9	0
Moorwatha, towards Brocklesby Railway Station .....	"	12	12	0	39	19	0
Manda Road, East Carlingford .....	1898	5	0	0	5	0	0
Mayal Creek, across Tygalgah Plain to Pratt's .....	"	45	0	0	45	0	0
Martinsville School to Clontan's Conditional Purchase .....	"	39	0	0	39	0	0
Mount Hope to Central .....	"	81	0	0	81	0	0
Mount Wilson to Mount Irvine .....	"	85	3	2	85	3	2
Mount Hope to Euabalong .....	"	82	0	0	82	0	0
New Koreslah, <i>via</i> Acaera Creek Bridge, to the Border .....	"	128	8	0	128	8	0
Newrybar to Cooper's Shoot .....	1891	168	19	0	1,062	15	1
Newrybar Factory to Ballina—Cooper's Shoot Road .....	1898	55	0	0	55	0	0
Narrabri to Little Mountain .....	1891	15	11	8	1,086	8	5
Narrabri to Eulah and Bullawa Creeks .....	1888	208	1	6	3,125	5	6
Narrabri to Pilliga .....	1893	251	16	8	3,328	19	11
Narrabri to Boolcarrol .....	1888	501	19	5	3,564	19	5
Narrabri to Boggabri, <i>via</i> Terraro .....	"	200	0	0	3,423	16	5
Narrabri to Terry Hic Hic .....	"	200	0	0	3,709	18	9
North Saumarez Bridge to Uralla .....	1896	35	0	0	167	6	11
North Arm Road, at McKay's, to Smith's Selections .....	1891	151	4	3	595	5	2
North Arm to Beach .....	1896	511	14	5	1,380	5	6
North Arm to Bonville School .....	1897	107	3	6	157	3	6
Newcastle, <i>via</i> Hamilton and Plattsburg, to Minmi .....	1884	1,471	15	8	9,249	15	6
Nowendoc Road to Dolly's Flat .....	1896	30	0	0	59	0	0
Nowendoc Road to Upper Manning .....	"	77	0	0	224	0	0
Nundle to Crawney .....	1895	39	19	3	253	10	7
Narellan to Luddenham .....	1892	398	16	0	3,146	8	6
Narellan to Eldershe .....	1896	30	18	1	92	12	7
Nowra to Kangaroo Valley .....	1895	351	16	0	1,558	3	8
Nowra to Yalwal .....	1881	285	2	9	5,674	0	8
Nowra to Nerriga .....	1882	657	18	8	11,486	10	1
Nowra-Nerriga Road to Yerryong Vale .....	1898	58	14	5	58	14	5
Nowra to Burnier .....	1896	80	15	3	174	17	3
Nowra Bridge to Lower Budgong .....	"	341	8	11	869	9	6
Narrawa Road, near Roche's, to Pudman Road .....	1885	118	2	6	1,496	17	4

## RETURN OF EXPENDITURE ON PUBLIC WORKS—continued.

ROADS.	When Com- menced.	Expenditure from 1 July, 1898, to 30 June, 1899			If Unfinished, Amount of Expenditure to 30 June, 1899.		
		£	s.	d.	£	s.	d.
Nerriga to Oallen Crossing	1896	49	9	0	146	7	9
Nelligen to Bateman's Bay	1884	24	7	4	1,032	19	11
Nelligen to Banandra	1874	27	18	0	2,026	14	2
Nimitybelle, <i>via</i> M'Donald's Selection, to Curry Flat	1898	9	1	2	9	1	2
Nimitybelle down Tom Grogan's Creek	1894	17	13	6	222	0	6
Nimitybelle to Count a Gunna	1896	118	8	8	403	19	4
Nimitybelle towards Bobundarah	"	50	0	0	101	17	7
Nimitybelle-Bobundarah Road to Cooma-Nimitybelle Road	1898	96	12	11	96	12	11
Narrandera to Old Goree Bridge	1892	29	0	0	1,040	18	11
Narrandera to Mirrool Creek	1895	Nil.			307	6	4
Narrandera to Hay (North Side)	1896	198	16	6	625	8	6
Newbridge to Abercrombie River Road towards Rockby	1898	21	0	0	21	0	0
Newbridge to Abercrombie River	1887	619	10	6	17,843	14	7
Newbridge towards Rockley	1895	184	6	0	634	6	0
Nymagee-street to the Copper Mine	1897	77	7	0	212	17	0
Nymagee to Mount Hope	"	51	9	0	479	0	0
Nymagee to Hermidale	1890	412	3	1	3,174	2	11
Nymagee to Mount Boppy	1895	86	0	0	318	2	9
Nymagee to Priory Tank	1894	52	15	6	378	10	2
Nevertre to Trangie	1897	41	18	0	49	18	0
Narromine Bridge to Timbreeongie-Dubbo Road	1898	118	5	0	118	5	0
Narromine to the Bogan at the Oaks	1895	60	0	0	605	5	11
Narromine Bogan River Road, at 7 M. P., to Waterloo Railway Station	1898	76	5	0	76	5	0
Narromine to Trangie	1898	126	10	0	126	10	0
Newtown Bridge to Undercliff Bridge	1895	183	6	8	1,907	18	2
Nicholl's Corner to Enfield Road	1896	31	2	4	134	17	10
Nixon's Corner to Gauman Siding	1898	12	6	6	12	6	6
Nel-on to Rouse Hill	1896	22	3	11	48	11	6
Nyngan to Enawecna	1897	28	0	0	327	18	0
Nyngan to Canonbar	1898	98	7	6	98	7	6
Nambucca Ferry to Gumma Gumma	1897	12	1	9	57	9	0
Nambucca Ferry down Nambucca River	1898	24	7		24	7	3
Nye's Railway Gates towards Greghamstown	"	91	1	0	91	1	0
North Dural to Pitt Town	1897	6	17	7	55	4	3
Noonan Bridge to Thrimere Railway Station	"	152	7	0	182	12	0
Native Dog Flat Road	1898	57	0	0	57	0	0
Old Ballina Road	1889	52	2	0	609	2	0
Old Inn to Booral Road	"	69	14	2	1,914	15	11
Old Moonbi to Ormond's Crossing	1898	10	0	0	10	0	0
Owen's Wharf, up Left Bank Kinchela Creek	1889	59	18	3	862	9	3
O'Mara's towards Maclean	1898	8	18	11	8	18	11
Outlet Road to Dungay Creek	1894	40	0	0	227	0	4
Old Bar Road to Redbank Ferry	1896	22	0	0	71	19	6
Old School at Crawford, up Crawford River	1898	15	0	0	15	0	0
Old Condong Road	1895	114	19	6	438	12	9
Old North Road, <i>via</i> Glenorie School, <i>via</i> Pratt's, to Cattai Bridge Road	1898	20	0	0	20	0	0
Old North Road to St Albans	1893	139	8	10	1,363	15	3
Oswald Lane	1898	51	11	11	51	11	11
Ourimbah to Chittaway	1895	95	18	2	609	13	4
Ourimbah up Ourimbah Creek	1896	361	0	9	1,037	12	11
Oakhampton Road	"	134	5	6	513	19	3
Oaks to Cox's River	1893	895	17	0	2,974	4	5
Oaks to Foot of Mountain, Approach to Quarry	1898	4	0	0	4	0	0
Old Burra Road to Michelago	1886	193	1	2	1,935	8	4
Old Burra-Michelago Road, at Moore's, to Urarra	1898	19	10	0	19	16	0
Old Marulan to Oallen Ford	1895	206	9	0	897	14	9
Oberon to Caves Road	1888	101	9	1	3,574	17	4
Oberon to Shooter's Hill	1877	140	4	8	4,937	9	4
Oberon to Little River	1895	278	13	2	985	10	4
Obley to Tomingley	1898	78	17	6	78	17	6
O'Connell to Wambool Platform	1897	744	17	0	828	4	6
O'Connell to Beaconsfield	1879	292	1	4	5,748	1	3
O'Connell to South Apsley	1885	100	9	11	2,975	11	9
Oberon to O'Connell	1879	296	11	6	8,794	5	6
Oberon Jenolan Road to Fish River Creek (Oberon to Caves)	1898	54	5	6	54	5	6
O'Connell Road to Cooper's Overbridge	1896	19	3	4	62	17	10
Orange to Pinnacles	1884	50	8	0	1,792	10	1
Orange to Ophir	1864	149	10	0	5,590	10	3
Orange to Stuart Town	1896	249	1	3	674	5	3
Orange to Canoblas	1881	251	1	4	4,881	2	3
Orange to Nanima	1898	11	17	0	11	17	0
Orange to Foibes	1886	1,151	6	8	103,146	0	8
Orange towards Carcoar	1896	300	2	7	787	10	11
Orange Cemetery, Road to	1898	100	0	0	100	0	0
Orange to Icely	1881	117	11	5	3,959	0	1
Orange to Cargo	1888	232	10	1	4,039	8	5
Old Castle Hill Road to Government Reserve	1896	16	0	0	53	0	0
Old Windsor Road, <i>via</i> Peance's, to Blacktown Station	"	59	9	3	157	2	11
Old Windsor Road, <i>via</i> Buckley's, to Toongabbie Post Office	1898	10	0	0	10	0	0
Old North Road, at Castle Hill, to Government Reserve, Old Castle Hill Road	1895	22	10	6	139	16	11
Old Junee Railway-station to Merrulebale	1896	203	0	0	446	8	4
Old Chadwick Road to Grindley's Corner	1897	59	15	11	131	15	1
Old Pejar Road	1898	40	0	0	40	0	0
Possum Shoot to Cooper's Shoot	1887	120	0	0	10,275	17	3
Possum Shoot to Binnaburra	1896	206	16	9	505	12	10

## RETURN OF EXPENDITURE ON PUBLIC WORKS—continued.

ROADS	When Com- menced	Expenditure from 1 July, 1898, to 30 June, 1899			If Unfinished, amount of Expenditure to 30 June, 1899		
		£	s.	d.	£	s.	d.
Pearson's to Trimble's .....	1896	19	10	0	58	2	11
Payne's Bridge, up Stockyard and Bagnell Creeks .....	1898	18	0	0	18	0	0
Pimbba to Wardell and Ballina Road .....	1889	60	0	0	598	18	9
Pimlico Road to Emigrant Creek Point .....	1890	60	0	0	448	9	11
Peach Tree Road, Fountaindale .....	1893	29	19	9	29	19	9
Pokolbin Hills towards Branxton .....	1895	154	0	0	739	13	2
Phoenix Park to McClymont's Swamp .....	"	55	0	0	200	0	0
Pembroke Road, East Carlingford .....	1898	37	18	0	37	18	0
Palmer's Plains to South Gundurumba .....	1894	196	0	11	1,196	10	11
Pilliga to Walgett .....	1893	204	8	6	2,032	14	3
Pilliga, via Buglebone, to Eurie .....	1894	110	8	10	850	1	4
Peterkin's to Warrell Creek Ferry .....	1889	120	0	0	1,436	5	4
Punt Bridge, via Erina and Womberah, to the Sea Ocean Parade .....	1897	10	6	3	21	0	3
Port Macquarie to Tacking Point .....	1886	40	0	0	785	14	0
Port Macquarie towards Walcha .....	1872	617	6	1	24,163	12	3
Pappenbaira Creek to Cowal .....	1888	89	11	0	2,385	19	5
Pint-pot Creek to Chandler River .....	1893	131	8	0	600	0	0
Pocket to Blundmounth .....	1894	240	0	0	1,318	0	6
Pearce's, via Behan's, to Eatonsville .....	1895	120	3	8	540	10	8
Pearce's Creek to Booyong Railway Station .....	1896	60	0	0	148	11	3
Paterson to Gresford .....	"	427	13	6	1,240	3	0
Paterson-Gresford Road to Vacy-Summer Hill Road .....	1898	45	17	0	45	17	0
Pitnacre Bridge to Dunmore House .....	1895	119	0	0	499	5	0
Pine Vale to Garrawilla Creek .....	1898	134	12	3	134	12	3
Punkalla to Noorooma .....	1896	69	0	2	124	7	2
Pambula to Bald Hills .....	1890	20	6	0	210	4	0
Pambula to New Buildings .....	1896	399	13	0	1,266	6	10
Pambula to Merimbula .....	1867	200	0	0	5,050	4	1
Pambula to Back Creek .....	1896	127	12	6	407	5	0
Pieton, via Oakes, to Blaxland's Crossing .....	1874	92	1	10	18,604	6	3
Pericoe to Wog Wog .....	1889	88	18	0	1,291	0	8
Prahran to Snowy Plain .....	1890	99	8	3	1,928	18	0
Perth to Mount Evernden .....	1895	147	6	2	587	5	4
Perth, via Charlton, to Rockley .....	"	92	19	9	1,502	15	7
Phillips' to Solferino Road .....	"	275	0	0	888	0	0
Pinnacles to Parkes—Grenfell road .....	1898	18	4	0	18	4	0
Parkes to Coradgery .....	1888	224	13	6	2,447	17	0
Parkes to Balderogery .....	1887	107	12	0	1,979	2	6
Parkes to Peak Hill .....	1895	623	0	2	3,436	1	6
Parkes to Condobolm .....	1884	296	1	7	10,511	0	0
Parkes to Manilra .....	1895	179	6	0	1,104	7	8
Putty Road to Head of Colo .....	1898	62	16	4	62	16	4
Portland Ferry to Wiseman's Ferry .....	1895	88	10	0	297	8	3
Portland Ferry to Sickville Road .....	"	87	6	0	414	0	8
Portland to Portland Siding .....	1898	31	7	0	31	7	0
Parramatta to Pennant Hills Road .....	1885	119	19	11	1,635	0	0
Parramatta Park to Toongabbee Creek .....	1896	138	0	0	401	0	0
Parramatta, at East end of Broken Back Bridge, via Windsor and Richmond, to Richmond Bridge .....	1885	1,191	2	9	9,063	10	8
Pearce's Corner to Pennant Hills .....	1884	238	7	4	3,295	19	6
Pearce's Corner to Brooklyn Railway Station .....	1894	260	0	0	1,510	11	10
Pearce's Corner to Berowra Creek, at Crosslands .....	1885	39	0	0	714	8	1
Pennant Hills Road to Mould's Corner .....	1892	592	18	0	2,427	6	8
Pennant Hills Road, via Beccroft, to Eastwood .....	1896	129	19	3	384	3	5
Pennant Hills Road to Thornleigh Quarry .....	1895	38	0	9	126	9	7
Pennant Hill Road to Becroft Station (Murray's Road) .....	"	53	2	8	161	3	9
Piper's Flat to Sunny Corner .....	"	284	13	7	816	3	0
Prospect to Richmond .....	1896	868	13	5	1,514	1	9
Priory Tank to Hillston .....	1895	47	8	0	40	19	11
Penshurst to Alleyn River .....	1896	88	0	0	256	0	0
Pretty Pine to Moulamein .....	"	287	10	1	823	16	7
Pitt Town-Windsor road to Pitt Town road .....	1897	67	7	9	102	13	6
Pejar to Middle Creek .....	1898	6	6	0	6	6	0
Protection of River Banks, Maclean .....	"	200	19	9	200	19	9
Protection of River Banks, Kempsey .....	"	248	9	6	248	9	6
Quirindi to Gunnedah .....	1894	159	17	0	862	1	4
Quirindi to Breeza via Doyles to Boxhull .....	1897	13	9	6	99	0	4
Quirindi, via Bundella, to Bomera .....	1894	984	12	11	7,670	19	1
Quirindi, via Gaspard, to Great North Road .....	1879	249	19	4	1,807	4	6
Quirindi, via Quipolly, to Werris Creek .....	1891	49	15	8	286	2	8
Quirindi to Homestead Selections on Borambil .....	1898	15	11	10	15	11	10
Quirindi to Warrah Ridge .....	1896	63	12	0	152	17	11
Quirindi, towards Borah Creek .....	1894	95	16	7	446	10	9
Quirindi to Wallabadah .....	1878	247	7	10	6,114	13	3
Quirindi to Willow tree .....	"	129	19	6	737	3	7
Quirkie's, down Taylor's Arm, South Side .....	1894	129	4	0	624	4	2
Quambone to Boundary Gate .....	"	149	5	6	645	6	10
Queanbeyan to Uriarra and Taemas Road .....	1881	212	13	6	3,427	5	8
Queanbeyan to Naas .....	1891	124	13	0	1,166	7	10
Queanbeyan to Upper Gundaroo .....	1874	172	19	5	2,918	3	6
Queanbeyan, Gundaroo Road, at Reedy Creek, to Goulburn-Cooma Road at 42 M.P. .....	1898	13	17	2	13	17	2
Queanbeyan to Gininderra .....	1878	131	7	11	10,256	8	0
Queanbeyan, towards Braidwood .....	1896	293	13	6	756	10	11
Reddchiffe's to Brunswick River .....	1892	125	0	0	2,039	17	8

## RETURN OF EXPENDITURE ON PUBLIC WORKS—continued.

ROADS.	When Com- menced.	Expenditure from 1 July, 1898, to 30 June, 1899.	If Unfinished, amount of Expenditure to 30 June, 1899.
		£ s. d.	£ s. d.
Reddacliff's—Brunswick Road to Pipe-clay Siding .....	1898	80 0 0	80 0 0
Red Range Road to Bear Hill .....	1894	159 0 0	916 14 1
Rous Factory, <i>via</i> Beeson's, to Wardell Road .....	1890	97 11 0	2,007 18 4
Road up Left Bank, Wilson's River .....	1894	162 7 8	659 2 7
Roads, Palmer's Island .....	1890	427 0 7	2,190 1 5
Red Hill to Kerr's .....	1892	250 9 9	1,733 3 2
Road up Forbes River .....	1896	76 11 6	196 12 5
Rockvale to Kookabookra .....	1890	18 19 0	855 14 3
Raleigh Creamery, Road to .....	1898	14 0 0	14 0 0
Rolland's Plains to Dungay Creek .....	1892	..	3,135 1 5
Rolland's Plains to Ballingarra Wharf .....	1895	..	246 19 9
Roads on Rawden Island .....	1885	59 19 1	1,233 6 3
Rushforth to Lower Gerogeroo .....	1898	31 10 0	31 10 0
Roads on Koroee Island .....	1890	34 18 0	302 18 5
Road between Nangutta and Pericoe .....	1898	32 17 0	32 17 0
Raymond Terrace at Saltash .....	1893	94 17 5	1,001 18 3
Raymond Terrace Ferry Approaches .....	1897	300 0 0	529 11 0
Road to Belling Heads .....	1898	36 9 5	36 9 5
Road to Upper Bucca Creek .....	..	45 11 8	49 11 8
Raymond Terrace to Seaham .....	1884	12 8 0	3,445 10 11
Raymond Terrace, <i>via</i> Nelson's Plains, to Seaham .....	1896	120 2 10	254 7 4
Raymond Terrace to Williamstown .....	1894	5; 10 0	646 6 11
Road leading to Upper Lansdowne Road .....	1898	30 0 0	30 0 0
Road to Dalwood Ford (Tangorin Road) .....	1895	44 0 0	223 0 0
Road between portions 15 and 27 to N.E. corner of portion 140 (Shanpou's to Woodburn), parish of Ballina .....	1898	74 3 0	74 3 0
Redbank to Merrigoo .....	1894	45 17 0	234 17 0
Roads on left bank, Macleay, Warneton to Towal Creek .....	..	211 13 6	1,248 11 7
Rouchel Store to Stoney Creek .....	1898	12 19 0	12 19 0
Rutherford, <i>via</i> Farley, to Cessnock .....	1892	722 8 10	5,046 12 8
Rutherford, <i>via</i> Farley, to Ravensfield .....	1898	28 17 1	28 17 1
Rutherford, <i>via</i> Stanhope, to Elderslie .....	1895	399 18 1	1,050 11 6
Rutherford and Telara Road to Fishery Creek and Teggs .....	1896	44 0 0	128 0 0
Rix's Creek, <i>via</i> Glennie's, to Goorangoo's Road .....	1897	30 0 0	54 14 7
Road up Camden Haven River, North Branch .....	1898	41 0 0	41 0 0
Road up Thone Creek .....	1895	258 16 0	792 4 7
Ridgeway's, <i>via</i> Monkerai, up Karuah River .....	..	100 3 0	693 4 2
Road through Warren's Lane .....	..	79 19 1	236 14 10
Road from Walcha Road to Bendemeer .....	1898	20 0 0	20 0 0
Road through Paterson's .....	1895	69 10 9	483 6 6
Road through Book's Grant .....	1898	48 14 6	48 14 6
Road through Harbord Estate .....	1895	119 3 0	237 3 4
Ray's Road Carlingford .....	1896	100 1 0	228 4 10
Road from portion 106 to Grafton, <i>via</i> Southgate-Broadwater Road .....	1898	45 0 0	45 0 0
Round Corner at Dural to Rouse Hill .....	1894	92 0 0	333 0 0
Round Corner at Dural to Wiseman's Ferry .....	1895	441 12 10	1,278 1 0
Ryan's to the Border .....	..	50 0 0	185 11 6
Ryan's to Bingham Point .....	1898	160 0 0	160 0 0
Redbournberry Bridge to Dyrning .....	1896	55 0 0	160 0 0
Rob Roy to Reedy Creek .....	1895	240 17 4	943 1 2
Road from Dorcey's along Serpentine .....	1898	19 9 0	19 9 0
Road up South Branch, Orara River .....	1895	78 4 0	305 18 8
Rothbury Public School to Allandale-Cessnock Road .....	1898	42 12 0	42 12 0
Rothbury to Pokolbin Hills .....	1898	63 0 0	63 0 0
Road up Right Bank, German Creek .....	1895	39 1 6	138 2 0
Robertson, <i>via</i> Macquarie Pass, to Glenquarry .....	1890	354 11 6	3,716 6 7
Richlands to Wombeyan Caves .....	1887	277 0 1	1,539 3 10
Rock Station to Lockhart .....	1894	70 14 10	690 19 4
Reilley's Crossing, <i>via</i> Batlow, to Bago .....	1892	190 19 9	989 18 5
Riley's Hill to Broadwater .....	1898	51 5 0	51 5 0
Rock Station to Urana .....	1883	128 4 2	11,440 6 7
Rosewood to Humula .....	1891	51 3 7	1,336 1 8
Run of Water to Winderradean .....	1895	160 0 0	605 12 0
Run of Water to Parkesbourne .....	1887	61 1 7	632 3 7
Rouse Hill and Dural Roads to Kenthurst to Fisher's .....	1896	82 0 0	239 0 0
Rouse Hill to Schofield's Platform .....	1883	86 13 6	1,131 15 3
Rosewood to Cappabella .....	1898	91 18 6	91 18 6
Richmond towards Dr. Clarke's Bridge .....	1896	59 3 0	141 11 0
Richmond Bridge to Mount Wilson .....	1888	737 19 7	10,246 18 11
Richmond to Cornwallis Road .....	1896	26 14 0	87 8 8
Red Range Road to Marshall's .....	1898	9 9 0	9 9 0
Reservoir to Cadia .....	1894	244 19 9	811 15 8
Rydal to Hampton .....	1894	218 6 8	2,853 16 10
Rankin's Bridge to Monkey Hill .....	1896	197 17 1	536 4 11
Road to S. Best's .....	1898	24 18 6	24 18 6
Rockley to Trunkley .....	1874	126 10 0	5,894 8 6
Rockley to Swallow Nest .....	1880	44 3 3	2,778 10 8
Rylstone to Bylong .....	1886	206 5 10	3,603 14 2
Rylstone to Narrango .....	1895	53 18 1	188 7 11
Rylstone-Narrango Road, at Burn's Lane, to Nullo Mount .....	1898	129 15 1	129 15 1
Rylstone, <i>via</i> Bogle, to Capertee .....	1895	97 17 9	516 7 11
Road past Callan Park Asylum .....	..	38 10 0	213 10 0
Randwick Toll-gate to La Perouse .....	1893	818 10 3	3,135 19 0
Randwick and Coogee Roads .....	..	1,002 7 6	5,752 7 6
Roads within limits of Hurstville, Rockdale, Canterbury, &c. .....	1894	1,289 10 0	7,270 10 0

## RETURN OF EXPENDITURE ON PUBLIC WORKS—continued.

ROADS.	When Com- menced	Expenditure from 1 July, 1898, to 30 June, 1899	If Unfinished, amount of Expenditure to 30 June, 1899.
		£ s. d.	£ s. d.
Roads in Little Bay Hospital grounds .....	1898	335 11 0	335 11 0
Roslyn Road to Chain of Ponds .....	1895	75 0 0	253 18 1
Reidsdale to Warrumbucca .....	"	24 16 6	129 1 7
Road south of Portion 2, Parish of Galore ..	1898	6 19 6	6 19 6
Raby to Minto .. .. .	1896	28 4 0	49 14 1
Road separating Parishes of Osborne and Galore ..	1898	49 0 4	49 0 4
Rhine Falls to Bolaro .. .. .	1895	Nil.	283 14 0
Redbourneberry Bridge, <i>via</i> Clydesdale, to Glendon Road ..	"	17 6 0	135 1 11
Road east of Walla Walla Railway Station ..	1896	37 16 4	67 19 1
Rocky Crossing to Barrington Bridge .. .. .	1898	60 0 0	60 0 0
Roads through Dumaresque Island .. .. .	1891	159 19 6	695 14 1
Road at Balmoral Railway Station .. .. .	1898	9 10 0	9 10 0
Roads through Mitchell's Island .. .. .	1887	2,0 15 8	2,479 14 9
Roads through Oxley Island .. .. .	"	299 10 3	4,034 17 9
Reid's Flat to Rugby .. .. .	1897	117 15 0	314 14 2
Road through Wright's Property near Krumbach ..	"	2 16 0	40 0 0
Rylstone, from Cox's Siding to Lue .. .. .	"	18 0 0	33 0 0
Rock Flat to Luncluden .. .. .	"	2 2 0	19 19 0
Road opposite Cemetery Gates, Wagga Wagga ..	1898	95 9 4	95 9 4
South Lismore to Wyrallah .. .. .	1887	344 12 2	3,379 10 11
South Gundurimba to Flaherty's .. .. .	1898	60 17 3	60 17 3
Swan Bay to New Italy .. .. .	1890	149 17 3	1,857 6 0
Southgate to Flood Reserve .. .. .	1894	18 16 0	158 8 6
Shark Creek Bridge to Hinchey's .. .. .	1897	69 14 6	102 1 3
Shark Creek to McNaughton's .. .. .	1898	21 9 0	21 9 0
Shark Creek Road through Loughman's to Crown Lands ..	1896	36 0 0	90 19 11
South Grafton to Ulmarra .. .. .	1886	144 18 0	9,608 4 6
South Grafton to Perrett's .. .. .	1890	1,279 19 6	16,422 7 4
South Grafton to Rushforth .. .. .	1888	184 15 2	1,147 13 8
South Grafton to Moonee (North Coast Road) ..	1892	1,268 19 1	8,467 17 7
South Grafton-Moonee Road to Ulmarra-Corinda Road ..	1897	23 10 0	74 4 0
South Grafton-Ulmarra Road to Clarence River at Allipon Creek ..	1898	12 0 0	12 0 0
Stony Pinch up Stockyard Creek .. .. .	1894	126 13 1	706 12 0
Stony Pinch to Smith's Creek .. .. .	1890	39 1 5	360 3 2
Stony Creek to Morton's Creek .. .. .	1892	80 0 0	458 8 11
Salisbury Plains to Kentucky .. .. .	1887	77 9 6	886 7 11
Seaham Punt to Clarencetown .. .. .	1896	158 2 0	361 1 0
Seaham Road to Dunn's Creek .. .. .	"	44 0 0	84 0 0
Stroud to Dungog .. .. .	1876	293 15 8	7,927 2 3
Stroud Road to New Wharf .. .. .	1891	41 7 8	506 1 4
Stroud Road near Six-mile to Seaham Road ..	1890	49 8 10	264 4 8
Stroud Road near Eight-mile to Seaham Road ..	1891	66 5 3	412 4 5
Stewart Town to Mookerawa Road .. .. .	1895	40 0 0	160 0 0
Stockton to Nelson's Bay .. .. .	1894	755 16 9	4,877 14 1
Stockton, Nelson's Bay Road at Williamtown to Sandhills ..	1887	29 10 0	75 15 9
Seven Oaks to Trial Bay .. .. .	1882	948 18 1	15,811 12 8
Seven Oaks-Trial Bay Road to Back Lands ..	1898	16 10 6	16 10 6
South Side, Palmer's Channel .. .. .	1898	15 15 0	15 15 0
Sandy Creek to Mount Vincent .. .. .	1892	88 1 6	1,399 2 7
Sandy Creek Road to Boscobel Railway Platform ..	1898	19 4 0	19 4 0
Sandy Creek to Millfield .. .. .	1893	199 0 0	850 1 3
Sweetnam's to Knight's .. .. .	1898	85 0 0	85 0 0
Sandy Hollow to Widdin Creek .. .. .	1894	60 0 0	232 3 0
Smithtown to Dairy Factory .. .. .	1898	86 3 8	86 3 8
Scone up Middle Creek .. .. .	1893	133 6 6	668 13 6
Scone to Mooran Brook .. .. .	1879	646 19 10	9,354 19 8
Scone to Bunnan .. .. .	1877	177 16 11	8,234 8 2
Slattery's Lane near Kirkton Gate .. .. .	1898	7 10 0	7 10 0
Scotch Creek Road .. .. .	1891	59 11 9	653 12 2
Singleton and Maison Dieu Road to Warkworth Road ..	1896	52 0 0	113 0 0
Singleton, <i>via</i> Warkworth, to Jerry's Plains .. ..	1890	224 3 1	2,299 5 0
Singleton to Brandy Creek .. .. .	1896	55 0 0	163 5 2
Singleton to Cooper's Flat .. .. .	1884	254 9 2	6,165 19 2
Singleton, <i>via</i> Maison Dieu, to Jerry's Plains ..	1896	76 11 6	323 8 5
Sherwood to Will Will .. .. .	1894	261 10 3	1,125 16 7
Sherwood to Dungay Creek Branch .. .. .	1898	34 6 0	34 6 0
Stonehenge to Graham's Valley .. .. .	1894	47 19 8	222 8 0
Saltash to Brown's Selection .. .. .	1898	78 16 0	78 16 0
Synott's to Funnell's .. .. .	1888	438 7 5	4,321 15 0
Sedgefield, <i>via</i> Glendon Bridge, to Gresford Road ..	1894	15 17 8	100 12 8
Sharp's, up East Bank Orara River .. .. .	"	310 11 6	1,326 11 9
Saddler's Creek Road .. .. .	1895	70 6 5	213 7 1
Solway's to Ginerol .. .. .	"	24 14 0	174 13 0
Stockinbinal to Marsden .. .. .	"	170 7 0	331 15 6
Stockinbinal to Dudauman .. .. .	1898	76 13 9	76 13 9
Sutton Forest to Main South Road .. .. .	1887	33 3 1	923 13 9
Sutton Forest, <i>via</i> Exeter, to Barber's Creek ..	1896	430 0 8	1,152 16 2
Sergeant's Point, <i>via</i> Charley's Forest, to Wog Wog ..	1894	147 8 8	791 11 7
Sergeant's Point to Clyde Road .. .. .	1887	60 6 1	899 3 0
South Creek to Luddenham .. .. .	1894	199 15 6	941 6 5
Southampton Ferry Approach .. .. .	1898	126 0 0	126 0 0
Sofala to Rylstone .. .. .	1878	269 0 8	9,393 19 4
Spring Terrace to Forest Reefs .. .. .	1883	142 4 9	1,950 12 0
Spring Terrace to Long Swamp .. .. .	1887	99 6 11	1,924 3 0
Spring Hill towards Cadia .. .. .	1879	59 10 0	2,685 7 1

RETURN OF EXPENDITURE ON PUBLIC WORKS—*continued.*

ROADS.	When commenced	Expenditure from 1 July, 1898, to 30 June, 1899.	If Unfinished, amount of Expenditure to 30 June, 1899
		£ s. d.	£ s. d.
Spit Approaches—Painting .....	1898	41 8 0	41 8 0
Stuart Town to Burrendong .....	1880	94 5 0	1,287 18 2
South Head Roads .....	1888	2,750 0 0	40,852 10 0
Stratton to Ollera .....	1898	36 0 0	36 0 0
Sydney to Bank's Meadow .....	1894	2,282 7 3	6,382 15 1
Sydney, <i>via</i> Dam at Cook's River, to "Half-way House" .....	1876	2,250 1 7	35,040 10 4
Sidmouth Valley Road .....	1883	25 0 0	1,451 8 4
Stanmore Road from Enmore Road to Canterbury Trust Road .....	1894	494 3 4	2,685 13 8
St Mary's to Blacktown <i>via</i> Llandilo .....	1895	124 17 11	470 16 3
St Mary's to Orphan School Road .....	"	211 17 6	549 14 0
Shadforth to Whitley's Junction .....	1896	139 15 3	307 7 7
South Head Road, at Watson's Bay, to Military Reserve Gates .....	1895	39 8 4	177 1 8
Stanhope Road to Singleton and Gresford Road .....	1896	25 4 6	138 4 0
St Albans to Mount Manning .....	"	200 0 0	551 8 0
St. Albans Common to Broad and Harrington Arms .....	1898	20 0 0	20 0 0
St Albans, up Wright's Creek .....	1896	54 0 0	183 13 0
St. Alban's, up McDonald River .....	"	300 0 0	816 13 3
Slack's Creek to Middlingbank .....	"	182 19 8	504 7 11
Sylvania to Port Hacking .....	"	103 11 3	505 13 11
Seven Hills Road to Vardy's Grant .....	"	27 0 0	52 0 0
Springwood to the Hawkesbury .....	"	165 0 0	480 0 0
Sackville Road, near Ebenezer, <i>via</i> Page's Ferry, to Maroota .....	"	57 16 0	157 10 5
Shooter's Hill to Mt. Werrong .....	1898	69 4 0	69 4 0
Sussman's to 'Possum Brush .....	1891	82 18 0	963 11 8
Shooter's Hill to Little River, towards Goulburn .....	1893	115 9 0	115 9 0
Sparrow's Corner to Foxlow, <i>via</i> Carwoola .....	1890	220 18 10	2,230 9 5
Skinner's Shoot to Byron Bay .....	1897	40 0 0	77 19 7
Sand-drift, Botany .....	1898	0 5 6	0 5 6
Shands to Berrigan .....	"	35 9 4	35 9 4
Small's to Woodfordleigh, Tyndale Road, at McInnes' .....	1897	19 10 0	68 12 6
Sutherland Road, Rookwood .....	"	25 0 0	50 0 0
Sternbeck's to Wiseman's Ferry .....	1898	21 0 0	21 0 0
Springdale to Cootamundra, Temora Road .....	"	9 0 0	9 0 0
Toohy's Mill Road to Hogan's .....	1892	295 18 2	1,445 0 1
Trial Bay to Smoky Cape .....	1893	49 19 7	179 9 11
Trial Bay to South West Rocks .....	1895	48 11 9	182 4 3
Two-mile Creek to Newrybar .....	1889	77 11 0	580 17 4
Tumbulgum to Tweed Heads .....	1894	247 0 5	1,109 2 1
Tabulam to Myall Creek .....	1892	646 13 10	4,495 3 2
Thorburn to English's .....	"	134 11 4	619 11 8
Thorburn to Kelly's .....	1891	65 0 0	514 0 3
Tucki to Munro's Wharf .....	1894	120 0 0	495 18 11
Tucki to Rous .....	1891	238 14 0	1,702 7 0
Tuckombil to Rous .....	1894	41 9 0	595 19 6
Tuckombil School to Portion 294 .....	1898	46 4 0	46 4 0
Tutenbar to Pearce's Creek .....	1896	153 13 10	351 12 2
Tintenbar to Binna Burra .....	"	396 0 0	1,018 16 7
Tintenbar to Alstonville .....	1883	310 3 9	5,693 3 9
Tintenbar, <i>via</i> Toohy's Mill, to Booyong Station .....	1884	336 13 6	3,104 18 0
Tenterfield to Scrub .....	1885	130 11 6	2,000 19 3
Tenterfield Common, Road through .....	1898	100 0 0	100 0 0
Tenterfield to Sunnyside School .....	"	8 17 0	8 17 0
Tenterfield to Bonsbaw .....	1878	647 18 10	8,152 4 1
Tenterfield to Swamp Oak Creek .....	1894	198 19 6	684 6 5
Tenterfield to Ballina .....	1891	6,228 3 3	07,238 0 1
Tenterfield, Ballina Road to Portion 225 .....	1898	35 4 0	35 4 0
Travellers' Rest to Macleay Heads .....	1892	209 1 7	1,623 3 1
Thompson's, up Dairy Arm .....	1896	28 0 0	94 0 0
Tingha, <i>via</i> Stanborough to Boggy Camp Diamond Fields .....	1898	10 4 0	10 4 0
Tingha to Elsmore .....	1896	216 18 8	658 5 1
Telega Bridge to Hudson's .....	1898	29 19 9	29 19 9
Tinonee Road to Fairford Road .....	1894	121 4 0	871 18 0
Tinonee to Old Bar Reserve .....	1895	334 7 10	571 13 10
Tinonee Old Bar Reserve Road to Bohnock .....	1898	50 0 0	50 0 0
Tinonee to Wingham Ferry .....	1876	88 1 0	3,188 15 9
Tinonee to Killawarra .....	1892	50 0 0	492 14 10
Tinonee to Bootawah .....	1895	70 0 0	298 0 11
Tintinbul, <i>via</i> Moonbi and Lumbri, to Mulla Creek .....	1898	143 0 0	143 0 0
Taree Ferry to Glenthorne Wharf .....	1896	36 0 0	83 17 7
Taree towards Toncurry (North Forster) .....	1883	296 0 6	4,302 13 5
Taree to Wingham .....	1892	211 17 6	1,603 17 7
The Pinch to Congewai .....	1890	306 0 0	2,388 5 3
The Pinch to Ellalong .....	1895	30 0 0	265 14 6
Telegraph Road, Pymble .....	1898	126 13 2	126 13 2
Ten-mile Hollow to Mangrove Creek .....	1896	27 0 0	42 15 10
Trangie, <i>via</i> Quigley's to Nevertire, Bogan Road .....	1898	156 0 0	156 0 0
Twelve-mile, Stroud Road, to Tea Gardens .....	1892	262 3 11	1,473 12 7
Timor to foot of Crawney .....	1896	50 0 0	192 7 6
Tocal, up Webber's Creek .....	"	33 0 0	96 0 0
Teralba to Cackle Creek .....	1895	73 6 3	279 17 10
Tuggerah Beach Road to Selections east of Matcham's .....	1896	37 0 0	108 0 0
Tamworth to Nundle .....	1878	567 1 4	24,963 5 3
Tamworth to the Forest .....	1883	25 0 0	1,641 8 5
Tamworth to Barraba .....	1891	2,072 12 5	18,050 5 4
Tamworth to Werris Creek .....	1896	202 15 8	489 7 8



RETURN OF EXPENDITURE ON PUBLIC WORKS—*continued.*

ROADS.	When Com- menced.	Expenditure from 1 July, 1898, to 30 June, 1899			If Unfinished, amount of Expenditure on 30 June, 1899		
		£	s.	d.	£	s.	d.
Tamworth to Winbon .....	1898	232	3	4	232	3	4
Tamworth, <i>via</i> Moore Creek, at Attunga .....	1878	178	16	10	2,477	16	10
Tamworth to Somerton .....	1891	350	4	0	3,374	1	11
Teven to Ferry (north side) .....	1894	45	14	0	457	2	7
Tatham to Myrtle Creek .....	1891	198	7	1	1,125	15	7
Tallaganda Crossing up Jerrabat Gully .....	1894	60	0	0	306	2	7
Tyagarah to Boyle's .....	1895	101	4	6	610	13	11
Turramurra to Bobbin Head Road .....	"	803	14	6	1,211	13	2
Towrang to Long Reach .....	1892	165	3	5	3,275	4	2
Towrang to Arthursleigh .....	1896	25	1	0	224	18	6
Taralga to Rockwell .....	1891	120	13	0	2,783	4	0
Taralga to Bumaroo Ford .....	1895	212	8	10	545	13	4
Taemas to Brindabella .....	1891	399	0	4	2,619	12	1
Turlinjah to Tuross Heads .....	1895	13	5	0	129	6	5
Tarago to Braidwood .....	1886	1,025	10	7	89,124	10	4
Termil towards Milton .....	1891	152	3	5	1,468	0	1
Towamba to New Buildings .....	1894	109	19	5	1,443	0	9
Towamba to Boodi .....	1887	39	16	0	2,148	5	0
Turner's, <i>via</i> Lanburn, to Blackman's .....	1896	27	16	6	82	6	10
Tharwa to Tidbinbilly .....	1890	38	9	6	441	7	3
Tumut, <i>via</i> the Plains, to Jones' Bridge .....	1891	141	4	6	1,185	2	1
Tumut, <i>via</i> Piper's, up Bumbowlie Creek .....	1894	56	1	0	366	8	8
Tumut to Kiandra .....	1873	978	8	4	15,056	14	9
Tumut, <i>via</i> Brungle, to Gundagai .....	1870	427	14	4	7,733	7	5
Tumut to Adelong .....	1868	289	5	4	15,008	6	5
Tumut to Adelong Road to Racecourse and Recreation Ground .....	1897	69	1	0	91	1	0
Tumut to Tomorroma .....	1891	175	2	0	1,330	4	6
Tumut-Tomorroma Road to Bongonga .....	1893	29	14	0	29	14	0
Tumut to Lac-ma-lac .....	1871	84	10	4	3,371	3	3
Tumut to Gundagai .....	1864	657	8	7	29,880	15	2
Tumut-Gundagai Road, near Gocup Public School, to Meadow Creek .....	1898	13	0	0	13	0	0
Temora to Wyalong .....	1887	1,923	14	1	15,356	10	2
Temora to Morangarell .....	1897	87	5	2	154	0	4
Temora to Old Junee .....	1888	330	16	6	3,075	14	8
Temora-Mandemah Road, <i>via</i> Butts, &c., to Devlin's Gate .....	1898	42	1	0	42	1	0
Temora to Mandemar .....	1894	200	16	8	1,307	9	10
Temora to Stockruling .....	"	80	5	1	480	5	1
Temora to Trungley Hall .....	1896	76	18	4	271	15	4
Temora to Thanowring .....	1898	109	18	0	109	18	0
Tumbarumba to Courabyra Public School .....	1893	50	0	0	534	0	5
Tumbarumba, <i>via</i> Tooma, to Welaregang .....	1878	474	8	6	18,872	18	0
Tumbarumba to Bago .....	1890	267	5	1	2,632	15	9
Tumbarumba to Upper Burra .....	1894	Nil.			160	9	0
Tumbarumba to Jingellic .....	1882	237	14	6	14,744	8	6
Tumbarumba to Little Billabong .....	1876	720	16	11	26,064	1	6
Tatalia to Thyra .....	1892	162	16	6	1,143	14	11
Turner's to Wonnul .....	1898	36	0	0	36	0	0
Tarrabandra to Gocup .....	1897	68	0	9	122	12	9
Thompson's Creek to Cullen Bullen .....	1894	182	17	1	670	0	4
Thompson's Bridge to Pitnacree Road .....	1896	60	0	0	148	0	0
Tuena Road to Sherwood .....	1893	68	12	10	395	10	4
Tarana to Jenolan .....	1877	689	13	11	11,051	19	10
Tarana to Rydal Road to the Meadows, <i>via</i> Honeysuckle Falls .....	1896	60	8	9	112	2	4
Tallawang Road to "Goodman Inn" .....	1893	100	0	0	584	0	6
Treweek's to Lewis Ponds .....	1895	116	9	0	464	12	6
Thalaba Creek to Yates' Gate .....	1898	166	19	3	166	19	3
Tallywalka to Ivanhoe .....	1892	14	13	0	2,138	12	0
Tabrabucca to Hammond's .....	1896	111	9	9	304	9	8
Trundle to Bullock Creek .....	1893	34	1	0	34	1	0
Toongabbie Creek to Windsor Road, at Kellyville .....	1894	130	9	5	306	18	3
Toongabbie Post Office to Wentworthville Railway Station .....	1897				25	0	0
Telegerry to Master's .....	"	143	18	5	292	14	5
Tuggerah Beach Road to Homestead Selections .....	1898	22	0	0	22	0	0
Tia to the Tia Mines .....	1897	15	0	0	45	0	0
Tighe's Hill to Carrington .....	"	50	18	11	191	16	5
Tableland Road, at Grey's, to the Gulf .....	"	3	8	0	24	0	0
Tomerong to Jervis Bay .....	"	94	13	0	184	11	7
Tuggeranong to Tuggeranong Railway Platform .....	1898	20	10	0	20	10	0
Thornleigh School to Collector and Tarana Road .....	"	34	3	6	34	3	6
Tangmangaroo towards Rye Park .....	"	50	0	9	50	0	9
The Rock to Avondale .....	"	5	16	2	5	16	2
Thudungra to Morangarell .....	"	151	19	0	151	19	0
Termil to Bawley Point .....	"	28	14	6	28	14	6
Tathra to Tanja .....	"	110	0	0	110	0	0
Thirlmere to Picton Lakes .....	"	24	8	0	24	8	0
Tooma to Meragle .....	"	50	0	0	50	0	0
Umarra to Yamba .....	1893	853	2	11	5,704	16	10
Umarra to Corindi .....	1887	176	13	1	1,981	3	5
Uralla to Bundarra .....	1879	611	12	11	22,078	12	2
Uralla <i>via</i> Balala to Bundarra .....	1890	217	2	0	2,530	10	5
Uralla, <i>via</i> Gostwycke, to Rockwood .....	1894	129	13	3	464	1	5
"Union Inn," <i>via</i> Melville Ford, towards Rosebrook .....	1885	286	15	4	1,140	9	10
Union Church to Southgate Wharf .....	1889	40	0	0	2,541	7	6
Underbank to Upper Chichester .....	1896	159	12	0	417	1	6

## RETURN OF EXPENDITURE ON PUBLIC WORKS—continued.

ROADS.	When Com- menced	Expenditure from 1 July, 1898, to 30 June, 1899			If Unfinished, amount of Expenditure to 30 June, 1899.		
		£	s.	d.	£	s.	d.
Underbank to Upper Williams . . . . .	1893	149	15	6	640	18	1
Umbango, via Oberne, to Tarcutta . . . . .	"	10	0	0	887	16	7
Umeralla Platform towards Cowra Reefs . . . . .	1897	49	13	6	109	4	6
Upper Dartbrook to Sparke's Creek Road . . . . .	1895	29	10	0	337	16	10
Upper to Lower Ford, Turner's Flat . . . . .	1898	114	13	9	114	13	9
Upper Dartbrook to Upper Wybong . . . . .	1896	39	5	4	99	7	8
Upper Lansdowne Roads . . . . .	"	359	16	0	1,017	7	2
Upper Road to Eastwood . . . . .	1892	134	17	3	1,350	17	3
Upper Picton to Thurlmere . . . . .	1895	57	14	2	130	15	7
Upper Burragorang to The Peaks . . . . .	1898	89	7	0	89	7	0
Upper North Creek to Byron Bay Road . . . . .	1896	58	0	0	113	7	1
Upper to Lower Coldstream . . . . .	1897	108	14	6	186	1	6
Upper Coldstream Bridge, through Roberts' and Want's Lanes . . . . .	1898	96	2	3	96	2	3
Upper Manilla to Crow Mountain . . . . .	1897	70	0	0	100	0	0
Upper Unkya to Clybucca . . . . .	"	158	8	0	185	19	0
Urana to Brookong Siding . . . . .	1898	10	0	0	10	0	0
Unwin's Bridge Painting . . . . .	"	79	0	8	79	0	8
Urana-Mitchell County Boundary Road . . . . .	"	10	7	6	10	7	6
Urana County Boundary Road to Road from The Rock to Green's Gunyah . . . . .	"	27	10	0	27	10	0
Violet Dale up Dumaresq Creek . . . . .	1894	82	3	0	402	5	3
Vacy to Summer Hill . . . . .	1897	73	0	0	213	0	0
Vineyard School to Pitt Town Common . . . . .	1896	42	1	1	89	8	5
Viney's Road, Dural . . . . .	1898	30	0	0	30	0	0
Woodfordleigh to Tyndale . . . . .	1895	48	10	0	892	12	3
Wyrallah to Rous . . . . .	1888	580	0	0	9,791	15	4
Webster's to Flood's . . . . .	1896	75	11	6	180	19	6
Wee Talaba, via Angledool, to Goodooga . . . . .	1893	28	3	0	418	5	7
Wardell-Rous Road to Alstonville . . . . .	1891	66	18	0	1,049	7	10
Wardell to Rous . . . . .	1895	517	13	1	2,094	1	4
Wardell-Rous Road to "Old Camp" (Old Camp to McVicar's) . . . . .	1897	86	9	8	110	0	0
Wardell to Alley's Hill (Bagot's) . . . . .	"	...	...	...	75	13	6
Wardell to Emigrant Creek Bridge . . . . .	1890	136	14	4	1,631	6	6
Wardell to the Beach . . . . .	1891	80	0	0	645	5	2
Woodburn to Bungawalbyn Ferry . . . . .	1892	204	19	4	1,544	15	5
Woodburn-Bungawalbyn Road to Flood Reserve . . . . .	1898	33	16	0	33	16	0
Woodburn to Evan's River Heads . . . . .	1895	65	1	0	176	13	9
Woodburn to Tucki . . . . .	1891	267	18	10	3,586	18	0
Woodburn to Boundary Creek at Blanche's . . . . .	1896	387	11	3	1,009	1	3
Woodburn to Dungarubba . . . . .	1891	188	11	8	1,699	18	7
Woodburn to the Gap (Iluka Road) . . . . .	1893	36	8	7	569	10	10
Waterview to Ramorne . . . . .	1891	92	19	5	457	0	10
Woolla Woolla Roads . . . . .	1895	44	0	0	201	0	0
Whiteman's Creamery to Whiteman's Bridge . . . . .	1896	58	9	0	132	1	8
Warialda-Moree Road, at Ryan's, to Knagg's C P. . . . .	1898	19	19	0	19	19	0
Warialda to Bogamildt . . . . .	1894	262	19	0	1,063	10	7
Warialda towards Inverell . . . . .	1896	861	7	10	2,555	1	1
Warialda to Yetman . . . . .	1876	241	3	6	9,843	16	9
Warialda to Gunyerwarialda . . . . .	1879	284	8	8	6,162	1	5
Warialda, via Gragin, to Reedy Creek . . . . .	1886	64	16	0	1,182	19	2
Warialda, via Ezzie's, to Moree Road . . . . .	1876	116	10	8	25,723	6	5
Wilson's Downfall to Rivertree . . . . .	1887	94	14	9	5,010	13	0
Wilson's to Sneath's . . . . .	1896	37	1	8	194	0	0
Wellingrove to Strathbogie . . . . .	1889	93	11	4	2,210	1	3
Williams' to Taylor's Arm . . . . .	1897	220	14	0	307	17	0
Wandsworth to "Old Ben Lomond Inn" . . . . .	1888	246	14	4	1,577	10	9
Wallangra to Strathbogie . . . . .	1894	246	7	10	853	12	0
Wallangra to Boggabilla . . . . .	1895	213	13	2	1,733	8	3
Walgett to Combogolong . . . . .	1892	99	16	9	830	19	4
Walgett to Goondablou . . . . .	1896	179	14	9	774	12	3
Wee Waa to Burren Station . . . . .	1894	100	0	0	530	0	7
Walgett, via the Springs to Brewarrina, Goodooga Road . . . . .	1896	92	18	0	460	6	8
Walgett, via Goodooga, to Brenda . . . . .	1893	247	1	6	2,395	18	7
Walgett to Corinda . . . . .	1896	100	4	0	368	7	1
Walgett to Boorooma . . . . .	1894	141	1	6	551	3	6
Walcha Railway Station to Walcha—Bendemere Road . . . . .	1898	30	0	0	30	0	0
Walcha Road to Walcha . . . . .	1894	244	2	3	1,437	12	11
Walcha Road to Niangla . . . . .	1896	196	8	9	543	6	8
Walcha towards Emu Creek . . . . .	1893	130	10	1	382	8	10
Walcha to Eulo . . . . .	1892	209	2	0	1,240	12	8
Walcha to Nowendoc . . . . .	1879	414	16	4	6,138	13	3
Walcha to Uralla . . . . .	1877	134	7	7	5,138	1	7
Walcha towards Port Macquarie . . . . .	1872	379	17	9	28,400	12	6
Walcha to Aberaldie . . . . .	1892	90	0	0	507	6	5
Wingham, up Cedar Party Creek . . . . .	1882	207	18	8	3,139	15	1
Wingham and Nowendoc Road to Karaak Flat . . . . .	1884	67	4	6	785	15	2
Wingham, via Bimbin, to Lansdown . . . . .	1885	15	14	0	823	6	7
Wingham to Nowendoc . . . . .	1883	960	16	10	19,206	10	6
Wingham, via Ashlea, to Kelvin Grove . . . . .	1876	361	13	1	4,302	6	7
Wingham, via Bungay, to Bo Bo Creek . . . . .	1895	48	0	0	182	7	0
Wilson's River, via Bar Scrub, to Walcha Road . . . . .	1877	159	11	9	3,788	16	7
Wauchope to Beechwood . . . . .	1890	51	4	2	621	15	4
Wauchope to Heron's Creek . . . . .	1892	130	0	0	2,124	2	11
Wye to Swansee . . . . .	1895	249	10	0	1,195	13	5
Wyong, via Tuggerah, to Water Reserve . . . . .	1892	58	18	4	945	15	0
Wyong, via Jiliby and Mandalong, to Morrissett . . . . .	1895	822	18	2	2,361	12	8

## RETURN OF EXPENDITURE ON PUBLIC WORKS—continued.

ROADS	When Com- menced.	Expenditure from 1 July, 1898, to 30 June, 1899			If Unfinished, amount of Expenditure to 30 June, 1898.		
		£	s.	d.	£	s.	d.
Woodbury's to Yarramalong .. .. .	1896	870	9	4	1,589	3	11
Wyong to Allison's .. .. .	"	100	0	0	394	19	10
Warkworth to Putty .. .. .	1879	758	19	0	12,936	7	0
Wollombi to Cessnock .. .. .	1893	600	0	0	4,483	19	2
Woy Woy to Blackwall .. .. .	1894	45	0	0	292	6	1
Wollombi Road to Howe's Valley .. .. .	1896	142	10	2	288	5	11
Wollombi up Yango Creek .. .. .	1892	120	0	0	888	0	4
Wollombi up Narone Creek .. .. .	1896	23	6	9	74	13	1
Wiseman's Ferry Road at Be-t's towards Kenthurst .. .. .	1898	10	0	0	10	0	0
Wiseman's Ferry to Mouth Mangrove Creek .. .. .	1896	17	8	0	247	15	11
Wallsend to Gosford Road .. .. .	1878	439	9	2	12,758	3	8
Wallsend to Sandgate .. .. .	1884	55	0	2	1,029	13	0
Wallsend to Lake Macquarie .. .. .	"	120	12	10	1,026	3	6
West Matland to Cemetery .. .. .	1898	40	12	0	40	12	0
Wright's Hill to Deep Creek Bridge .. .. .	1897	125	16	7	136	14	7
West Matland, via Dunmore, to Paterson .. .. .	1883	294	1	6	4,807	17	9
West Matland to Mulbring .. .. .	1894	389	13	5	822	13	5
Whittingham to Broke .. .. .	1896	42	3	0	261	10	1
Waratah to Minmi Road .. .. .	1882	484	9	8	15,557	18	9
Waratah-Matland Road to Railway at High Level Bridge .. .. .	1898	16	12	0	16	12	0
Woodton towards Quirindi .. .. .	1896	50	0	0	141	15	9
Wallabadah to Nundle and Swamp Oak Creek .. .. .	1882	179	17	9	6,842	14	8
Wallabadah Station towards Temi .. .. .	1897	..	..	..	18	10	0
Woolomin, up Duncan's Creek .. .. .	1898	4	16	7	4	16	7
Woolomin to Cadells .. .. .	1892	29	2	0	176	8	7
Woolomin to Crawley's .. .. .	1898	44	8	0	44	8	0
Werris Creek Gap to Railway .. .. .	1892	24	3	1	164	8	8
Waterfall to Otford Hill .. .. .	1890	294	15	11	2,301	17	4
Wollongong, via Mt Kiera, to 13-mile peg .. .. .	1895	32	0	6	88	4	9
Wheeo towards Crookwell .. .. .	1884	123	6	7	4,827	6	0
Wheeo to Binda .. .. .	1877	126	0	0	2,680	7	11
Wheeo to Reid's Flat .. .. .	1896	..	..	..	96	12	1
Wheeo to Gunning .. .. .	1888	61	6	0	1,733	2	0
Wes'on Road, Balmain .. .. .	1898	640	0	0	640	0	0
Wallace's Gap, via Ballalaba, to Oranmere .. .. .	1875	123	0	8	2,166	14	1
Waroo, via Boambolo, to Cavan Gap .. .. .	1891	157	11	6	983	9	11
Wyndham to Burrogate .. .. .	1892	50	0	0	343	16	0
Woollabra to Gurley .. .. .	1898	67	0	0	67	0	0
Wellesley, via Craigie, to the Border .. .. .	1896	62	7	4	186	6	8
Wendowie, up east bank Gilmore Creek .. .. .	1891	84	8	0	870	6	4
Wendowie School, up west bank Gilmore Creek .. .. .	1894	33	15	0	317	11	4
Wagga Wagga and Albury Road, via Yambula Station, to Jingellic .. .. .	1892	725	19	4	6,109	6	0
Wagga-Narrandera Road, at Currawarna, to Cox's Farm .. .. .	1897	17	14	10	26	14	10
Wagga Wagga to Gillenbah .. .. .	1892	276	6	1	3,444	15	5
Wagga Wagga to Gregadoo .. .. .	1891	195	0	0	1,439	4	3
Wagga Wagga to Coolamon .. .. .	1892	215	19	5	1,230	4	11
Wagga to Coolamon-Currawarna Road, approach to Houlaghan's Bridge .. .. .	1897	18	2	3	62	13	6
Wagga Wagga to Wantabadgery .. .. .	1892	117	5	0	1,149	12	10
Wagga Wagga to Cookardina .. .. .	"	109	13	2	1,704	6	6
Wagga Wagga to The Rock .. .. .	1893	163	4	4	780	4	0
Wagga Wagga to Kyamba .. .. .	1881	632	18	2	13,456	6	10
Wagga Wagga to Narrandera .. .. .	1864	191	9	7	16,668	7	11
Wagga Wagga, via Wallace and Harefield, to Junee .. .. .	1892	77	9	10	674	0	9
Walla Walla to Henty .. .. .	1898	36	13	4	36	13	4
Walla Walla to Walla Walla West Public School .. .. .	1897	44	9	11	164	1	2
Walla Walla Railway Station, Road from .. .. .	1898	27	12	0	27	12	0
Widdin Creek to Wollar .. .. .	1894	133	13	0	359	6	9
Whitton to Pullitop Tank .. .. .	1892	292	14	9	4,120	17	6
Wanganella to Yanco .. .. .	1897	54	2	6	153	13	8
Westerdale's to Finley .. .. .	1898	34	19	0	34	19	0
Wilgoa to Wandello .. .. .	1896	..	..	..	80	0	0
Wallendbeen to Stockingbinal .. .. .	1894	60	9	0	383	7	11
Welaregang to Tintaldra .. .. .	"	..	..	..	189	13	3
Wentworth to South Australian Border .. .. .	1885	40	0	0	1,490	17	0
Wentworth to Euston .. .. .	1896	11	4	0	71	12	9
Walkom's towards Gorman's .. .. .	1898	21	5	10	21	5	10
Wolumla to Yurramine .. .. .	1895	70	12	0	223	19	0
Wolumla to Mount Mosen .. .. .	1898	100	0	0	100	0	0
Wentworth Falls to Burragorang .. .. .	1895	97	14	6	1,626	3	6
Worboys to Spring Terrace .. .. .	1896	46	9	0	136	16	6
West Portland to Comleroy Road .. .. .	1888	103	10	0	1,023	6	9
Windsor, via Cornwallis, to Richmond .. .. .	1896	94	19	10	266	9	2
Windsor to Bull Ridge .. .. .	1895	206	15	8	707	14	9
Windsor to North Dural .. .. .	1898	18	14	0	18	14	0
Windsor, via Sackville, to Wiseman's Ferry .. .. .	1883	559	0	0	11,687	14	1
Windsor to Blacktown Road .. .. .	1896	83	17	10	143	0	7
Windsor Road to Mulgrave Station .. .. .	"	36	8	8	114	7	4
Wiseman's Ferry to Singleton Mill .. .. .	1889	15	0	0	647	17	1
Wiseman's Ferry, via Leet's Vale and Loxton's, to Portland Ferry .. .. .	1896	252	7	0	467	19	8
Windeyer to Queen's Pinch .. .. .	1892	180	0	0	1,254	2	9
Wallerawang to Mudgee .. .. .	1857	894	7	3	18,192	17	4
Wallerawang to Rydal .. .. .	1893	99	10	5	553	12	3
Walli to Woodstock .. .. .	1888	98	17	8	1,786	6	6
Wottamondara towards Cameron's .. .. .	1898	16	14	2	16	14	2
Woodstock to Canowindra .. .. .	1891	494	12	6	3,363	8	9

## RETURN OF EXPENDITURE ON PUBLIC WORKS—continued.

ROADS.	When Com- menced.	Expenditure from			If Unfinished, amount of Expenditure to		
		1 July, 1898 to 30 June, 1899	£	s. d.	30 June, 1899	£	s. d.
Woodstock to Mt McDonald .....	1883	411	18	6	7,008	13	6
Woodstock to Kangaroo Flat .....	1896	134	10	6	250	15	9
Wall's Junction to Havilah .....	1898	29	6	0	29	6	0
Wall's Junction to Botobolar .....	1884	88	12	7	1,853	12	4
Wall's Lane, Jones' Island .....	1898	50	0	0	50	0	0
Wellington to Ulundry .....	1894	178	19	0	1,314	10	6
Wellington to Goolma .....	1895	565	3	8	2,151	19	8
Wellington-Goolma Road, at Spicer's Creek, to the Rock .....	1897	129	18	0	164	18	0
Wellington to Woolamon .....	1890	292	10	8	2,679	16	3
Wellington towards Cobborah .....	1882	663	19	5	7,493	2	2
Wellington towards Burrendong .....	1880	129	19	0	6,018	14	11
Wellington to Ponto... ..	1891	208	15	7	2,010	13	4
Wilcannia to Jacob's Well .....	1897	35	8	0	54	8	0
Wilcannia to Tilpa .....	1898	79	10	0	79	10	0
Wilcannia to Wentworth .....	1888	196	3	5	3,427	2	4
Wilcannia to Wompah .....	1892	314	17	7	3,868	17	8
Wilcannia to Cockburn .....	1890	227	5	4	3,820	11	4
Wilberforce to Pitt Town .....	1895	75	8	6	278	19	4
Wilberforce to Howe's Creek .....	1898	171	3	8	171	3	8
Wilcannia to Wanaaring .....	1895	54	2	8	217	0	2
Wall's to Bowring .....	"	18	19	10	68	5	4
Warne Road to Kerr's Creek .....	1896	52	18	0	161	14	5
Wybong to Brogheda Road .....	"	29	2	0	103	19	9
Woolabra, via Milhe, to Meroe .....	1890	231	14	4	3,633	5	3
Wallarobba to German Bridge and Branch to Brookfield .....	1896	132	0	0	384	0	0
Wallarobba to Cox's Creek .....	"	29	0	0	85	0	0
Woolong to head of Sandy Creek .....	"	41	0	0	93	0	0
Waddell's Orchard, via Glendon, to Great North Road, near Belford .....	"	64	0	0	195	0	0
Woodville Road to Fairfield Station .....	1896	45	0	0	127	18	5
Woodville Road to Guildford Railway Station .....	1898	13	0	0	13	0	0
Wahroongah Railway Gates to Stewart street, Wahroongah .....	1897	145	2	9	155	2	9
Winburra Road, Harbord E-state .....	1898	177	16	7	177	16	7
Williamtown-Medowie Road, at Wilkinson's, to Fisher's .....	"	11	5	0	11	5	0
Williamtown, via Medowie, to Stroud Road .....	1896	157	16	6	350	18	9
Woolgoolga to Corinda Mines .....	1898	35	0	0	35	0	0
Windellama to Mayfield .....	1897	.....	.....	.....	58	19	2
Williamtown to Sandhills .....	"	.....	.....	.....	46	5	9
Wyalong to Ungarre .....	"	145	10	0	578	11	0
West Wyalong to Kildary Station .....	1898	171	10	0	171	10	0
West Wyalong to Willandry .....	1897	91	7	6	243	11	2
West Wyalong, Yalgogrin .....	"	52	14	4	229	6	4
Wyalong to Marsden .....	"	22	14	6	153	9	6
Wyalong to West Wyalong .....	1898	371	19	1	371	19	1
Warren towards Gin Gin Bridge .....	1897	13	10	0	110	0	0
Whittaker's Corner to the Olives .....	1898	101	14	0	101	14	0
Yanabong Bridge to East Mantland Road .....	1894	260	0	0	680	0	0
Yarrowford to Ranger's Valley .....	1881	78	3	0	2,483	17	4
Yarraman to Black Creek .....	1891	19	8	0	285	3	9
Yaramalong to Mangrove Creek .....	1896	56	18	9	238	17	11
Yaramalong to Olney Reserve .....	"	159	7	0	305	0	11
Young Wallsend to Minmi .....	1890	213	2	9	2,461	10	4
Yankee Siding towards Barellan .....	1898	142	1	6	142	1	6
Yass to Fairfield Bridge .....	1895	229	1	8	6,588	6	5
Yass, via Wee Jasper, to Tumut .....	1892	681	9	3	3,986	11	2
Yass, via Jerrawa, to Dalton .....	1894	113	5	2	839	1	8
Yass to Woolgarlo .....	1875	196	9	3	4,545	8	7
Yass to Dalton and Burrowa Road .....	1890	36	8	0	632	7	10
Yass to Black Range .....	1885	39	19	8	369	0	0
Yass to Wargella .....	1896	9	2	0	116	12	0
Yass to Upper Gundaroo .....	1882	298	1	3	10,179	14	1
Yass to Gundaroo Road to Murrumbateman—Ginninderra Road .....	1896	30	4	10	118	3	10
Yammatree to Brawlin .....	1898	15	0	0	15	0	0
Young to Koorawatha .....	1892	196	3	5	642	18	9
Young-Koorawatha, Koorawatha Road via Jasprizza's, to Young, Bumbaldry Road .....	1898	92	12	11	92	12	11
Young to Douglas... ..	1820	240	0	0	2,228	11	10
Young, via Wombat, to Murrumburrah .....	1889	197	6	2	2,491	1	5
Young, via Kingsvale, to Murrumburrah... ..	1892	99	14	10	2,768	9	5
Young to Bumbaldry .....	"	810	17	5	1,704	19	0
Young to Burrowa .....	1876	400	0	0	14,364	15	5
Young to Temora .....	1883	299	19	11	9,619	18	8
Young to Grenfell .....	1888	566	4	10	8,942	3	0
Young-Grenfell Road to Meat Chilling Works .....	1898	16	7	9	16	7	9
Young Butter Factory to Stony Creek .....	1897	141	17	4	253	11	4
Yerong Station to Urangelme Post Office .....	1888	373	3	3	3,639	13	7
Yarramundi to Wilberforce... ..	1883	239	17	1	2,780	12	9
Yarramundi to Richmond .....	1896	108	3	4	274	19	5
Yalgogrin to Mirrool Creek .....	1895	330	0	0	730	0	0
Yowie to Junction of Yowie and Wadbilliga River .....	1898	50	0	0	50	0	0
STREETS.							
Beecroft, Copeland-street .....	1896	30	0	0	215	8	5
Beecroft, Hanna-street .....	1898	5	0	0	5	0	0
Beecroft, Malton-street .....	"	25	0	0	25	0	0
Brewarrina, Young-street .....	"	2	0	10	2	0	10
Bulladellah, Richmond-street .....	"	47	4	0	47	4	0
Bundarra, Olver-street .....	"	7	17	6	7	17	6

RETURN OF EXPENDITURE ON PUBLIC WORKS—continued.

STREETS.	When Com-menced	Expenditure from 1 July, 1898, to 30 June, 1899.			If Unfinished, amount of Expenditure to 30 June, 1898.		
		£	s.	d.	£	s.	d.
Bungendore, Streets of.....	1897	26	1	9	44	15	6
Centennial Park, James-street .....	1898	26	14	8	26	14	8
Centennial Park, Sutherland-street .....	"	91	5	5	91	5	5
Dubbo, Trangie-street .....	"	169	8	0	169	8	0
East Carlingford, Cambridge-street .....	"	6	6	9	6	6	9
East Carlingford, Chester-street .....	"	15	0	0	15	0	0
East Carlingford, Stanley-street.....	"	5	0	0	5	0	0
Howlong, Sturt-street .....	"	40	12	0	40	12	0
Laurence, High-street .....	"	17	12	0	17	12	0
Millthorpe, Elliot-street .....	"	66	3	4	66	3	4
Pymble, Station-street .....	"	177	15	10	177	15	10
Pymont, Union-street .....	"	85	6	0	85	6	0
Rookwood, East-street.....	"	30	0	0	30	0	0
Rookwood, Joseph-street .....	"	70	0	0	70	0	0
San Souci, Endeavor-street.....	"	30	0	0	30	0	0
St. Ives, Horrace and Stanley Streets .....	1897	20	0	0	59	7	6
White Cliffs, Streets of .....	"	156	10	0	216	15	0
Wyalong, Slee-street .....	1898	9	6	0	9	6	0

CONSTRUCTION AND REPAIR OF BRIDGES		When Com-menced	Expenditure from 1 July, 1898, to 30 June, 1899			If Unfinished, amount of Expenditure to 30 June, 1899			If Fmshed, actual amount of Expenditure		
			£	s.	d.						
Albury	District .....	1898	228	5	11						
Armidale	" .....	"	270	15	0						
Ballina	" .....	"	265	12	8						
Bathurst	" .....	"	278	9	0						
Bega	" .....	"	397	17	1						
Bellingen	" .....	"	160	2	0						
Blayney	" .....	"	107	9	10						
Bombala	" .....	"	315	2	5						
Bourke	" .....	"	895	0	1						
Braidwood	" .....	"	4	8	7						
Campbelltown	" .....	"	37	10	11						
Casino	" .....	"	126	5	9						
Coona	" .....	"	152	7	8						
Coonamble	" .....	"	13	8	0						
Coonabarabran	" .....	"	91	19	11						
Cootamundra	" .....	"	143	5	1						
Cowra	" .....	"	688	2	6						
Crookwell	" .....	"	154	3	4						
Cudgellco	" .....	"									
Deniliquin	" .....	"	70	18	0						
Dubbo	" .....	"	482	6	2						
Forbes	" .....	"	247	12	5						
Glen Innes	" .....	"	252	17	2						
Gosford	" .....	"	87	1	5						
Goulburn	" .....	"	611	1	5						
Grafton	" .....	"	723	13	3						
Hay	" .....	"	1,518	1	0						
Inverell	" .....	"	70	18	7						
Kempsey	" .....	"	403	1	4						
Lithgow	" .....	"	265	17	1						
Lismore	" .....	"	540	18	6						
Maclean	" .....	"	100	2	3						
Maitland	" .....	"	1,735	9	9						
Metropolitan	" .....	"	373	17	0						
Moree	" .....	"	764	5	3						
Moruya	" .....	"	587	0	1						
Moss Vale	" .....	"	375	1	0						
Mudgee	" .....	"	419	7	9						
Murwillumbah	" .....	"	184	11	8						
Muswellbrook	" .....	"	461	0	5						
Newcastle	" .....	"	623	1	4						
Nowra	" .....	"	448	6	8						
Orange	" .....	"	158	10	0						
Parramatta	" .....	"	297	8	2						
Port Macquarie	" .....	"	102	3	5						
Queanbeyan	" .....	"	84	13	2						
Quirindi	" .....	"	152	5	7						
Richmond	" .....	"	122	17	0						
Stroud	" .....	"	65	14	3						
Tamworth	" .....	"	334	19	8						
Taree	" .....	"	376	11	5						
Tenterfield	" .....	"	208	17	0						
Tumut	" .....	"	293	15	1						
Tumberumba	" .....	"	441	7	2						
Wagga Wagga	" .....	"	146	0	8						
Walgett	" .....	"	344	16	6						
Warialda	" .....	"	648	19	8						
Wilcannia	" .....	"	217	8	8						
Wollombi	" .....	"	84	2	0						
Yass	" .....	"	187	3	6						
Young	" .....	"	1,033	8	2						

## RETURN OF EXPENDITURE ON PUBLIC WORKS—continued.

BRIDGES	When commenced.	Expenditure from 1 July, 1898, to 30 June, 1899	If Unfinished, amount of Expenditure to 30 June, 1899.	If Finished, actual amount of Expenditure
Arnold's .....	1897	£ 637 17 0		£ 774 9 10
Anvil Creek .....	1898	16 19 0		16 19 0
Allen's Creek .....	"	489 12 5		489 12 5
Ansteys Creek .....	"	217 10 10		217 10 10
Albury-street, Murrumburrah .....	"	1,267 8 1		1,267 8 1
Burril Lake (Moruya).....	1897	13 2 6		186 4 4
Borambil Creek and approaches... ..	"	26 7 7		368 18 3
Barraba over Manilla River .....	"	47 7 9		49 0 4
Big Hill Flat... ..	"	71 9 10		133 7 10
Bendemeer .....	1898	31 5 5		31 5 5
Brogo River, In approach to .....	"	393 11 10		393 11 10
Blackbird Creek .....	"	250 3 10		250 3 10
Bargo Rayer, Main South Road .....	1896	31 0 0		1,487 3 6
Bega River at Bega ... ..	1897	3,108 9 3		4,724 3 9
Bluff River—Road Glen Innes to Tenterfield ..	"	274 15 9		1,461 6 11
Bong Bong Creek... ..	"	481 3 0		581 3 0
Burton's Creek .....	1898	421 14 11		421 14 11
Byewash, Paroo River at Wanaaring ..	"	2,395 19 5		2,395 19 5
Burrill Creek—Road Burrill Creek to Kimbriki ..	"	503 13 4		503 13 4
Cockwhy Creek .....	"	319 0 10		319 0 10
Crooked Creek ... ..	"	335 17 1		335 17 1
Cunningham's Creek .....	"	10 8 7		10 8 7
Chapel Flat .....	1897	47 14 0		91 14 0
Charcoal Creek, Unanderra .....	"	73 17 9		224 17 9
Commissioner's Creek .....	1898	343 18 6		343 18 6
Cochrane's Creek .....	"	85 5 9		85 5 9
Camden Haven, at Kendall ..	1897	1,048 18 1		1,102 1 10
Collin's Creek .....	1898	158 1 9		158 1 9
Cabramatta Creek .....	"	238 6 4		238 6 4
Cooma Creek, at Bunyan ..	"	496 3 8		496 3 8
Cuttagee Creek .....	"	482 12 8		482 12 8
Denman .....	1897	3,082 1 4		3,707 12 2
Deep Creek, at Edgar's (Oberon to Caves Road) ..	"	361 9 0		431 9 0
Dowes Gully .....	1898	265 4 7		265 4 7
Dundoo Creek .....	"	19 19 11		19 19 11
Dignam's Creek .....	"	5 0 0		5 0 0
Douglas Park Crossing—Footbridge .....	"	19 17 0		19 17 0
Deep Creek (Bega to Nimitybelle) .....	"	436 8 5		4 6 8 5
Deep Creek and Jackson's Waterholes ..	"	461 9 7		461 9 7
Fifty Mile, at Wards .....	"	89 11 6		89 11 6
Forty-three Mile Creek .....	"	69 16 0		69 16 0
Frazer's Creek .....	"	200 18 9		2 0 18 9
Fortis Creek (Grebert's to Solferno) ..	1897	108 19 5		1,124 3 3
Gilmore Creek .....	1898	353 17 7		353 17 7
George's Creek (Kempsey to Jeogh Mountain) ..	"	739 7 7		739 7 7
Hunter River, at Morpeth .....	1895	949 17 2		9,239 11 5
Hunter River, at Glendon .....	1897	1,878 18 7		1,882 2 7
Jembarcumbene .....	"	171 0 10		233 16 10
Jandra Creek .....	1898	458 1 11		458 1 11
Killabakh Creek .....	"	185 0 0		185 0 0
Kenmore .....	"	102 3 7		102 3 7
Kangaroo River (Kangaroo Valley) ..	"	2 13 0		2 13 0
Loddon River .....	"	6 0 0		6 0 0
Leddy's Creek .....	"	152 3 9		152 3 9
Lucke's Creek .....	"	98 12 5		98 12 5
Lansdown River .....	"	86 17 6		86 17 6
Lagoon, near Raynor's .....	"	88 3 0		88 3 0
Lagoon Creek .....	1897	607 1 1		938 2 7
Lower Creek .....	"	765 15 9		2,372 5 9
Mulwala .....	1898	90 14 9		90 14 9
Morton's Creek .....	"	302 19 1		302 19 1
Mororo Creek .....	"	29 0 0		29 0 0
Muggabah Creek .....	"	574 10 0		574 10 0
Mount Terry (Main South Coast Road) ..	"	34 0 0		34 0 0
Murray River, at Albury .....	1897	2,601 2 8		7,104 7 10
Nymboida .....	1898	217 12 4		217 12 4
North Bourke approach .....	1896	249 11 5		357 5 1
Narromine .....	1898	61 5 5		61 5 5
Nattai Creek .....	"	883 7 3		883 7 3
North Bourke .....	1897	209 10 10		2,000 0 0
Ournie Glen .....	1898	169 15 2		169 15 2
Oakey Creek .....	"	485 0 0		485 0 0
Pejar Creek .....	1897	21 14 11		107 11 1
Page's River, at Blandford.....	1896	170 0 11		882 14 4
Parnell's Creek .....	1898	179 16 4		179 16 4
Puckawidgee Creek .....	"	214 14 6		214 14 6
Richter's Mill Creek .....	"	185 5 5		185 5 5
Richmond .....	1897	53 10 3		86 6 3
Reedy Creek.....	1898	53 0 0		53 0 0
Rocky Creek .....	1897	74 19 2		74 19 2
Richmond River at New Park .....	1898	286 12 6		286 12 6
Rocky Creek (Grebert's to Solferno) ..	1897	138 18 11		541 18 11
" (Coast Road to Perrett's) ..	"	506 12 0		541 2 0
Snake's Creek, raising .....	1898	88 12 2		88 12 2
Sullivan's Creek .....	1897	137 2 11		237 8 10

RETURN OF EXPENDITURE ON PUBLIC WORKS—*continued.*

BRIDGES	When Com- menced	Expenditure from 1 July, 1898, to 30 June, 1899			If Unfinished, amount of Expenditure to 30 June, 1899			If Finished, actual amount of Expenditure		
		£	s	d	£	s	d	£	s	d
Sandy Creek	1898	6	14	3	..	..	..	6	14	3
Slatey Creek	"	292	5	6	..	..	..	292	5	6
Stockyard Creek	"	1	6	10	..	..	..	1	6	10
Saucy Creek	"	978	8	2	..	..	..	978	8	2
Stoney Creek, at Coila	"	644	15	3	..	..	..	644	15	3
Towadgi Creek	"	255	13	0	..	..	..	255	13	0
Taylor's Creek (No. 2)	1897	349	11	11	..	..	..	417	11	11
Uiana Creek (Deniliquin to Urama)	1898	753	5	5	..	..	..	753	5	5
Victoria Bridge—Re decking	"	66	13	3	..	..	..	66	13	3
Wollondilly River	1897	22	10	1	..	..	..	55	1	11
Wambook Creek	1898	369	19	2	..	..	..	369	19	2
Wardell Road, over Cook's River	"	884	1	2	..	..	..	884	1	2
Wollomombi River	1897	593	17	2	..	..	..	1,635	0	6
Wecan Creek	"	19	11	2	..	..	..	816	13	0
Willandra Creek	1898	775	11	6	..	..	..	775	11	6
Wheency Creek	1897	279	3	7	..	..	..	367	1	1
Yellow Creek	1898	157	14	2	..	..	..	157	14	2
Bow	"	59	16	4	59	16	4	..	..	..
Brooks	"	169	9	1	169	9	1	..	..	..
Bishop's Creek	"	85	7	4	85	7	4	..	..	..
Bogan River, at Nyngan	"	114	1	6	114	1	6	..	..	..
Bean Tree	"	155	11	1	155	11	1	..	..	..
Belabula River, at Canowindia	"	2	0	0	2	0	0	..	..	..
Branch Creek	"	181	16	6	181	16	6	..	..	..
Bangalee Creek	"	293	0	0	293	0	0	..	..	..
Botany Road—Culverts	"	10	2	9	10	2	9	..	..	..
Becoft and Carlingford, between	"	123	17	5	123	17	5	..	..	..
Burrangong Creek	"	280	11	4	280	11	4	..	..	..
Billabong Creek, Conargo	"	72	10	0	72	10	0	..	..	..
Byron Creek ('Possum Shoot to Brooklett)	1896	105	4	11	417	3	0	..	..	..
Cameron's Creek	1898	6	0	0	6	0	0	..	..	..
Coolac, Jones' Creek	"	13	9	6	13	9	6	..	..	..
Carragatel Creek	"	560	0	0	560	0	0	..	..	..
Cockle Creek	1897	1,184	16	6	1,247	8	10	..	..	..
Cox River	"	886	0	3	1,262	5	11	..	..	..
Cudgegong River, at Rylstone	1898	863	8	3	863	8	3	..	..	..
Chandler River	"	867	14	0	867	14	0	..	..	..
Cowal, at Trangie	"	513	5	5	513	5	5	..	..	..
Deep Creek (Bombala to Nimtybelle)	"	215	15	11	215	15	11	..	..	..
Dyraaba, or Dignam Creek	"	9	16	0	9	16	0	..	..	..
Dimsey's Creek	"	204	6	3	204	6	3	..	..	..
Denman—Bank Protection	"	142	4	8	142	4	8	..	..	..
Dalwood Creek	"	0	15	11	0	15	11	..	..	..
Dunmore, Paterson River	1896	7,156	2	6	7,519	16	1	..	..	..
Dingo Creek, at Cameron's Crossing	1898	0	14	6	0	14	6	..	..	..
Floodvale—Widening	"	30	8	0	30	8	0	..	..	..
Glebe Island—Maintenance	"	267	10	2	267	10	2	..	..	..
Greg Greg	"	190	4	0	190	4	0	..	..	..
Goolma Creek	"	44	0	0	44	0	0	..	..	..
George's River, Liverpool	1897	22	14	4	23	1	10	..	..	..
Goobragandra, near Lac malar	"	21	8	0	25	1	2	..	..	..
Goulburn Railway Station Footbridge	1898	387	9	6	387	9	6	..	..	..
Gundagai	1896	2,858	8	10	14,541	6	11	..	..	..
Hamilton's Gully Creek	1898	20	12	11	20	12	11	..	..	..
Lion Cove—Maintenance	"	747	11	1	747	11	1	..	..	..
Inverloch and Marsden	"	243	15	9	243	15	9	..	..	..
Jones' Creek, at Gundagai	"	124	10	1	124	10	1	..	..	..
Kempsey, Macleay River	1896	12,080	0	8	14,592	1	6	..	..	..
Katoomba, over Railway Lane	1898	12	8	1	12	8	1	..	..	..
Kenilworth	"	15	0	0	15	0	0	..	..	..
Little Bumble Creek	"	114	0	0	114	0	0	..	..	..
Lane Cove—Maintenance	"	82	19	5	82	19	5	..	..	..
Lane Cove, at Head of Navigation	"	6	14	6	6	14	6	..	..	..
Melu River, at Moe	"	2,154	3	4	2,154	3	4	..	..	..
Moiuya	"	426	15	7	426	15	7	..	..	..
Mongalowe	"	53	11	10	53	11	10	..	..	..
Moorhead's Creek	"	199	9	0	199	9	0	..	..	..
Nepean River, at Camden	"	2	10	0	2	10	0	..	..	..
Old School house Gully	"	98	7	0	98	7	0	..	..	..
Paterson River, at Hinton	"	12	3	0	12	3	0	..	..	..
Plumbago Creek	"	672	13	9	672	13	9	..	..	..
Prout's, at Canterbury	"	439	5	4	439	5	4	..	..	..
Pymont—Maintenance	"	1,711	17	7	1,711	17	7	..	..	..
Parramatta—Maintenance	"	277	6	3	277	6	3	..	..	..
Queanbeyan River, at Queanbeyan	1896	3,108	4	9	3,146	15	6	..	..	..
Ryan's Creek—Widening	1898	65	11	11	65	11	11	..	..	..
Stonequarry Creek in Picton	1897	1,739	7	1	1,879	13	9	..	..	..
Store Account—Bridges	1898	849	11	5	849	11	5	..	..	..
" Timber	"	277	7	1	277	7	1	..	..	..
Swan Hill—Maintenance	"	113	4	7	113	4	7	..	..	..
Stonequarry Creek	"	0	2	6	0	2	6	..	..	..
Sawpit Flat (Spring Creek)	"	85	19	9	85	19	9	..	..	..
Sawpit Gully	"	137	2	9	137	2	9	..	..	..

BRIDGES.	When Com- menced.	Expenditure from 1 July, 1898, to 30 June, 1899.			If Unfinished, amount of Expenditure to 30 June, 1899.			If Finished, actual amount of Expenditure.		
		£	s.	d.	£	s.	d.	£	s.	d.
Styx River.....	1897	679	1	6	705	9	4	.....	.....	.....
Spring Creek (Gobarralong to Bongongo) .....	1898	82	11	1	82	11	1	.....	.....	.....
Twoed River, Murwillumbah .....	"	1,224	16	8	1,224	16	8	.....	.....	.....
Tumut River, at Brungle .....	"	1,189	3	1	1,189	3	1	.....	.....	.....
Tarraganda Lane .....	1897	98	5	2	150	7	0	.....	.....	.....
Tapitella Creek .....	"	248	0	0	52	0	0	.....	.....	.....
Tia River .....	1898	6	0	0	6	0	0	.....	.....	.....
Terry's Creek .....	"	1	5	0	1	5	0	.....	.....	.....
Throsby Creek .....	"	105	0	0	105	0	0	.....	.....	.....
Tannery Creek, Culvert .....	"	83	1	9	83	1	9	.....	.....	.....
Wollundilly River, at Rossi Crossing .....	1896	2,241	3	5	2,241	11	3	.....	.....	.....
Whiskey Creek .....	1897	299	6	3	393	6	3	.....	.....	.....
Warrana Creek—Fencing .....	1898	50	0	0	50	0	0	.....	.....	.....
Waterworks at Botany .....	"	40	0	7	40	0	7	.....	.....	.....
Warkworth .....	"	84	19	4	84	19	4	.....	.....	.....
White Rocks, Macquarie Pass—Footbridge.....	"	6	10	0	6	10	0	.....	.....	.....
CULVERTS.										
Fishburn Road .....	"	10	0	0	.....	.....	.....	.....	.....	.....
Howard's Lane.....	"	79	16	0	.....	.....	.....	.....	.....	.....
Kissing Point Road, Turramurra .....	"	5	0	0	.....	.....	.....	.....	.....	.....
Lane Cove Road, Turramurra .....	"	3	0	0	.....	.....	.....	.....	.....	.....
Morpeth to Largs.....	"	29	14	3	.....	.....	.....	.....	.....	.....
Pembroke and Cambridge Roads, Carlingford.....	"	15	10	5	.....	.....	.....	.....	.....	.....
Stewart's River, Upper Camden Haven .....	"	20	0	0	.....	.....	.....	.....	.....	.....
Wyong Station—Drainage .....	"	82	10	9	.....	.....	.....	.....	.....	.....
CAUSEWAY.										
Warrego River Crossing at Mungunyah .....	"	112	18	0	.....	.....	.....	.....	.....	.....
PUNTS.										
Expenses of Punts and Ferries generally.....	"	12,839	0	10	.....	.....	.....	.....	.....	.....
New Hand Ferry Punt, Coraki (Richmond River), Adams-st.	"	10	0	0	.....	.....	.....	403	14	0
New Steam-punt, George's River .....	1897	129	9	4	.....	.....	.....	3,040	19	4
Ryde Punt Landings and Approach .....	"	98	2	6	.....	.....	.....	729	14	9
SUNDRIES.										
Apsley River—Improvements .....	1898	570	0	0	.....	.....	.....	.....	.....	.....
Adams v. Young—Expenses incurred in Privy Council Appeal	"	195	18	11	.....	.....	.....	.....	.....	.....
Brown v. Young—Verdict, Interest, and Costs re accident in Bergalia Creek Bridge.	"	2,352	18	6	.....	.....	.....	.....	.....	.....
Compensation to John Jackson .....	"	80	0	0	.....	.....	.....	.....	.....	.....
Extension of Minor Roads into Municipalities, as per State- ment attached.	"	8,734	7	6	.....	.....	.....	.....	.....	.....
Government Stores, Centennial Park .....	"	3	3	5	.....	.....	.....	.....	.....	.....
Gratuity to Richard Tierney .....	"	180	0	0	.....	.....	.....	.....	.....	.....
Gratuity to James Gallagher .....	"	97	0	0	.....	.....	.....	.....	.....	.....
Incidental Expenses.....	"	1,118	10	6	.....	.....	.....	.....	.....	.....
New Steam Launches for Clarence and Hunter Rivers .....	"	1,199	0	0	.....	.....	.....	.....	.....	.....
Road Rollers.....	"	550	0	0	.....	.....	.....	.....	.....	.....
Re-laying Wood Blocks, King-street, Newtown .....	1897	6,431	16	11	.....	.....	.....	8,266	1	2
Salaries, Equipment, Travelling Allowances, &c.....	1898	59,829	12	2	.....	.....	.....	.....	.....	.....
Services for other Departments .....	"	1,500	18	9	.....	.....	.....	.....	.....	.....
Waller v. Young—Expenses incurred in Privy Council Appeal	"	204	7	10	.....	.....	.....	.....	.....	.....
Total .....	.....	645,569	5	3	7,836,064	8	8	80,181	2	0

## SUMMARY OF EXPENDITURE FROM 1 JULY, 1898, TO 30 JUNE, 1899:—

	£	s.	d.
Loans.....	79,259	1	7
Consolidated Revenue .....	565,009	4	11
Services for other Departments .....	1,500	18	9
Total.....	645,569	5	3



ROADS AND BRIDGES EXPENDITURE.

Year.	Expenditure by Officers of Department.		Expenditure by Trustees.		Expenditure by Municipalities.		Total.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.
1857	100,000	0 0	.....	.....	.....	.....	100,000	0 0*
1858	.....	.....	.....	.....	.....	.....	.....	.....
1859	46,621	16 10	.....	.....	.....	.....	46,621	16 10
1860	114,585	18 5	.....	.....	.....	.....	114,585	18 5
1861	199,208	6 10	.....	.....	.....	.....	199,208	6 10
1862	85,641	4 0	50,000	0 0	.....	.....	135,641	4 0
1863	154,497	7 4	70,000	0 0	.....	.....	224,497	7 4
1864	185,248	3 11	70,000	0 0	.....	.....	255,248	3 11
1865	123,867	4 0	30,822	0 0	.....	.....	154,689	4 0
1866	109,075	12 8	39,731	0 0	.....	.....	148,806	12 8
1867	147,750	14 6	38,667	0 0	.....	.....	186,417	14 6
1868	140,086	10 4	36,923	0 0	.....	.....	177,009	10 4
1869	152,323	5 0	40,802	0 0	.....	.....	193,125	5 0
1870	141,803	2 4	40,336	0 0	.....	.....	182,199	2 4
1871	182,726	11 0	40,501	0 0	.....	.....	223,227	11 0
1872	144,257	5 6	34,728	0 0	.....	.....	178,985	5 6
1873	247,858	9 0	36,098	0 0	.....	.....	283,956	9 0
1874	257,366	5 8	41,524	0 0	.....	.....	298,890	5 8
1875	356,002	10 0	45,564	0 0	.....	.....	401,566	10 0
1876	366,802	14 0	37,153	0 0	.....	.....	403,955	14 0
1877	413,625	4 8	51,550	0 0	.....	.....	465,175	4 8
1878	497,032	17 5	24,280	0 0	.....	.....	521,312	17 5
1879	649,773	11 5	25,428	0 0	.....	.....	675,201	11 5
1880	614,708	11 3	28,800	0 0	.....	.....	643,508	11 3
1881	484,567	2 8	23,186	0 0	.....	.....	507,753	2 8
1882	577,212	4 1	24,722	0 0	.....	.....	601,934	4 1
1883	613,847	1 6	21,938	0 0	.....	.....	638,785	1 6
1884	750,584	1 10	27,722	0 0	.....	.....	778,306	1 10
1885	800,962	5 11	24,404	0 0	.....	.....	825,366	5 11
1886	628,379	4 5	28,414	0 4	.....	.....	656,793	4 9
1887	721,993	16 6	45,433	1 3	.....	.....	767,426	17 9
1888	663,928	14 10	31,503	0 0	.....	.....	695,431	14 10
1889	632,397	10 11	31,361	0 0	.....	.....	663,758	10 11
1890	770,808	18 10	34,500	0 0	.....	.....	805,308	18 10
1891	965,687	14 11	31,990	0 0	.....	.....	997,677	14 11
1892	859,027	13 11	30,605	0 0	.....	.....	889,632	13 11
1893	676,233	1 8	30,330	0 0	.....	.....	706,563	1 8
1894 to 30 June, 1895 (18 months)	800,620	2 9	30,034	0 0	.....	.....	830,654	2 9
1895-6	729,544	15 10	19,285	0 0	27,570	11 11	776,400	7 9
1896-7	588,910	7 1	9,910	1 10	77,389	10 3	676,209	19 2
1897-8	587,690	17 9	10,600	17 10	17,805	19 8	616,097	15 3
1898-9	616,087	5 2	8,710	6 8	20,771	13 5	645,569	5 3
Grand total ..	£ 17,899,406	6 8	1,250,555	7 11	143,537	15 3	19,293,499	9 10

\* Approximate.

STATEMENT of Loans and Revenue Expenditure from year 1888.

Year.	Loans		Revenue		Services for other Departments.		Total.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.
1888	8,656	4 10	686,775	10 0	.....	.....	695,431	14 10
1889	5,597	9 11	658,161	1 0	.....	.....	663,758	10 11
1890	21,970	10 10	783,338	8 0	.....	.....	805,308	18 10
1891	67,349	4 11	930,328	10 0	.....	.....	997,677	14 11
1892	82,327	5 8	807,305	8 3	.....	.....	889,632	13 11
1893	56,266	19 9	650,296	1 11	.....	.....	706,563	1 8
1894 to 30 June, 1895 (18 months)	33,061	13 3	797,592	9 6	.....	.....	830,654	2 9
1895-6	38,575	9 2	737,824	18 7	.....	.....	776,400	7 9
1896-7	54,261	1 11	620,180	2 10	1,768	14 5	676,209	19 2
1897-8	60,567	17 8	554,956	16 4	573	1 3	616,097	15 3
1898-9	79,059	1 7	565,009	4 11	1,500	18 9	645,569	5 3
Grand total ..	£ 507,692	19 6	7,791,768	11 4	3,842	14 5	8,303,304	5 3

## Sewerage Construction.

### XII.

#### Report of the Engineer-in-Chief for Sewerage Construction for the Year ending 30 June, 1899.

Department of Public Works, Sewerage Construction Branch, Sydney, 30 August, 1899.

Sir,

I have the honor to submit the following report of the operations of this Branch during the year ending 30 June, 1899.

I have classified my report as follows:—

1. Transfer of Works to the Water and Sewerage Board.
2. High-level Sewerage.
3. Low-level Sewerage.
4. Stormwater Channels.
5. Drainage of Country Towns.
6. Detail Survey of Cities, Towns, and Suburbs.
7. Summary of Work Executed in the Drawing Office.

#### 1. TRANSFER OF WORKS TO THE WATER AND SEWERAGE BOARD.

During the year the following works have been gazetted as completed and transferred to the Water and Sewerage Board, viz.,—

1. 3rd Division of the Northern Branch Western Suburbs Sewerage, commencing at the junction of Regent and Flood Streets, Leichhardt, and terminating in Glover-street, comprising 89½ chains of 3 ft. 3 in. by 2 ft. 2 in. sewer, and 2 chains of cast-iron pipes 18 in. diameter.
2. Long Cove Creek sub-branch of the Main Northern Branch Sewer, commencing at Dover-street, Summer Hill, and crossing the suburban railway near Summer Hill Station, extends in a southerly direction to Long Cove Creek, thence, running parallel to that creek, terminates in Piggott-street, Petersham. It contains 10 chains of 3 ft. 6 in. by 2 ft. 4 in. concrete and brickwork sewer; 5½ chains of 3 ft. 3 in. by 2 ft. 2 in. concrete sewer; 21 chains of 21 inch diameter "Monier" and stoneware pipes, including concrete curves; 7 chains of 16 inch diameter "Monier" and stoneware pipes, including concrete curves; and 4½ chains of 12 inch stoneware pipes, including concrete curves.
3. Low-level Sewer, known as the Homebush Creek Branch, commencing at a point close to Allan and George Streets, Concord, and extending in a southerly direction across the Parramatta-road to the junction with existing stormwater channel close to the railway line.
4. Balmain South-eastern Slopes Branch of the Northern Main Sewer, commencing at Denison-street, Balmain, and extending in a north-easterly direction to Stephen-street, together with sub-branches at Weston and Victoria Streets, Reynolds-street, Rosser-street, Palmer-street, Curtis-road, Stephen-street, and Darling-street, comprising 182 chains of 3 ft. 3 in. by 2 ft. 2 in. sewer, and 11¼ chains of 9 inch pipe sewer.
5. The whole of the works connected with the sewerage of the low-lying areas of Double Bay, including all stoneware and cast-iron pipes, ejector stations, collecting chambers, shafts, manholes, lamp holes, flushing chambers, ventilating tubes, &c.; also all the land, buildings, machinery, storage battery, switchboards, electric motors, &c., connected with the air-compressing plant.
6. Euroka Creek Stormwater Channel, commencing in Lavender Crescent, North Sydney, at the existing stormwater channel under the railway embankment and extending in a north-easterly direction to a point about 1 chain from the centre of Riley-street, consisting of about 18 chains of 2 feet 6 inches diameter circular channel.
7. Careening Cove Stormwater Channel, commencing near the western building line of Denison-street, North Sydney, and extending in a north-westerly direction to Miller-street, a distance of about 5 chains. The work includes an alteration to existing channel in Miller-street for 1½ chains, and the construction of a stormwater channel from the western side of Miller-street in a north-westerly direction to the centre of the footpath on the southern side of Berry-street, a distance of about 6 chains.

#### 2. HIGH-LEVEL SEWERAGE.

##### *Northern Branch Western Suburbs Sewerage.*

The whole of the Main Northern Branch Sewer has been completed, commencing at the Illawarra-road, Marrickville, and extending northerly through Marrickville, Petersham, and Leichhardt, to Leichhardt Park on the eastern side of Long Cove. A branch leaves the main line at Frazer's-road, runs under the railway a little west of Lewisham Station, and is carried across Long Cove Creek on a steel aqueduct 280 feet in length, terminating in Sloane-street.

A sub-branch runs up the Long Cove Creek Valley as far as Piggott-street. Both these branches have been completed, and the latter length has been transferred to the Board.

*Western*

*Western Branch Western Suburbs Sewerage.*

The first, second, and third divisions of the Main Western Branch from Premier-street, Marrickville to Brand-street, Croydon, a distance of 5 miles 19 chains, have been completed.

The fourth division of this sewer which intercepts the sewage of Burwood, Strathfield, and Homebush, and parts of Ashfield and Concord, is now in course of construction. The total length of this division is  $2\frac{3}{4}$  miles, a mile of which is in open trench, and the remainder in tunnel through shale formation.

*Northern Main Sewer (Bondi Outlet).*

Both branches of the Northern Main Sewer which drain respectively the north-western and the south-eastern slopes of the Municipality of Balmain have been completed during the year.

*Waverley and Bondi Eastern Slopes.*

Operations are well advanced in the construction of the sewer which intercepts the sewage from the seaward slopes of Waverley and Bondi. About  $7\frac{1}{2}$  chains of the Bondi end which has been pushed on in advance of the remainder to allow of the reticulation of the area between Old South Head Road and Bondi-road being connected, have been completed.

About 10 chains of very bad ground have been met with near the Bondi end, and extra heavy timbering had to be employed to protect the sewer from the shifting sand, and in addition thereto, in a portion of the length, cast-iron pipes had to be substituted for the ordinary concrete sewer. With the exception of this portion the tunnels have been lined as far as Fletcher's Glen, and driving has been finished in the remaining tunnel within 2 chains of Bronte Creek.

*Randwick and Kensington.*

## 1st Division.

With the exception of shafts at 58'81 chains and 71'27 chains, the construction of this sewer from the present outfall at Coogee to the junction of Avoca and Howard Streets has been completed, and in about two months' time this section will be ready for carrying sewage from the Borough of Randwick.

## 2nd Division.

During the year drawings have been prepared and a contract let for an extension westerly to the Bunnerong-road, then following the centre of that road till the racecourse is reached. From this point the sewer skirts the western boundary of the racecourse and finishes in Alison-road, near the entrance gates.

It will provide an outlet for the sewage from part of the western slopes of Randwick, the Randwick racecourse buildings, and the Kensington township. The first 2 miles will be in tunnel through rock and sand, constructed of brick and concrete, varying in size from 4 ft. 6 in. by 3 ft. 6 in. to 3 ft. 3 in. by 2 ft. 2 in., the remaining quarter mile will consist of 21 and 18 in. pipes in open trench.

*North Sydney Outfall Works.*

The whole of the extensive works which have been under construction at Willoughby Bay, Middle Harbour, for some time past, to treat the sewage from the municipalities of North Sydney, South Willoughby, and Mosman, have been completed and are now in active operation. Briefly stated, the process in operation is as follows:—After the sewage has passed through screens to remove the larger floating bodies, which are afterwards burnt it is treated with lime to facilitate precipitation of the suspended matters in the settling tanks.

After settlement has taken place the clearer liquid flows over a weir situated at and forming the ends of the tanks into an effluent channel which conveys it to filter beds, where it is purified by oxidation and bacterial agencies, and eventually finds its way to the tidal waters as a harmless effluent. The solids on the other hand are deposited as sludge in the tanks, which is drawn off and reduced to sludge-cake by forcing the liquid sludge through filter presses, and the cake is then burnt in destructor furnaces. Sufficient land was resumed to enable the tanks and other works to be erected. This, with the portion reclaimed for filtration, area amounts to about 13 acres. The reclaimed portion—about 8 acres—was filled in with sand and formed into eight filter beds. The treatment works, containing the straining chamber, air-compressing engines, filter presses, sludge receivers, and lime-mixing apparatus, are situated at the southern end of the resumption. Adjoining are five large settling tanks and a sludge reservoir. The open effluent channel conveying the effluent floated off from the tanks runs round two sides of the latter and passes along the sides of the filter beds, distributing its effluent through offset valves and troughing as required. A stormwater channel has been built to conduct the waters of Willoughby Falls Creek through the reclamation to the tidal waters.

The channel is also available as an overflow for the main sewage conduit near the tanks.

The filter beds are protected on the harbour frontage by a rubble dyke, and a jetty has been provided for the purposes of the works. The air-compressing plant consists of a Tangye horizontal steam engine (type "H"), which drives a horizontal double acting air compressor.

On 6 June last tests were made of the machinery. Indicator diagrams were taken of the compressor and engine under varying conditions, viz.:—(1) Full load, driving compressor, and lime mixer; (2) light load, engine driving lime-mixers and shafting only. In each case a constant pressure of 80 lb. per square inch was maintained in the receiver, and a steam pressure of 80 lb. per square inch on the boiler, with a consumption of half a ton of slack coal in ten hours.

The works will be shortly transferred to the Board.

*Willoughby and Chatswood Sewerage.*

A contract was let early in February last, and the construction of the works is now in active operation. The decision regarding the method of sewage treatment was held over pending the result of experiments to be made with septic tanks at Rookwood Asylum, which, as will be seen on reference to another paragraph, are now nearing completion. It has now been definitely decided to adopt the septic tank

tank system in connection with this scheme, and a site has been fixed at the eastern side of Warrane Road, near its intersection with the main creek which empties itself into the north arm of Sugarloaf Bay, Middle Harbour.

The tanks will be capable of dealing with the sewage from a population of 6,000, but are laid out in such a way that they can be enlarged from time to time as the population increases, until the maximum number of 26,780 has been reached.

The scheme now under consideration embraces a main outfall sewer and reticulation sewers.

Satisfactory progress has been made since the commencement of the works in February last, and up to the present time 3 miles 27 chains of pipes have been laid. It is confidently expected that the whole of the outfall sewer and reticulation will be completed by February next.

#### *Neutral Bay and Mosman Sewerage.*

The first division of this sewer has been let, and it is expected will be completed within three months.

Drawings have been prepared, and the contract let for the second division of this sewer. It consists of about 38 chains of 3 ft. 3 in. by 2 ft. 2 in. brick and concrete sewer, and 36 chains of 2 ft. 5 in. by 1 ft. 9 in. oviform "Monier" pipes. At the head of Shell Cove Creek an aqueduct will be constructed of 24-inch steel pipes and masonry abutments.

Drawings have been prepared and tenders will shortly be invited for the construction of an aqueduct to connect the second and third divisions of this sewer where it crosses the tidal waters at the head of Mosman's Bay.

Plans have been prepared, and the contract is ready for calling tenders for the third division of this sewer which will drain the remaining portion of the southern slope of the township of Mosman.

#### *South Willoughby Sewerage.*

Good progress has been made with the sewer which is now being constructed to convey the sewage of South Willoughby to the North Sydney Outfall Works. Two drives have been broken through, and tunnelling is proceeding in the other drives.

Owing to the very hard ground met with, the great depths of the shafts, and the unusual lengths of the drives amounting in some cases to 14½ chains, several months must elapse before the works will be completed.

#### *Middle Harbour Slopes.*

Owing to the rapid increase of settlement on the Middle Harbour Slopes of North Sydney and Mosman it has been decided to push on with the intercepting sewer to drain this locality. Surveys have been completed, and plans are now being prepared for the first section which will discharge into the Willoughby outfall works, and extend thence in an easterly direction for about 30 chains.

It has been deemed inadvisable to construct the sewer beyond this point at present, as, owing to the sparse character of the settlement, the maximum rate of 1s. in the £ would not be sufficient to pay working expenses.

#### *Manly Sewerage.*

With the exception of a few extensions which have been rendered necessary to serve houses erected since the original design was prepared, and to lessen the cost of connection to ratepayers, the reticulation and other sewers have been completed and are now ready for carrying sewage.

#### *Quarantine Ground Sewerage.*

Plans have been prepared and a contract let for an outfall sewer discharging into the ocean at the "Old Man's Hat," Inner North Head, tunnelling under the hill which rises between the buildings and the ocean and connecting with branch pipe lines to intercept the sewage from the first and second-class quarters and the hospital grounds.

#### *Rookwood Asylum Sewerage.*

Up to the present time the earth-pan system has been in vogue at the asylum, the liquid sewage being carried through pipes to irrigation beds near the buildings. The increase in the number of inmates from 790 to 1,200, and the intended further increase to 1,500, have rendered improved sanitary arrangements necessary, and a proper system of pipe sewers is being constructed leading to "disposal" works situated in the asylum grounds, a little more than a quarter of a mile from the buildings, and in the direction of the Necropolis Railway Station. The works consist chiefly of a new form of tank, known as the "septic" tank, and coke filters, the process of treatment being as follows:—The sewage is first passed through wire screens and then into a silt pit where any heavy matter is deposited. From the silt pit the sewage flows under sunken weirs into the "septic" tank. Air and light are excluded from this tank and the sewage will travel so slowly as to remain in it twenty-four hours, during which period it is subjected to the attacks of micro-organisms whose growth is favoured by the condition in the tank.

The septic tanks are in duplicate, one only being used at a time. The effluent passes over a cascade of concrete steps and then into iron troughs and into a distributing pipe from which automatically-controlled valves connect with the three filter tanks.

In the filter tanks the destruction of all organic matter in the sewage takes place. On leaving the filters the purified effluent passes into a pipe drain running along East-street, and discharges into the Parramatta River.

These works are almost completed and are expected to be in operation by the end of August.

#### *Plymouth Sewerage.*

The sewer is completed and will shortly be handed over to the Water and Sewerage Board.

#### *Illawarra Suburbs.*

The preparation of a gravitation scheme, including main and reticulation sewers, to discharge on to the sewage farm at Botany, is being proceeded with, and is now almost complete.

### 3. LOW-LEVEL SEWERAGE.

Special attention has again been given to the sewerage of the low-level areas.

Tenders were invited in England and the Colonies for the supply and erection of twenty electric motor pumping sets in duplicate, to lift the sewage to the gravitation sewers, and the tender of a local firm was accepted. Orders were also placed with a Colonial firm for the casting of the iron cylinders which will receive the pumping machinery in situations where the nature of the ground prevents the construction of a concrete chamber.

Drawings and specifications have been prepared for the necessary cables to convey the current from the Tramway Power Station at Darling Harbour and Rushcutter's Bay to the different pumping stations, also for the switch-boards, signalling apparatus, and other accessories.

The following localities have been dealt with during the year:—

#### *Marrickville.*

The main lines from the pumping station towards Erskineville, with all pipe branches, are now practically complete, and the remaining lines running through the flats towards Cook's River are approaching completion.

The engine-house is in course of construction, and will be completed in about three months. The engine-beds have also been built, the two boilers placed in position and partially built in.

A contract was let for a 22½-inch diameter steel rising main, which has been laid, and through which the sewage will be lifted to the Western Outfall Sewer, thence gravitating to the Sewage Farm at Botany.

#### *Wentworth Park and Glebe.*

A tender has been accepted for the sewerage of the low-lying areas of Wentworth Park and part of the Glebe.

#### *Balmain, Annandale, and Leichhardt.*

A contract was let in August last for the low-level sewerage of Balmain, Annandale, and Leichhardt. Four sites were selected along the south-eastern shores of Balmain for collecting the sewage viz.—at Stephen-street, Easton Park, Reynolds-street, and Mullins-street. In the two former cases the machinery chambers have been constructed of concrete, and in the latter of oval cast-iron cylinders. The tunnel under the hill from Stephen-street to Looke's Avenue, and the branch tunnel under the School of Arts to Cooper-street, have been driven, and the lining is well in hand. With the exception of the rising mains, about one-third of the remaining portion of the work remains to be completed.

Three additional pumping sites have been selected, viz.—At White's Creek, near Brennan-street; Johnstone's Creek, near the tramway crossing; and on land to be resumed at the junction of Orphan School Creek and Johnstone's Creek.

The necessary intercepting sewers have been laid out and plans are in preparation. On the completion of these works the whole of the low-lying areas along the foreshores from Waterview Bay to Johnstone's Creek will have been provided for.

#### *Woolloomooloo and Botanical Gardens.*

The construction of the low-level sewerage works of Woolloomooloo is now nearing completion. Pipes have been laid intercepting all sewage from the existing sewers, which, being of substantial construction, will remain as stormwater carriers only. A cast-iron caisson has been sunk in Forbes-street to receive the pumping machinery.

The tunnel intercepting the sewage from the Botanical Gardens has been completed, and is ready for connecting to the pumping station in Forbes-street.

#### *Double Bay Low-level.*

A scheme known as the "Shone" system has been adopted for the low-lying areas of Double Bay. For the purposes of the scheme, the area was divided into four sub-areas, each having an ejector station and collecting well, into which the gravitation sewers discharge.

At each station the Shone hydro-pneumatic ejectors are in duplicate, one ejector being ample to deal with the maximum sewage flow, while the pair working together are capable of discharging the maximum flow of rainfall and sewage. The ejectors are driven by compressed air, and their duty is to lift the sewage from the collecting wells, through delivery mains, into the Darling Point branch of the Bondi main sewer. A substantial one-storied building, of brick with sandstone facings and tiled roof, has been erected near Swamp-street off Bay-street, enclosing the air-compressing plant, which consists of two Parker continuous shunt wound motors, actuating two air compressors. By arrangement with the Railway Commissioners the electrical energy is supplied through 19/16 cable from the Power-house at Rushcutter's Bay. A storage battery of 230 Epstein cells has been installed, a primary duty of which is to run the plant at night when the energy from the tramway plant is not available.

The whole of the works has been completed, and on February last tests were made of the efficiency of the plant under normal conditions, with one air compressor and all the ejectors working. The results obtained were considered highly satisfactory.

#### *Darling Harbour.*

Tenders will shortly be invited for the low-level sewerage of the western side of Darling Harbour. A piece of land has been resumed at Pymont-street, opposite the Tramway Power-house now in course of erection, sufficient to contain the pumping plant, controlling station, and accessory buildings. Intercepting sewers have been designed along Pymont-street as far as Allen-street, and under the railway sidings to the old silt pit in Lackey-street. The old sewer will be widened at this point, and tidal flaps will be built in, controlled by automatic hydraulic valves to restrict the interception to maximum dry weather flow only.

It has been found impracticable to bring the sewage from the area north of Allen-street to this pumping station, and another set of pumps will be erected in the vicinity of Alma-street to deal with that area.

The survey of the scheme dealing with the City side of Darling Harbour, though much hampered by the heavy traffic in the neighbourhood, has been completed, and plans are now being prepared. The area will be served by three pumping stations fixed at suitable positions along the foreshore.

*Rushcutter's*

*Rushcutters' Bay.*

A scheme has been devised for Rushcutters' Bay low levels, and plans are almost completed. Two pumping stations will be erected, one near the north-eastern corner of the Tramway Power-house, and the other near the reserve adjoining Ithaca Road, Elizabeth Bay. Electric energy supplied from the Tramway Power-house at Rushcutters' Bay will be used in actuating the pumps.

*Homebush Creek.*

About 43 chains of 12-inch pipes have been laid along Powell's Creek, Homebush, from the outlet end of the present storm-water channel to a point near Allen-street, to carry off the sewage matter or dry weather flow discharged by the channel into the creek near the Railway Bridge.

Plans for a further extension of 10 chains have been completed, which will take the outlet to the limit of tidal waters.

It is intended that these pipes shall form part of a future low level system for the locality.

## 4. STORMWATER CHANNELS.

*Long Cove Creek.*

A branch known as the Daniel-street Branch of the Long Cove Creek Storm-water Channel has been constructed from the end of existing work to an outlet into the main canal, containing about 6 chains in length of concrete channel pitched at the outlet. For the purposes of the traffic, a covering has been thrown across the main channel at Fred-street and Davis-street, Petersham, built of steel girders and concrete jack arches.

*Bay-street.*

A contract was let in December, 1898, for a storm-water sewer which will serve the purpose of an overflow for the George-street main sewer, and a relief for the present drains in the neighbourhood of Wentworth Park which are inadequate to carry off the flood-waters of an exceptional rainfall. With the exception of about 5 chains of tunnel lining and the building of the outlet, the main line has been completed. The Mitchell-lane Branch has been constructed with the exception of about 6 chains.

An extension of Johnston's Creek storm-water channel is being constructed up the valley on the north side of the suburban railway, finishing at Bruce-street a few chains west of Stanmore Station. Being along streets, the channel will be covered throughout.

*White's Creek.*

The White's Creek Channel is now completed from Rozelle Bay as far as Booth-street.

The channel tapers to 8 feet in width at the Booth-street end, which has been built on land resumed for the purpose, the remainder being chiefly on land reclaimed by the Government at the head of Rozelle Bay. A branch 12 chains long and 10 ft. by 4 ft. in dimensions leaves the main channel near Brennan-street, and finishes at Catherine-street, and is practically completed.

A tender has been accepted for a 9 ft. by 4 ft. channel through the Rozelle reclamation connecting Easton Park Storm-water Channel with the waters of Rozelle Bay.

An extension of the Careening Cove Storm-water Channel in the Municipality of North Sydney has been carried out from Denison-street to Berry-street.

*Necropolis.*

Provision has been made for the storm-water drainage of the new portion of the Necropolis at Rookwood by the construction of a brick and concrete channel half a mile in length, emptying itself into the creek near the railway culvert. Adjacent to the channel a line of pipes has been laid to intercept the drainage from the graves.

*Botany Storm-water Channel.*

Surveys have been made to estimate the cost of a concrete channel to improve the present unhealthy state of the creek discharging into Botany Bay near the engine pond.

*Shea's Creek Storm-water Channel.*

An extension of Shea's Creek Storm-water Channel from the present termination at McEvoy-street to Botany Road is now being surveyed and estimates prepared.

*Johnston's Creek.*

An extension of the Johnston's Creek Storm-water Channel from Booth-street to Parramatta Road has been carried out. Owing to the removal of the Booth-street overhead bridge, and the substitution of an embankment, it was found necessary to cover the channel at that point. The contract included the laying of portion of the low-level pipe sewers of that locality which cross the line of channel.

*Marrickville Valley.*

With the object of mitigating the floods which inundate the Marrickville Valley during heavy rains, and thus indirectly preventing the low-level sewerage pumps, now approaching completion at Meeks'-road, from being overtaxed by an excess of flood-waters, a catchment channel has been designed and surveyed which will discharge into Cook's River near Unwin's Bridge, and thence takes a northerly course approximately parallel to the Illawarra railway, finally bending round the head of the valley and terminating in Victoria-road.

## 5. DRAINING OF COUNTRY TOWNS.

*Newcastle.*

The report on the scheme for dealing with the sewage of Newcastle and the suburbs as far west as Lambton and Waratah has been completed during the year, and copies, with plans, forwarded to the Hunter District Water and Sewerage Board, and to the various Municipal Councils, with a request that they should consider the financial aspect of the question, and report to the Minister.

It was proposed to deal first with the city of Newcastle, Merewether, the greater part of Hamilton, and a part of Wickham.

The

The estimate of cost for dealing with this area, including reticulation, was £75,308 12s. 6d. This was based on the assumption that the sewage could be turned into the ocean without treatment other than screening. As, however, it is possible that some further treatment might become necessary, in order to avoid pollution of the foreshore, precipitation works were designed, the cost of which would bring up the estimated capital outlay to £89,130 2s. 10d. The estimated rate necessary to cover interest (and repayment in 100 years) together with working expenses is, without precipitation works, 6½d. in the £, or with them, 9d. in the £.

At the request of the authorities interested, additional estimates have since been prepared to cover cost of including the whole of the municipalities of Hamilton, Wickham, and Carrington. As these additional areas are almost wholly below the gravitation zone, pumping would have to be resorted to, involving the construction of five pumping stations. The total extra capital cost is estimated at £36,961.

Some of the councils concerned have passed resolutions approving of the submission of the scheme to the Public Works Committee; but no recommendation has yet been made by the Newcastle Council or the Hunter District Water and Sewerage Board.

#### *Cottage Creek.*

A westerly extension of the Hannel-street branch drain, in open concrete channel about 18 chains long, has been constructed during the year.

#### *Newcastle Pasturage Reserve.*

The drainage of the Newcastle Pasturage Reserve has been completed, and the results are highly satisfactory. The work was of a very extensive character, the main drainage canal and two most important branches having a total length of 4 miles 57 chains; the width would average about 40 feet, the lower portion of the main canal being 110 feet wide. For a length of 1 mile 33 chains it was found necessary to protect the banks by fascine work, and also to construct at frequent intervals masonry water-cushion drops to reduce the velocity of the flow. In order to carry the railway and tramway traffic across these canals, several bridges of steel and timber have had to be constructed. The work has been the means of successfully draining 7,782 acres of land that was previously little better than a swamp.

#### *Jenolan Caves.*

Provision has been made for the drainage of the Caves House and adjoining buildings, by a sewer constructed of earthenware pipes from the stables to the bridge near the entrance to the Imperial Caves; from this point the sewage gravitates through steel pipes fixed to the present turbine pipes, as far as the Power-house, and carried thence across the gullies on steel trusses to an outfall into the creek some distance below the bathing-hole. The work, which was carried out by day-labour, also included the fixing of a hydraulic ram to supply water to the caretaker's residence.

#### *Dungog.*

Tenders have been called for the construction of a concrete channel from McKay-street along present bed of creek for about 24 chains, to relieve the present insanitary condition of the watercourse.

#### *Narrandera.*

Tenders have been accepted for the construction of a 9-inch pipe sewer discharging into filter tanks, to be erected near the creek, to dispose of the liquid sewage at present flowing into the river from the township. Plans for a further extension are now in hand.

#### *Wallsend.*

A concrete storm-water channel has been designed and is now being constructed by day-labour through Wallsend Park to the existing concrete channel near the Co-operative Company's railway.

#### *Orange.*

Tenders have been called for a further length of 14 chains of concrete channel, to be constructed from the existing channel in Kite-street to the cricket ground.

#### *Liverpool.*

A scheme has been prepared for the sewerage of Liverpool by means of a main outfall and reticulation sewers discharging on to a filtration area of 3 acres, situated on the left bank of George's River, about ¾ of a mile below the dam.

#### *Parkes.*

Surveys and estimates have been prepared of alternative designs for a storm-water channel, or pipe-sewers with filter tanks, with the object of improving the present insanitary condition of the township of Parkes.

#### *Camden.*

A sewage farm on the banks of the Nepean River with outfall and reticulation sewers has been designed and reported upon for the township of Camden.

#### *Campbelltown.*

Plans were prepared for a pipe-drain from the culvert under the Main Southern Railway along Dumaresque-street to Sydney-road, near Campbelltown platform.

#### *Mulwala.*

A plan was prepared for a small channel to deal with the storm waters flowing through the township.

### 6. DETAIL SURVEY OF CITIES, TOWNS, AND SUBURBS.

#### *Sydney and Suburbs.*

The Detail Survey of the municipality of Willoughby is now nearly completed as far as the locality embraced by the sewerage works now under construction.

Active progress has been made during the year with the Detail Survey of the Illawarra suburbs, special attention having been given to the area affected by the proposed scheme of sewerage.

The

The appointment of additional draftsmen to reduce the arrears of plan-drawing having been made, the extra staff has enabled the current work to be kept well in hand, and reduce to some extent the arrears that had accumulated.

Applications for copies of the detail sheets have increased considerably during the year.

#### 7. SUMMARY OF WORK EXECUTED IN THE DRAWING OFFICE.

During the year drawings were made for 39 contracts, for which 163 drawings and 1,695 heliographs were prepared.

The value of the work designed amounted to £307,414. In addition to this, drawings for work valued at £44,600 are now in progress.

Sixty-seven sheets of the Detail Survey of Sydney and suburbs were drawn containing an aggregate of 877 tenements; 7 sheets were revised, and 71 tracings drawn for heliography.

Nine hundred and ninety-seven helios of the Detail Survey, and 334 helios of miscellaneous sewerage drawings were prepared and issued to the Water Supply and Sewerage Board, other Government departments, and for office use.

Thirty-six resumption and easement plans, and 44 miscellaneous drawings were made, and 181 plans mounted.

J. DAVIS,  
Engineer-in-Chief for Sewerage Construction.

### XIII.

#### RETURN of Expenditure on Public Works by Sewerage Construction Branch from 1 July, 1898, to 30 June, 1899.

Work.	Whether constructing or under repair.	When commenced	Expenditure from 1 July, 1898, to 30 June, 1899.			If unfinished, amount of expenditure to 30 June, 1899			If finished, actual amount of expenditure.		
			£	s.	d.	£	s.	d.	£	s.	d.
Bondi and Waverley Sea Slopes .....	C	1895	6,354	4	4	10,000	0	0	.....	.....	.....
Bay-street Overflow Sewer .....		1894	5,551	18	6	5,799	10	4	.....	.....	.....
Brickfield Creek, Parramatta, Storm-water Channel .....		1895	42	7	11	2,857	7	5	.....	.....	.....
Branch Drains, New Lambton, Lambton, Adamstown, and Hamilton .....		1896	5,892	8	10	14,415	9	5	.....	.....	.....
Branch Sewer draining parts of Waverley and Randwick .....		"	7,174	6	4	15,228	5	11	.....	.....	.....
Brennan-street, Easton Park, Balmain, and Wallsend Storm-water Channels .....		1898	360	8	10	360	8	10	.....	.....	.....
Circular Quay Low Level Works .....		1897	155	10	10	213	5	10	.....	.....	.....
Careening Cove Storm-water Channel .....		1895	720	4	3	860	5	11	.....	.....	.....
Cottage Creek, Newcastle, Storm-water Channel .....		"	646	19	8	4,212	12	2	.....	.....	.....
Country Towns Sewerage .....		"	217	3	8	3,355	14	11	.....	.....	.....
Construction of Drain across Reclamation to connect with Main Drain, Long Cove .....		"	280	18	5	.....	.....	.....	1,590	0	0
Darling Harbour Low-level Works .....		1896	463	19	0	750	5	0	.....	.....	.....
Double Bay Creek Storm-water Channel, from Main Bondi Sewer to Double Bay .....		1895	365	8	9	8,070	2	5	.....	.....	.....
Easton Park, Balmain, Storm-water Channel .....		1894	399	15	1	1,850	0	0	.....	.....	.....
Euroka Creek Storm-water Channel .....		1896	2	2	0	1,329	2	8	.....	.....	.....
Extension of Sewer, Waverley and Woollahra, to Randwick .....		1898	4,583	0	1	4,583	0	1	.....	.....	.....
Jenolan Caves Drainage Works in connection with Government Buildings .....		1897	117	6	5	460	7	9	.....	.....	.....
Johnstone's Creek Storm-water Channel .....		1891	5,268	11	0	27,958	19	8	.....	.....	.....
Long Cove Creek, Ashfield, Storm-water Channel .....		1892	450	2	10	511	7	10	.....	.....	.....
Manly Sewerage .....		1889	8,860	8	1	16,586	5	0	.....	.....	.....
Mosman and Outfall Works .....		1896	11,310	9	1	11,616	13	7	.....	.....	.....
North Sydney Land Resumption .....		1894	350	10	4	.....	.....	.....	10,000	0	0
Northern Slopes, North Sydney .....		1898	178	6	2	178	6	2	.....	.....	.....
Pymont Branch Sewer .....		1891	3,943	17	9	4,602	14	7	.....	.....	.....
Quarantine Station Sewerage and Water Supply .....		1898	39	11	8	39	11	8	.....	.....	.....
Randwick Storm-water Drainage .....		"	1,133	4	1	1,133	4	1	.....	.....	.....
Rookwood Asylum Sewerage .....		1897	1,868	17	4	2,020	18	0	.....	.....	.....
Rookwood Necropolis Drainage .....		1891	2,214	10	3	17,512	3	5	.....	.....	.....
Sewerage in Low-level Zone at Rushcutters' Bay .....	1898	145	10	9	145	10	9	.....	.....	.....	
Storm-water Channels, Newcastle Pasturage Reserve Drainage .....	1895	134	0	9	15,681	19	7	.....	.....	.....	
South Willoughby and Outfall Works .....	1897	6,497	7	5	8,230	14	4	.....	.....	.....	
Wallsend Storm-water Channel, to its junction with Ironbark Creek .....	1895	370	16	3	.....	.....	.....	3,000	0	0	
Western Suburbs Sewerage, Main Scheme .....	1889	107,206	13	11	737,016	14	2	.....	.....	.....	
White's Creek Storm-water Channel .....	1895	2,877	6	1	10,624	0	4	.....	.....	.....	
Willoughby and Chatswood Sewerage .....	1897	3,088	4	11	3,491	9	8	.....	.....	.....	
Woolloomooloo, providing new sewers and elevating Sewage into Main Bondi Outfall Sewer .....	1896	4,392	5	2	5,088	10	2	.....	.....	.....	
Double Bay Low-level Sewerage .....	1895	3,189	12	7	15,178	13	3	.....	.....	.....	
Johnstone's Creek Storm-water Channel, Stanmore Branch .....	1898	260	0	0	260	0	0	.....	.....	.....	
Detail Surveys, General Surveys, Salaries, Travelling Expenses, and Contingencies .....	"	5,718	0	11	.....	.....	.....	5,718	0	11	
Services for other Departments .....	"	1,084	9	1	.....	.....	.....	1,084	9	1	
Totals.....			203,911	5	9	952,223	14	11	21,392	10	0

#### SUMMARY OF EXPENDITURE from 1 July, 1898, to 30 June, 1899.

	£	s.	d.
Loans .....	196,848	15	9
Consolidated Revenue .....	5,978	0	11
Services for other Departments .....	1,084	9	1
	£203,911	5	9

TOTAL



## TOTAL EXPENDITURE ON SEWERAGE CONSTRUCTION TO 30 JUNE, 1899.

Year	Loans	Revenue	Services for other Departments	Total
	£ s d	£ s d.	£ s. d	£ s d.
1879	409 12 3		.....	409 12 3
1880	2,941 12 10	265 5 2	.....	3,206 18 0
1881	12,083 6 9	4,734 14 10	...	16,818 1 7
1882	32,498 18 8	4,008 14 6		36,507 13 2
1883	105,321 5 5	286 12 2	.. .. .	105,607 17 7
1884	119,730 10 10	2,795 19 4	.. .. .	122,526 10 2
1885	155,931 12 2	14,834 2 11		170,765 15 1
1886	148,292 8 7	12,401 11 3	.. .. .	160,693 19 10
1887	108,774 18 3	20,181 10 2	.....	128,956 8 5
1888	64,063 9 6	11,998 9 4	.....	76,061 18 10
1889	81,315 18 10	9,616 0 4	.. .. .	90,931 19 2
1890	82,985 19 9	11 006 19 5	.. .. .	93,992 19 2
1891	202,922 0 11	8,775 3 7	.. .. .	211,697 4 6
1892	202,294 2 1	11,113 7 8	.. .. .	213,407 9 9
1893	109,638 7 3	4,281 18 8	.. .. .	113,920 5 11
1 January, 1894, to 30 June, 1895	236,340 3 10	5,347 18 9		241,688 2 7
1 July, 1895, to 30 June, 1896	131,428 4 0	471 6 5		131,899 10 5
1 July, 1896, to 30 June, 1897	127,757 14 11	2,884 19 6	66 17 5	130,709 11 10
1 July, 1897, to 30 June, 1898	194,372 3 5	5,100 7 9	229 13 8	199,702 4 10
1 July, 1898, to 30 June, 1899	196,848 15 9	5,978 0 11	1,084 9 1	203,911 5 9
Totals	£ 2,315,951 6 0	136,083 2 8	1,381 0 2	2,453,415 8 10

## Land Valuation.

## XIV.

## Report of the Government Land Valuer.

I HAVE the honor to submit a report upon the operations of this branch from 1 July, 1898, to 30 June, 1899. Briefly summed up the work may be classified as follows:—

*Railways and Tramways.*—The following lines have been proclaimed and confirmed:—

Gore Hill Electric Tramway.  
Moree to Inverell Railway, Parts 2 and 3.  
Neutral Bay Electric Tramway.

*Notifications of Resumptions* have been issued in respect of the under-mentioned works.

Annandale, Ventilating Shaft.	Hinton Bridge.
Balmain Low-level Sewerage.	Kiama Water Supply.
Becroft, Water Supply.	Limestone Creek, Access to Water.
Cockle Creek Bridge.	Merewether Post and Telegraph Office.
Camden Bridge.	Picton Water Supply.
Darling Harbour Low-level Sewerage.	Parke Water Supply.
Dalwood Creek Bridge.	Pymont Post Office.
Frederickton Police Buildings.	Pymont Bridge.
Gundagai Bridge.	Picton Bridge.
Gwydir District Drainage.	Ranken's (near Casino), Approach to Wharf.
Gloucester Post Office.	Rylstone Bridge.
Glebe Island Bridge.	Rookwood Bridge.
Gundry Creek Bridge.	White's Creek Storm-water Channel.

101 cases standing over from previous years have been finally settled; 82 valuations in various parts of the Colony, ranging from a few pounds up to £35,500, have been made; 61 cases were advanced to a stage for valuation; 40 claims for temporary occupation have been adjusted.

Estimates were prepared of the cost of proposed resumptions for various works as follows:—

Kiama Rifle Range.	Young-street Stores.
Lane at Taylor Bay for Military purposes.	Walcha Lock-up Site.
White's Creek Storm-water Channel.	Port Kembla Harbour Works.
Adamstown Drainage.	City Railway Extension, Scheme 1.
Ejection Station, Darling Harbour.	"    "    "    2.
Wyong Lock-up Site.	"    "    "    3.
Willoughby Sewerage.	Land at Parramatta for Asylum purposes.

*Miscellaneous.*—Many matters of a miscellaneous character, involving much time and research, have been dealt with during the year, as, for instance,—

Report on site for Drill-hall, Albury.  
Claim of the Sydney Freehold Land Co. for damage to property, Annandale.  
    "    for damage to land by construction of Sewerage Works, Ashfield.  
    "    "    "    at Parramatta by construction of Storm-water Channel.  
J. Lugg's claim for compensation for land resumed for Tramway purposes.  
Completing Ramsay's Estate matters—Long Cove reclamations.  
Leichhardt—Long Cove—treating with owners for sale of land.  
Lease of land to Y. Hogan, Orange Water Supply.  
Picton Water Supply, Easements.  
Particulars given to Lands Department as to resumptions from Packer's Grant, Rockdale.  
Sale of land resumed for extension of Supreme Court.  
Sydney Water Supply, list of outstanding claims for Water and Sewerage Board.  
Koorawatha to Grenfell Railway, Exchanges of lands.  
Mosman's Bay, land required from Ferry Co. for Tramway purposes.  
Nowra Water Supply, Easements.  
Centennial Park, damage to land.  
Parramatta Cottage Homes, sale of surplus land.  
Dedication of land Alma and Goodhope Streets, Paddington.  
Completing Margaret Jones' matter, White's Creek.  
    "    Ann Walker's matter, Sydney Water Supply.  
Return of all lands resumed during 1897, for Government Statist.

The principal matters which have engrossed the attention of the branch for the past year have been the negotiation of exchanges of lands in connection with the Koorawatha to Grenfell railway line, estimates of city extension, the adjustment of interests in connection with the Port Kembla harbour proposals, Pymont Bay cases, and the resumptions on the second and third sections of the Moree to Inverell railway.

The Under Secretary for Works and Commissioner for Roads.

EDWARD J. SIEVERS,  
Government Land Valuer.

## Memorandum from Accountant to Under Secretary and Commissioner for Roads.

Public Works Department, N.S.W., Accounts Branch, 11 August, 1899.

HEAD OFFICE BANK ACCOUNTS, 1898-9.

I SUBMIT herewith statements of the operations of the Head Office Bank Accounts in my name, for 1898-9. They are as follows:—

1. General Account.
2. Suspense Account.
3. Trust Account.
4. Revenue Account.

1. *General Account.*

The receipts, being lodgments by the Treasury for payments, amounted to—

	£	s.	d.	£	s.	d.
General Account ... ..	618,184	18	11			
Advance Account ... ..	591,056	12	7			
				1,209,241	11	6
Disbursements—						
General Account ... ..	616,662	6	8			
Advance Account ... ..	590,055	15	5			
				1,206,718	2	1
Balance to Credit, 30/6/99—						
General Account ... ..	1,522	12	3			
Advance Account ... ..	1,000	17	2			
				2,523	9	5

2. *Suspense Account.*

Receipts ... ..	2,024	17	1
Disbursements ... ..	1,963	14	8
Balance to Credit, 30/6/99 ... ..	61	2	5

3. *Trust Account.*

Receipts ... ..	41,346	0	10
Remitted to Treasury to Cr. Trust Fund... ..	41,042	13	10
Balance to Credit, 30/6/99... ..	303	7	0

4. *Revenue Account.*

The amount which passed through this Bank Account was £69,580 7s. 5d. On another paper a statement of Revenue business, both through this Bank Account and by transfers at the Treasury, is set forth in more detail.

*Summary of Banking Accounts.*

	Receipts.			Disbursements.			Balance on 30 June, 1899.			No. of Cheques.
	£	s.	d.	£	s.	d.	£	s.	d.	
1. General.....	1,209,241	11	6	1,206,718	2	1	2,523	9	5	5,509
2. Suspense .....	2,024	17	1	1,963	14	8	61	2	5	150
3. Trust.....	41,346	0	10	41,042	13	10	303	7	0	52
4. Revenue .....	69,580	7	5	69,580	7	5	Nil.			63
	1,322,192	16	10	1,319,304	18	0	2,887	18	10	5,774

THOMAS R. STEEL,  
Accountant.

*Statement of Receipts and Disbursements on account of Preliminary and Security Deposits for the year ending 30 June, 1899.*

Receipts.			Disbursements.			Balance.		
Particulars.	Amount.		Particulars.	Amount.		Particulars.	Amount.	
Fixed Deposits—	£	s. d.	Fixed Deposits—	£	s. d.	Fixed Deposits—	£	s. d.
Balance on the 1 July, 1898 ..	44,289	3 11	Returned to Contractors, Renewed, Forfeited, &c..	45,477	17 6	Balance held on 30 June, 1899 .....	33,973	7 5
Received during 1898-9 .....	40,162	1 0						
Cash Deposits, Preliminary or Security—			Cash Deposits, Preliminary or Security—			Cash Deposits, Preliminary or Security—		
Balance on the 1 July, 1898 ..	10,034	16 5	Refunds, Forfeitures, &c. ...	41,533	19 3	Balance held on 30 June, 1899, at Treasury .....	9,543	11 0
Received during 1898-9—						In Public Works Account ..	303	7 0
Lodged in Treasury .....	41,042	13 10						
Not paid to Treasury .....	303	7 0						
	135,832	2 2		87,011	16 9		48,820	5 5

THOMAS R. STEEL,  
Accountant, Public Works, 26/9/99.

Memorandum

## Memorandum from Accountant to Under Secretary and Commissioner for Roads.

Public Works Department, N.S.W., Accounts Branch, 11 August, 1899.

SUBJECT—REVENUE ACCOUNT, 1898-9.

I SUBMIT herewith the Paymaster's Statement in connection with the Revenue Account of this Department for 1898-9.

The total amounted to £225,786 3s. 1d. From this there should be deducted £68,145 17s. 7d., for Refunds of Officers' Advances, &c., to credit of Votes, and £94,698 17s. 6d., Refunds of Stores' Issues. The net Receipts on account of Consolidated Revenue through this Department would thus be £62,941 8s., made up as follows:—

	£	s.	d.
Tolls and Rent ... ..	7,237	9	0
Sales of Property ... ..	6,109	6	2
Country Towns Water Supplies ... ..	16,373	13	1
Docking ... ..	5,637	11	0
Forfeited Deposits ... ..	1,075	0	0
Sundry Deposits ... ..	2,435	10	4
Dredging ... ..	755	0	0
Cement-testing Fees ... ..	505	12	6
Government of Victoria for Bridges ... ..	4,856	15	9
Hire, Repairs, Deductions, Royalties, &c. ... ..	17,925	10	2
	<u>£62,941</u>	<u>8</u>	<u>0</u>

THOMAS R. STEEL,  
Accountant.

*Revenue Account from 1 July, 1898, to 30 June, 1899.*

Tolls and Rent.		Sales of Property.		Refunds.		Miscellaneous.		Totals.	
£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
7,237	9 0	6,109	6 2	68,145	17 7	*144,293	10 4	225,786	3 1

\* Details attached.

OWEN CARROLL,  
Paymaster, Public Works Department.

Public Works Department, Accounts Branch.

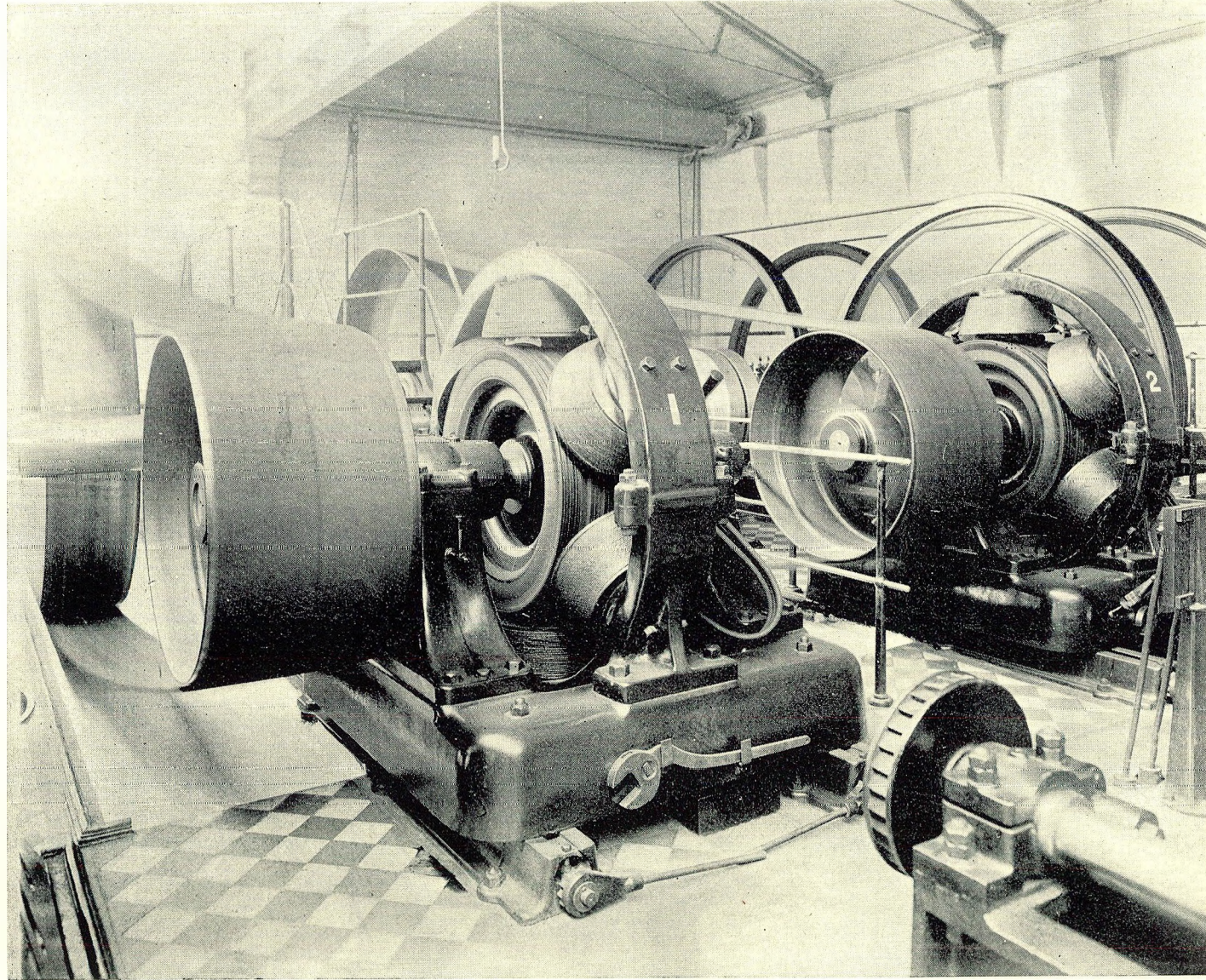
*Subdivision of Miscellaneous Revenue for the year 1898-9.*

	£	s.	d.
Country Towns Water Supply ... ..	16,373	13	1
Stores Issues ... ..	94,698	17	6
Docking ... ..	5,667	11	0
Forfeited deposits ... ..	1,075	0	0
Sundry deposits ... ..	2,435	10	4
Dredging ... ..	755	0	0
Cement-testing Fees ... ..	505	12	6
Government of Victoria (various bridges) ... ..	4,856	15	9
Hire, Repairs, Deductions, Royalties, Transfers, &c. ... ..	17,925	10	2
	<u>£144,293</u>	<u>10</u>	<u>4</u>

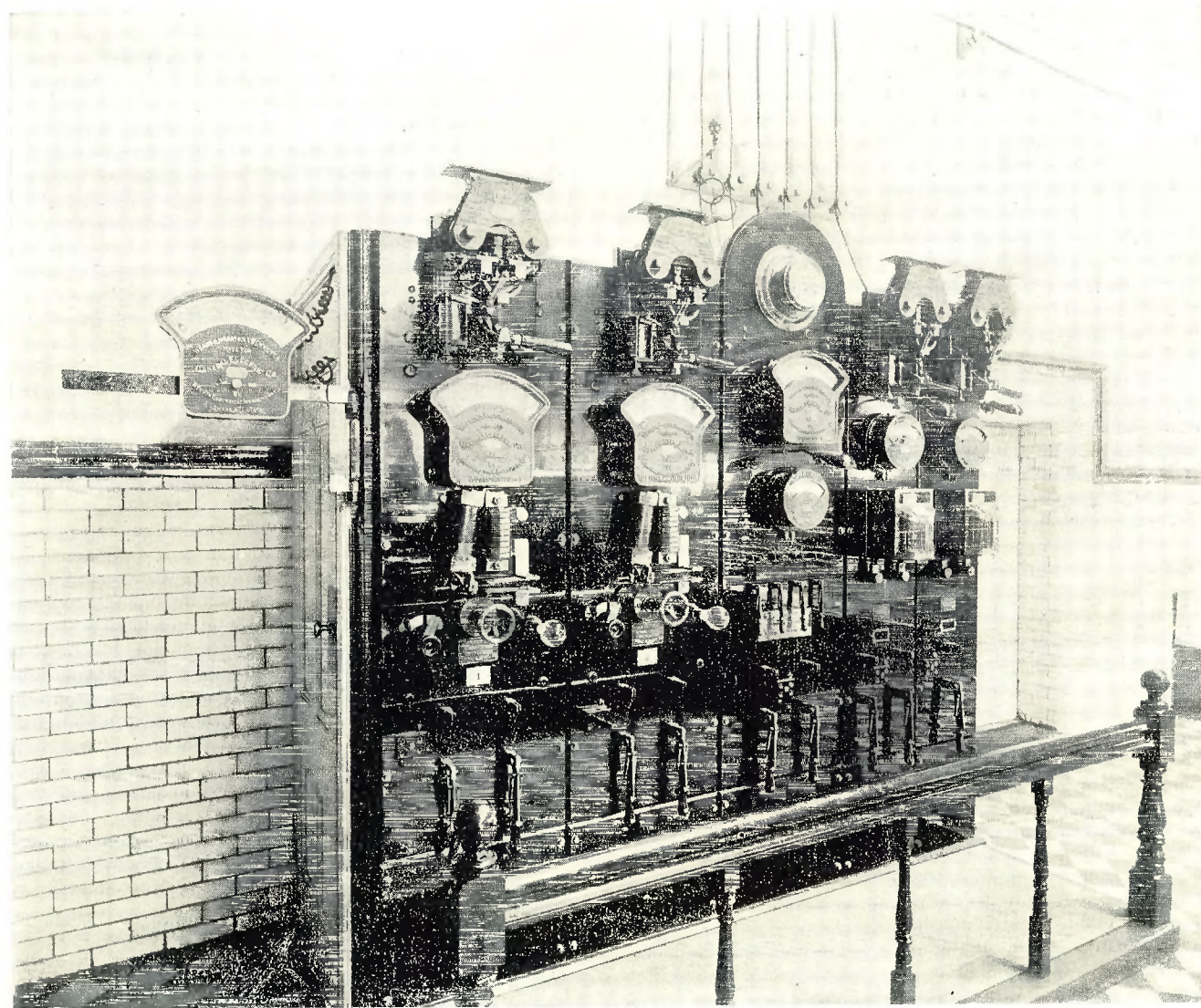
OWEN CARROLL,  
Paymaster, Public Works Department.

[Nineteen Plates and Five Plans.]

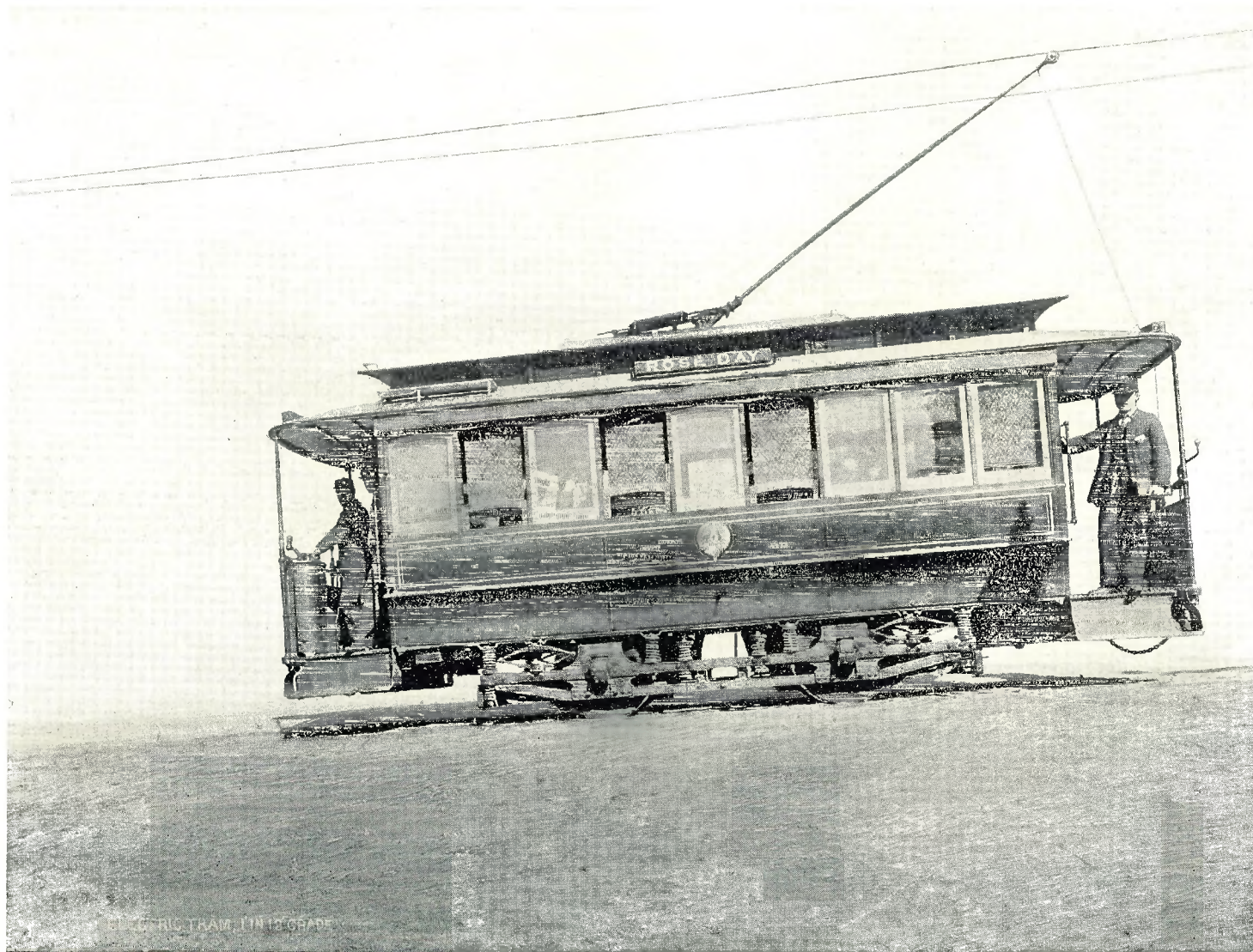




ROSE BAY ELECTRIC TRAMWAY—ELECTRIC GENERATORS AT RUSHCUTTERS BAY POWER HOUSE.

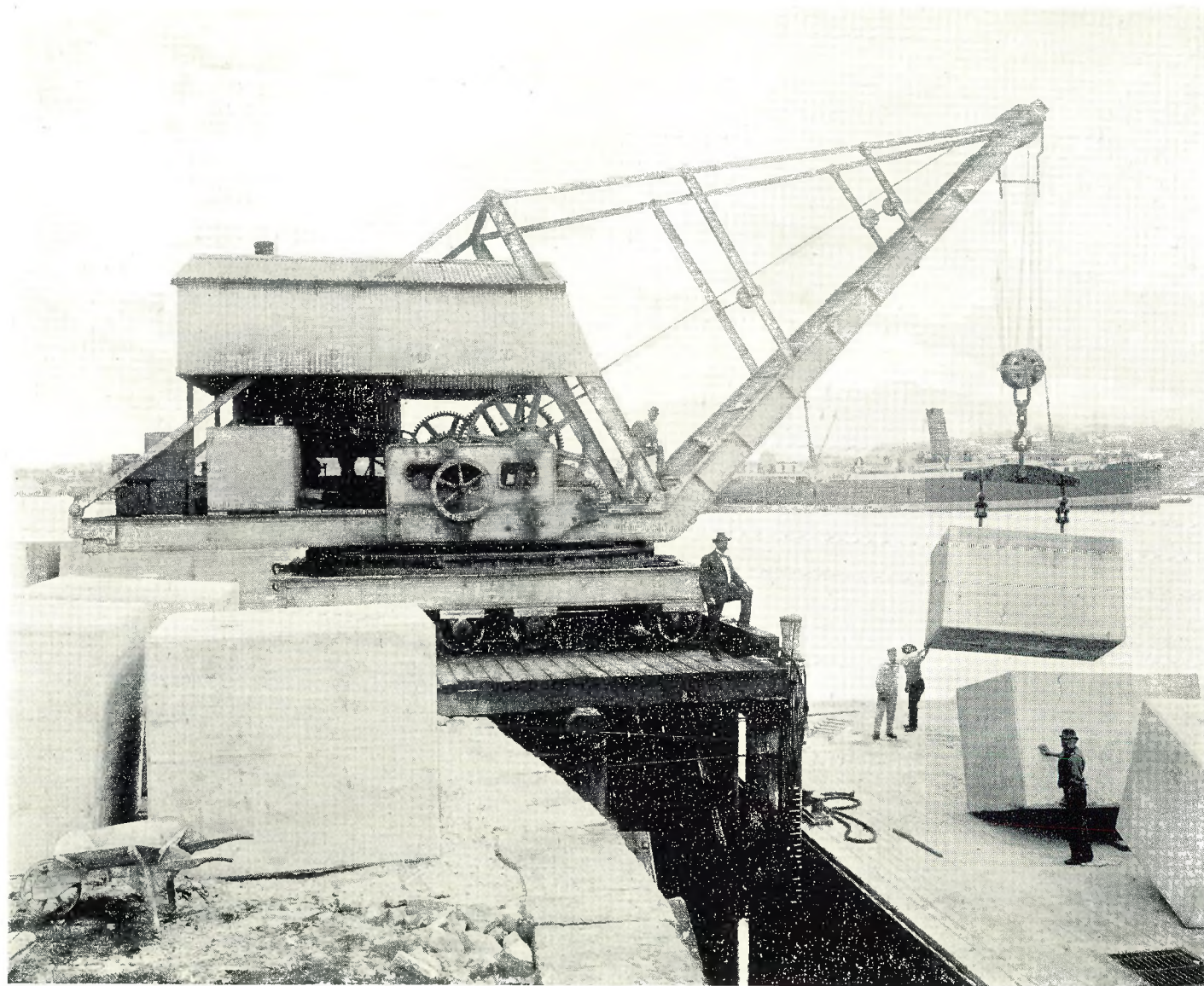


ROSE BAY ELECTRIC TRAMWAY—SWITCHBOARD AT RUSHCUTTERS BAY POWER HOUSE.



ROSE BAY ELECTRIC TRAMWAY—CAR ON 1 IN 12 GRADIENT.





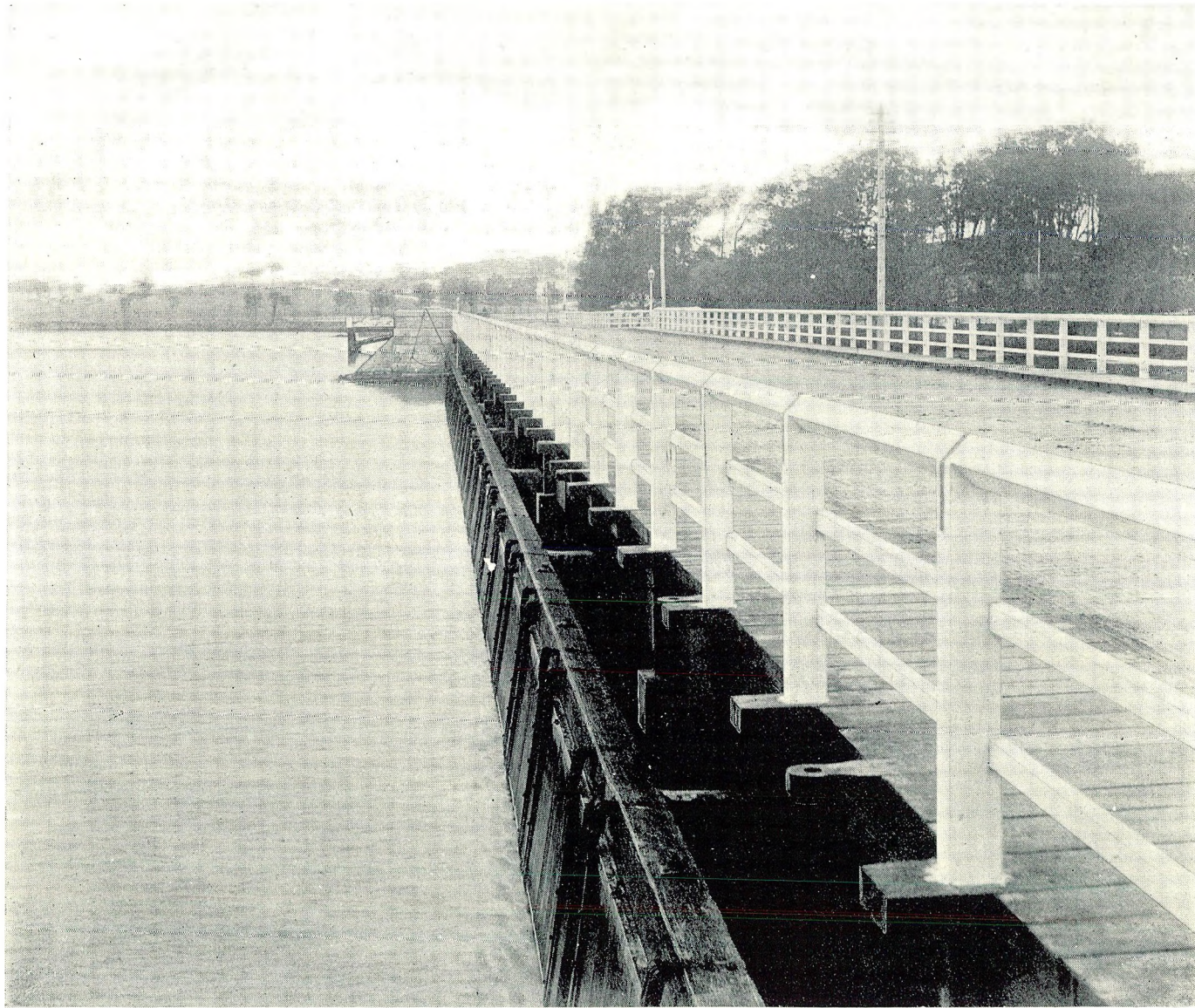
WHARF WALL ROUND DARLING ISLAND—40-TON BLOCK-SETTING CRANE.



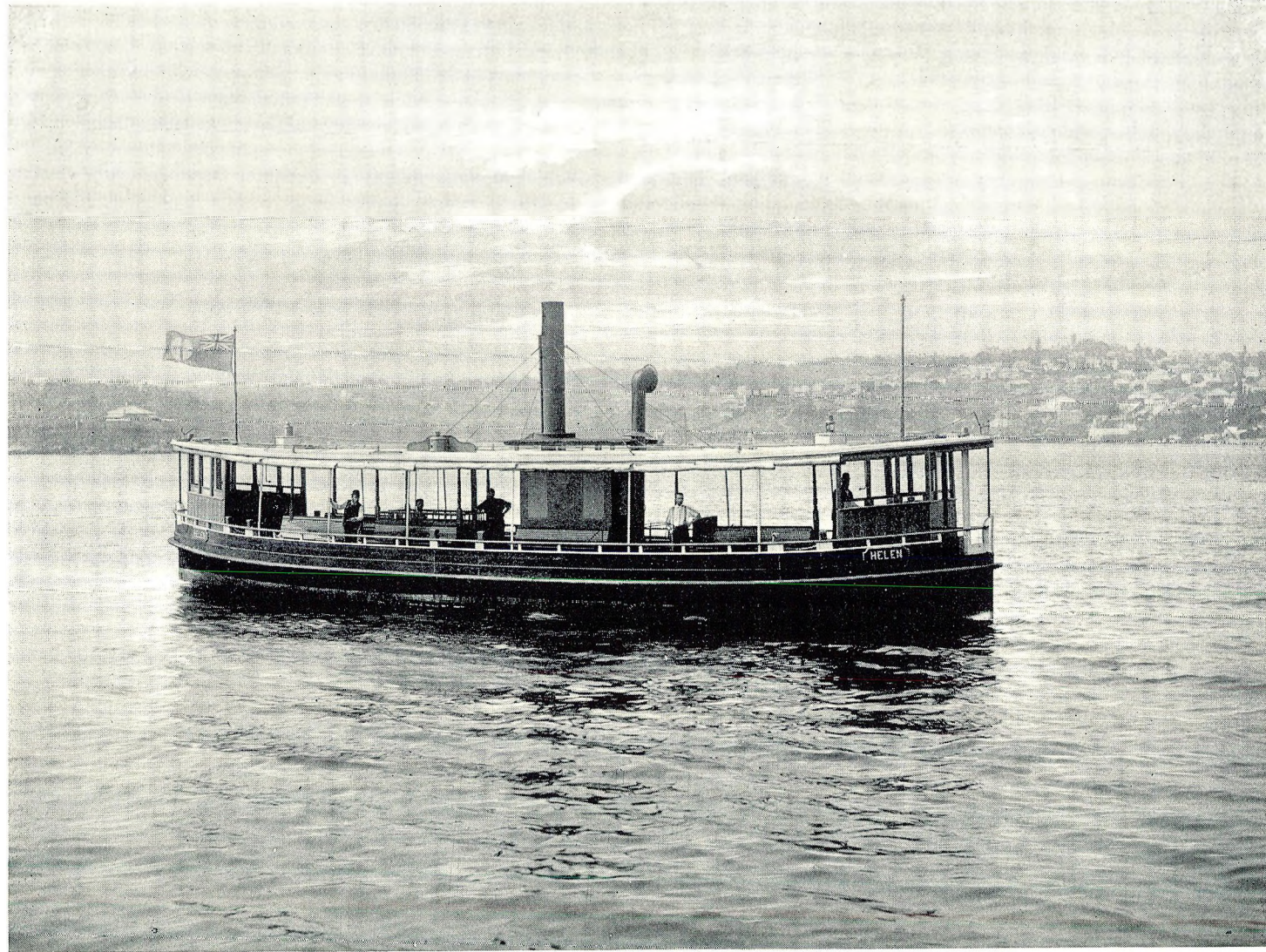
WHARF WALL ROUND DARLING ISLAND—SETTING CONCRETE BLOCKS.



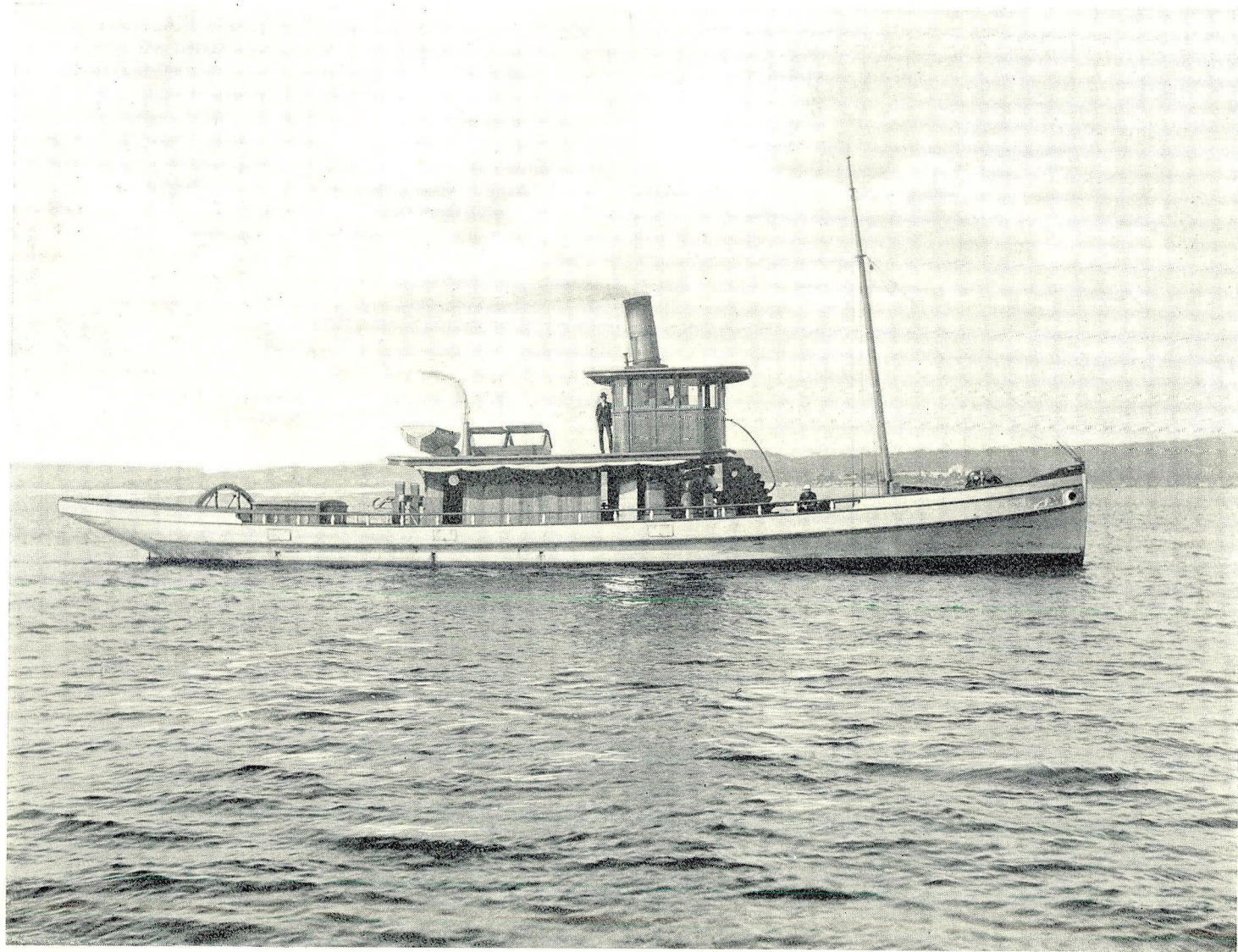
POINT PERPENDICULAR LIGHTHOUSE AND QUARTERS NORTH HEAD, JERVIS BAY.



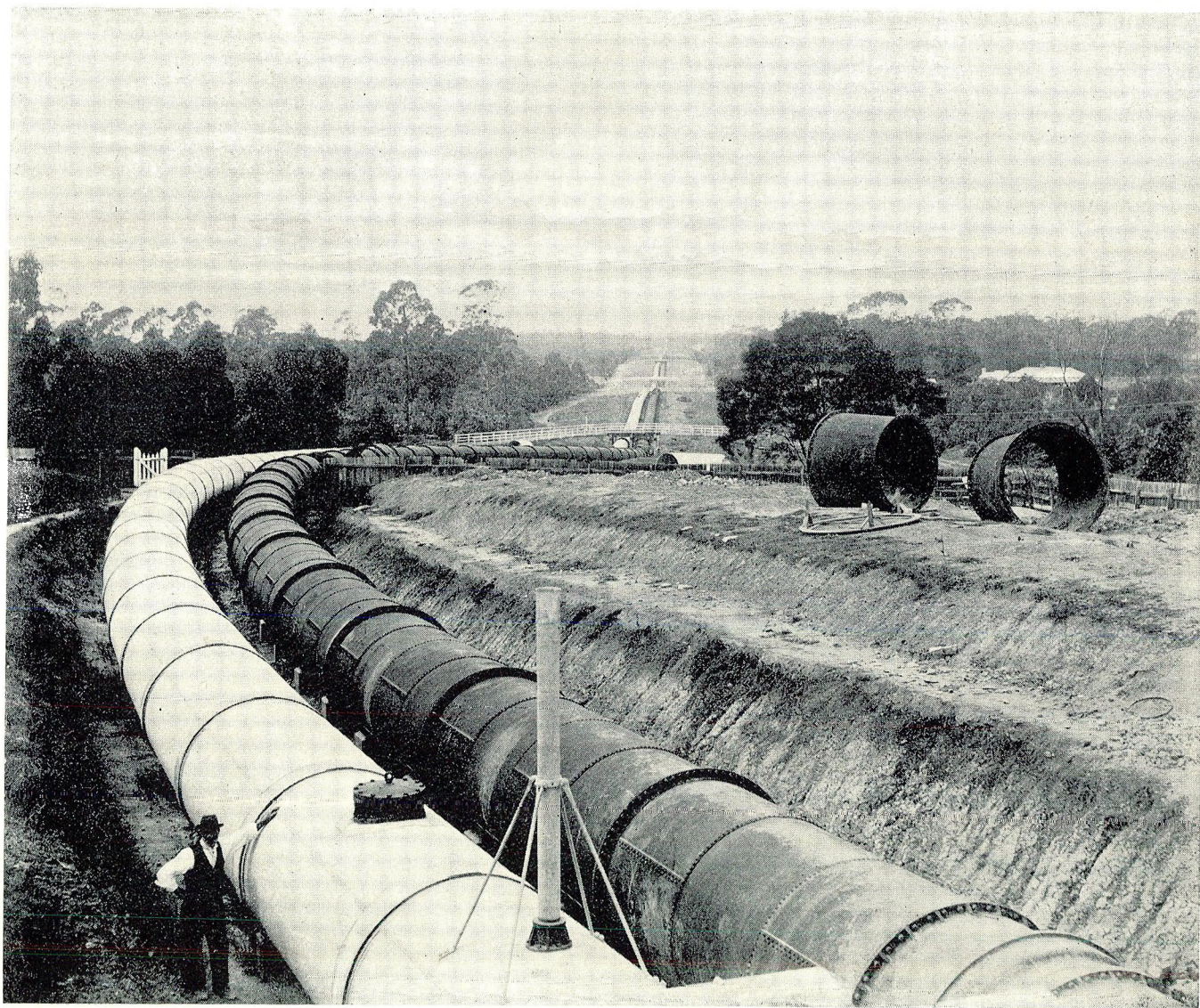
SLUICE GATES, COOK'S RIVER DAM.



STEAM FERRY LAUNCH "HELEN"—FOR HUNTER RIVER.



S.S. "PHENIX"—BUILT AT FITZROY DOCK.



SYDNEY WATER SUPPLY—DUPLICATE 6-FOOT PIPE LINE FROM NEAR PIPE HEAD BASIN.

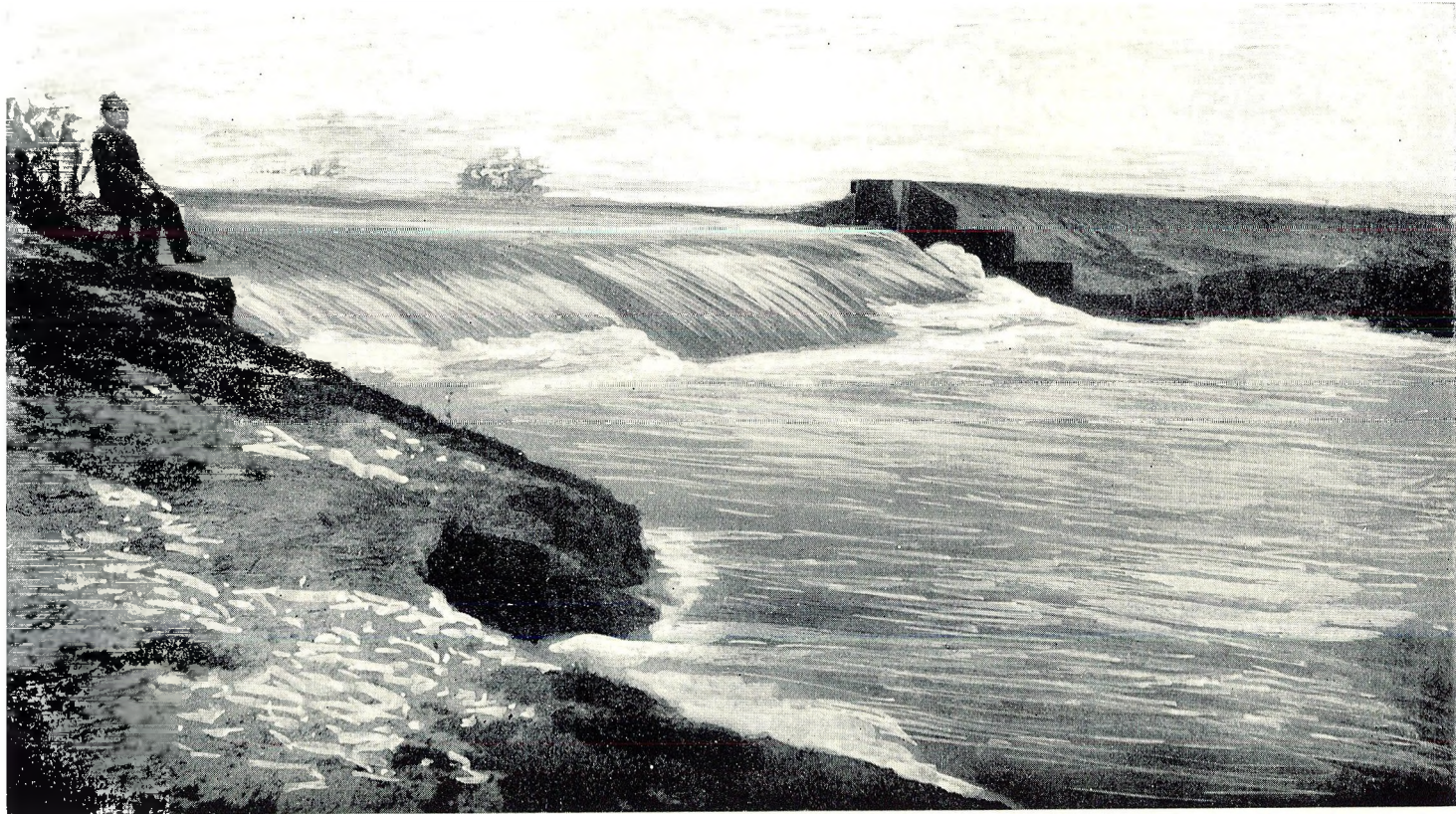


PICTON WATER SUPPLY—DAM ON BARGO RIVER.

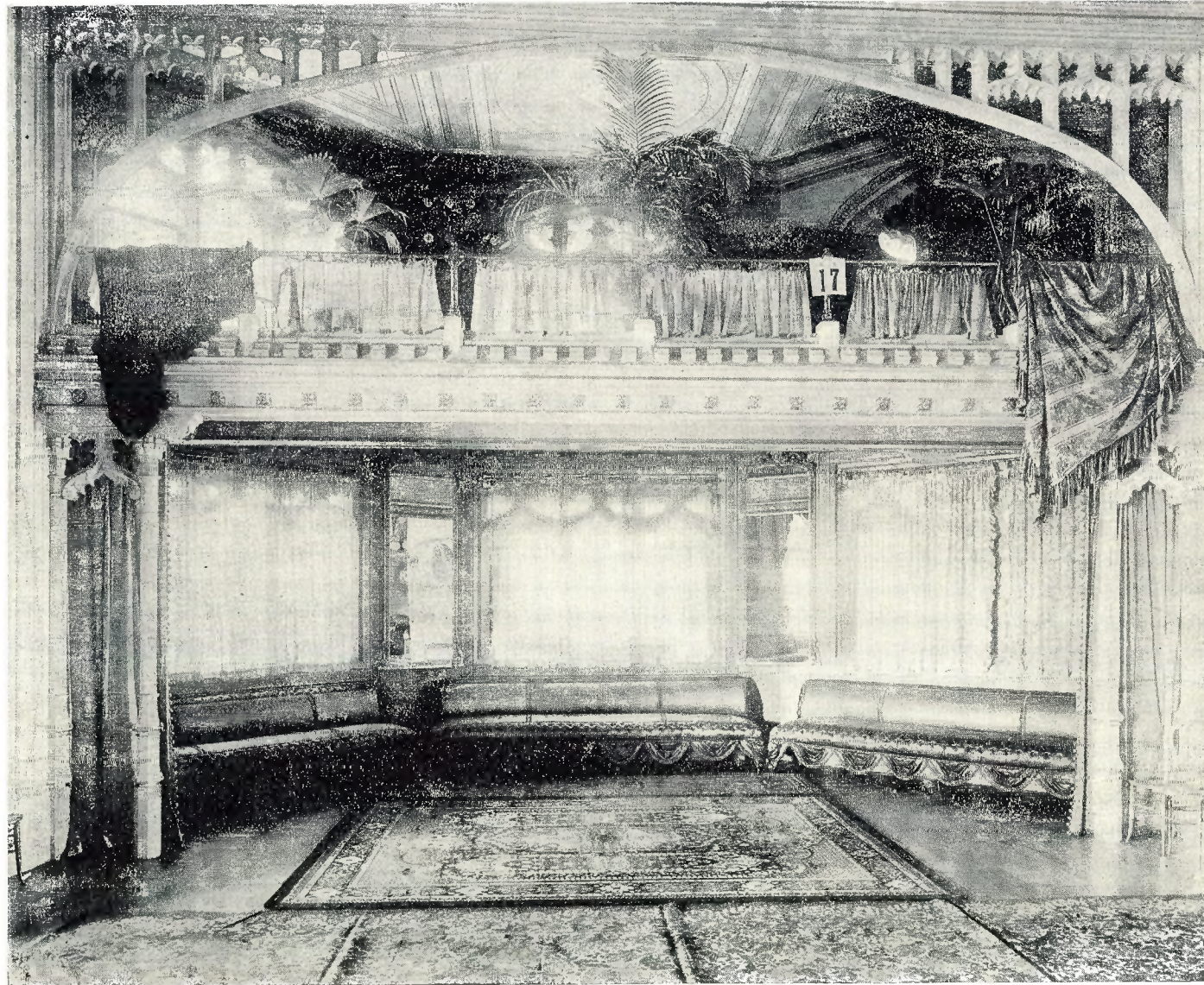




URANA CREEK—VIEW LOOKING UP STREAM SHOWING WATER CONSERVED BY TOWN DAM.



URANA CREEK—BY-WASH OF TOWN DAM.



GOVERNMENT HOUSE—NEW WINDOW RECESS AND ORCHESTRAL GALLERY TO BALL-ROOM.



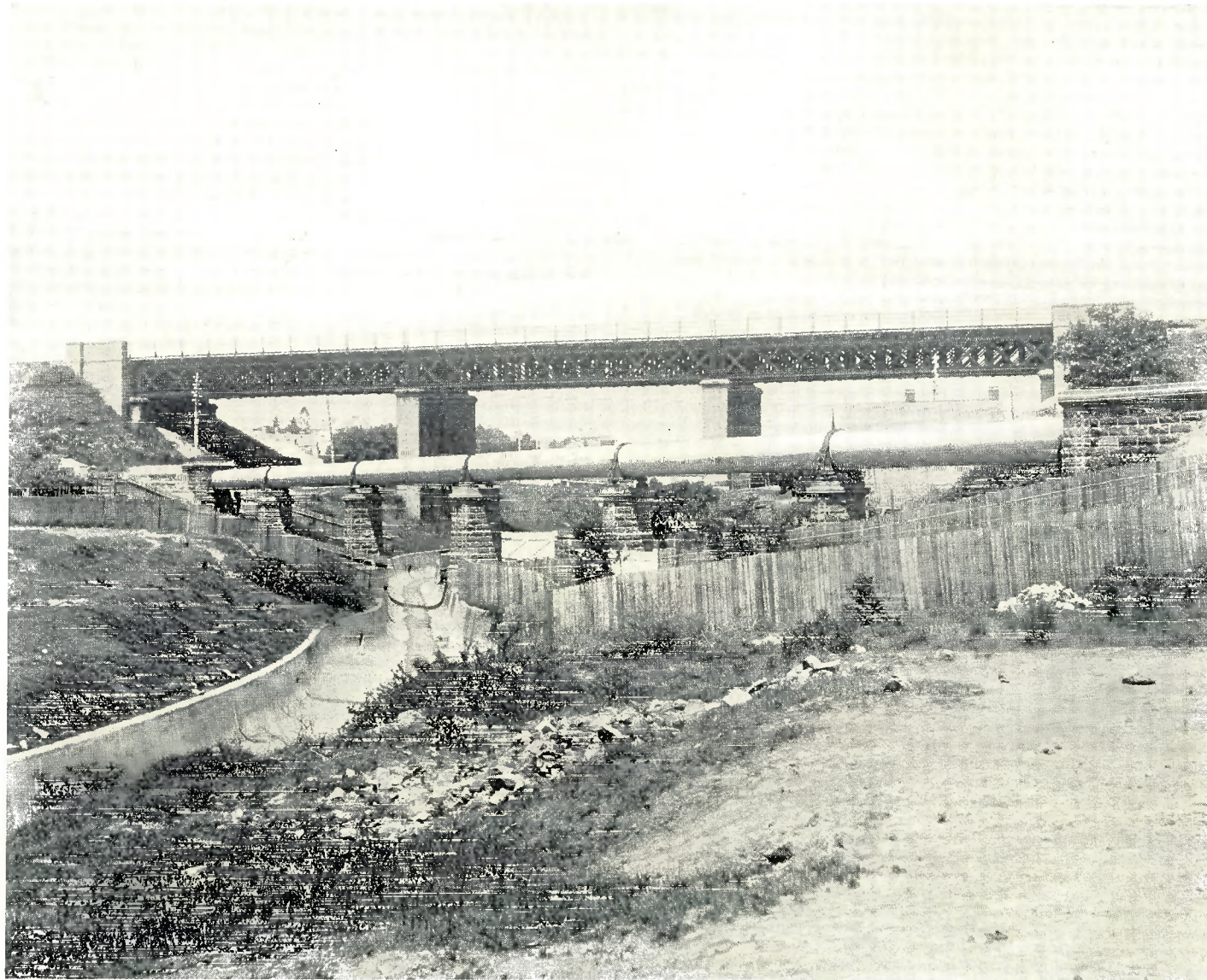
WOMBAYAN CAVES ROAD—VIEW ON KILLIECRANKIE PASS, SHOWING CHARACTER OF COUNTRY TRAVERSED.



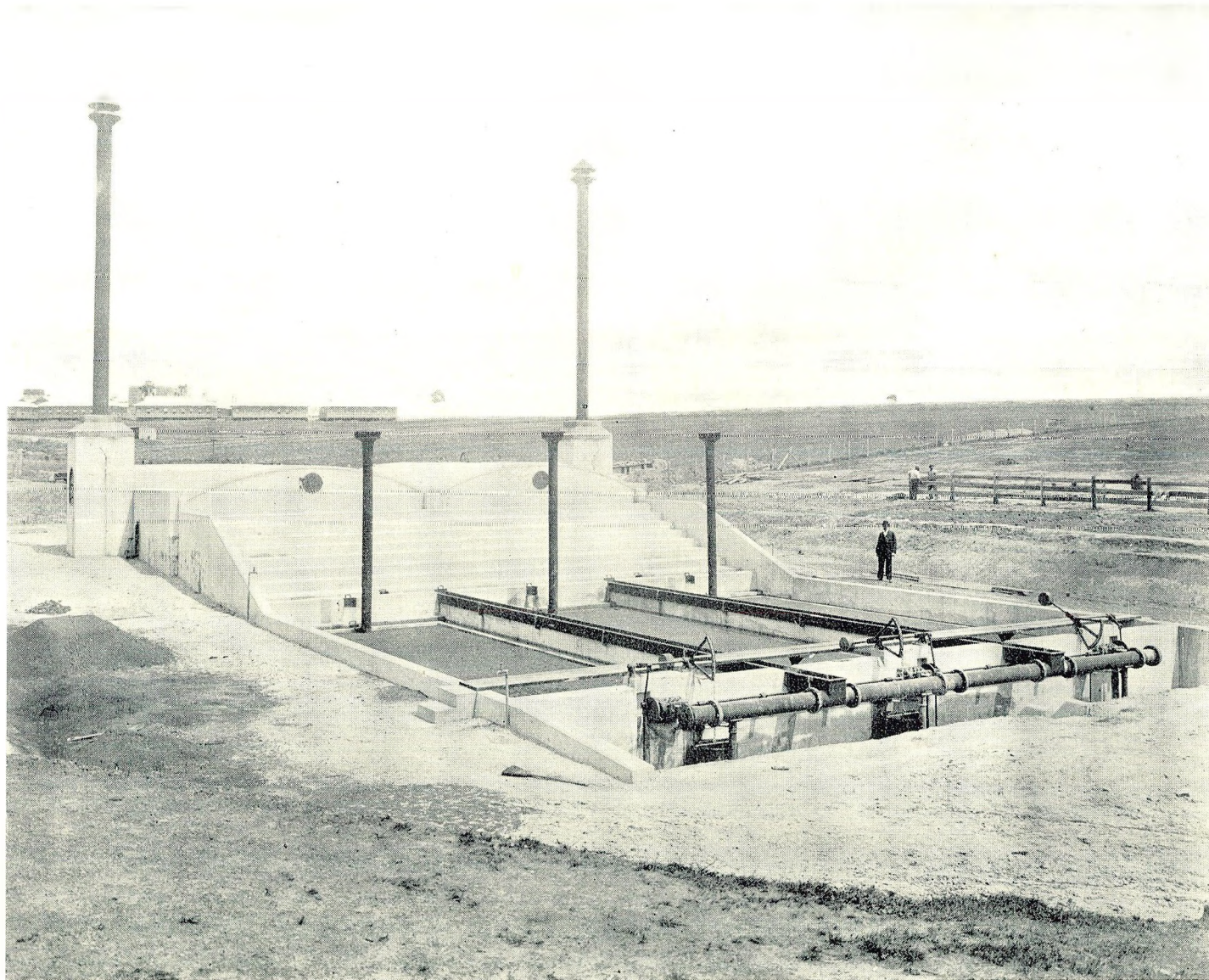
WOMBAYAN CAVES ROAD—CROSSING AT CONSECRATION CREEK.



WOMBAYAN CAVES ROAD--TUNNEL AT THE GULLIES.



WESTERN SUBURBS SEWERAGE - STEEL-PIPE SEWER ACROSS LONG COVE STORMWATER CHANNEL.



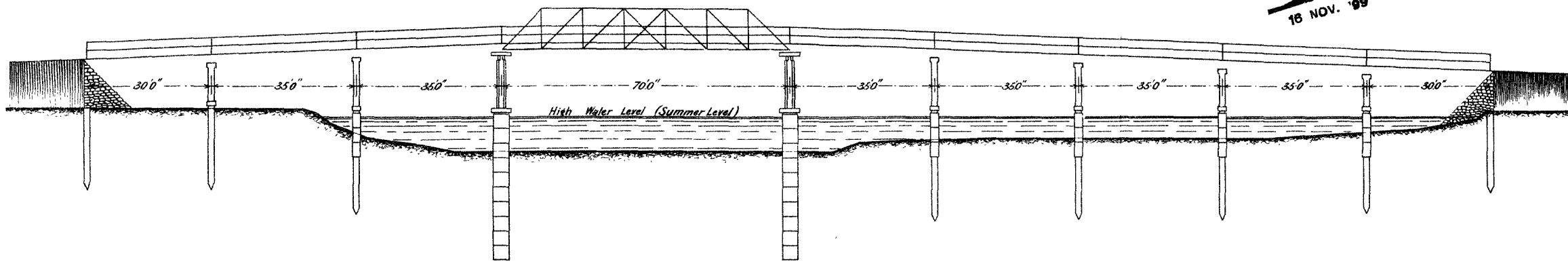
ROOKWOOD ASYLUM DRAINAGE — SEPTIC TANKS.



# COCKLE CREEK BRIDGE N S W

## SKETCH SHOWING USE OF MONIER CYLINDERS & PILE COVERS

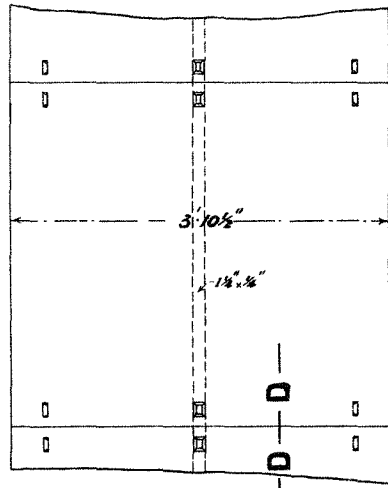
### ELEVATION



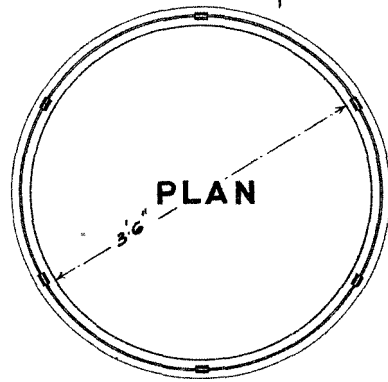
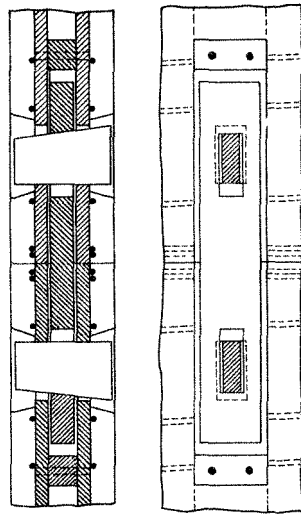
*W. A. Gullick*  
Under Secretary for Public Works,  
and Commissioner for Roads,  
16 NOV. '99

### DETAILS OF MONIER CYLINDERS

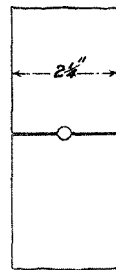
#### ELEVATION



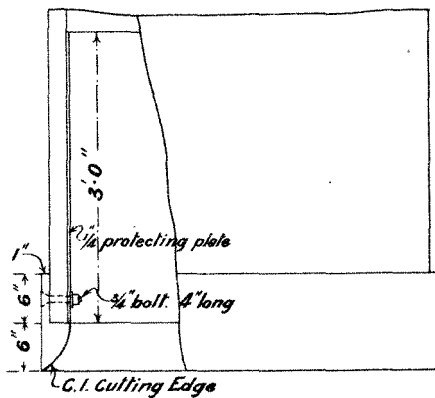
#### CONNECTION



#### SECTION AT D-D-



#### C. I. CUTTING EDGE

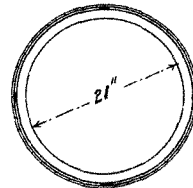
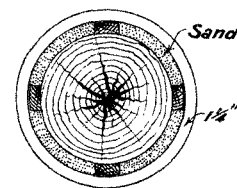


47441

#### SECTIONS AT

A - A -

B - B -

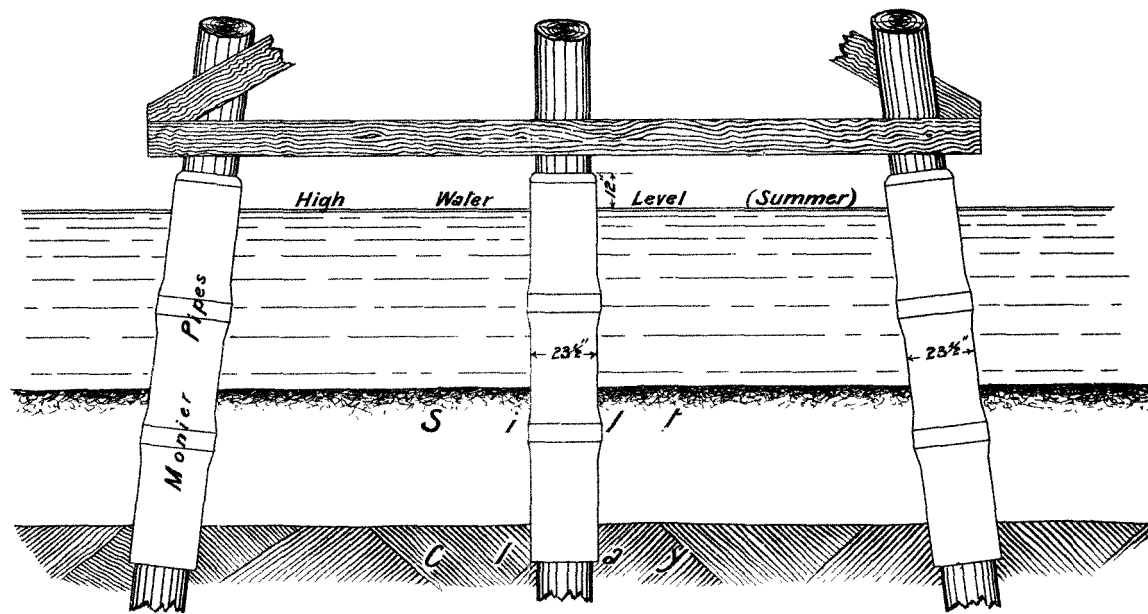


#### SCALES



Photo-lithographed by  
W. A. Gullick, Government Printer,  
Sydney, N.S.W.

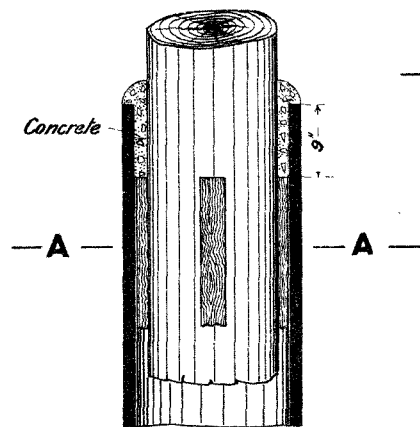
### PIER



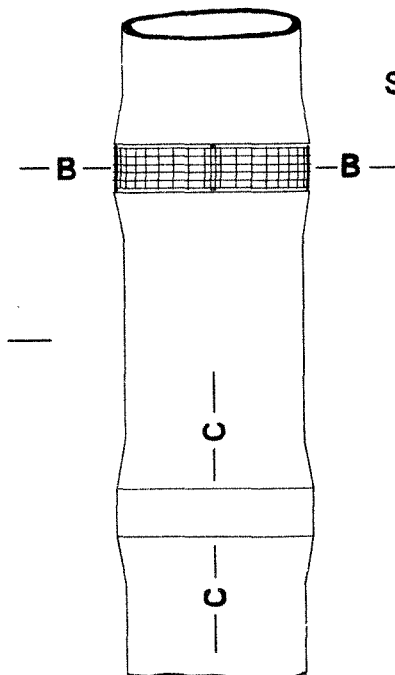
### DETAILS OF PILE COVERINGS

#### ELEVATION

#### SECTION



#### SECTION AT C-C-



*Charles Joseph  
Woodhouse*

519-178

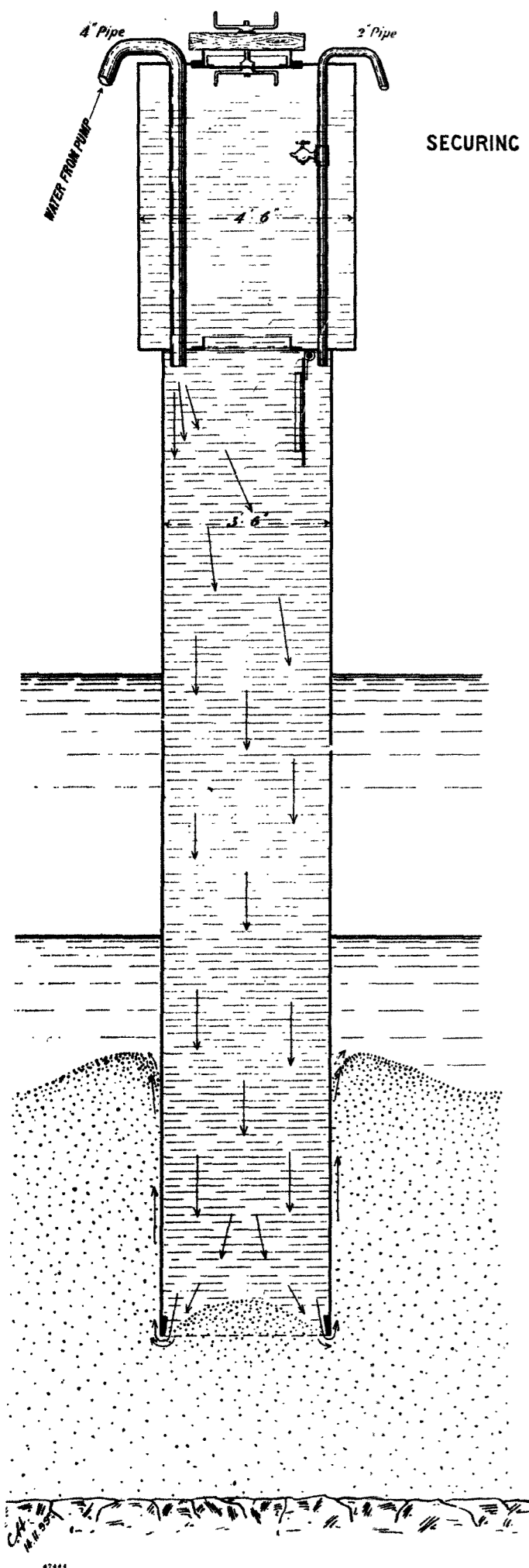
# MORUYA BRIDGE

## HYDRAULIC METHOD OF SINKING CAST IRON PILES

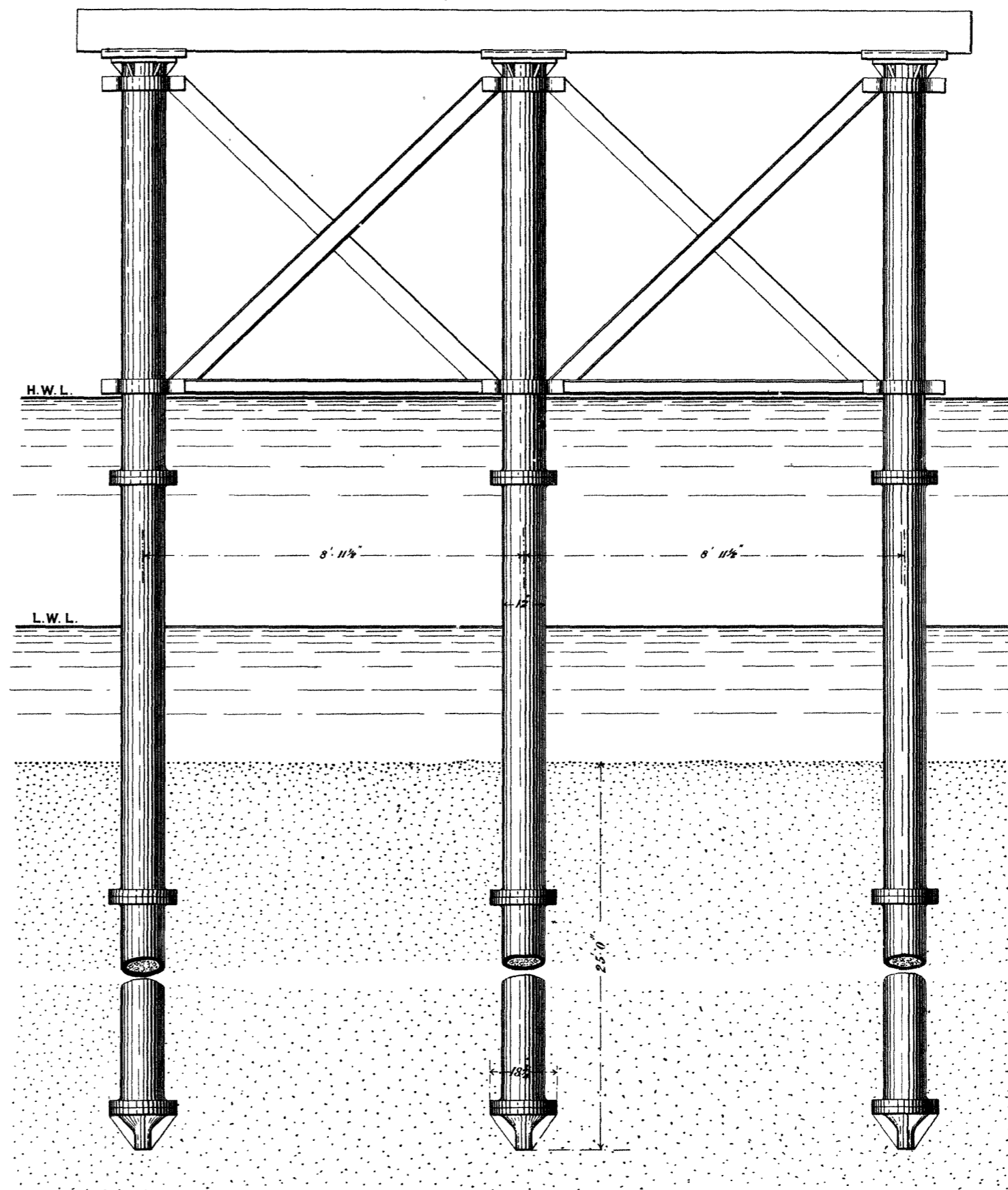


*W. A. Cullich*  
 Under Secretary for Public Works  
 and Commissioner for Roads  
 10 NOV. '99

SECURING PILES IN ROCK UNDERLYING SAND



ELEVATION OF COMPLETED PIER



SINKING PILES IN SAND

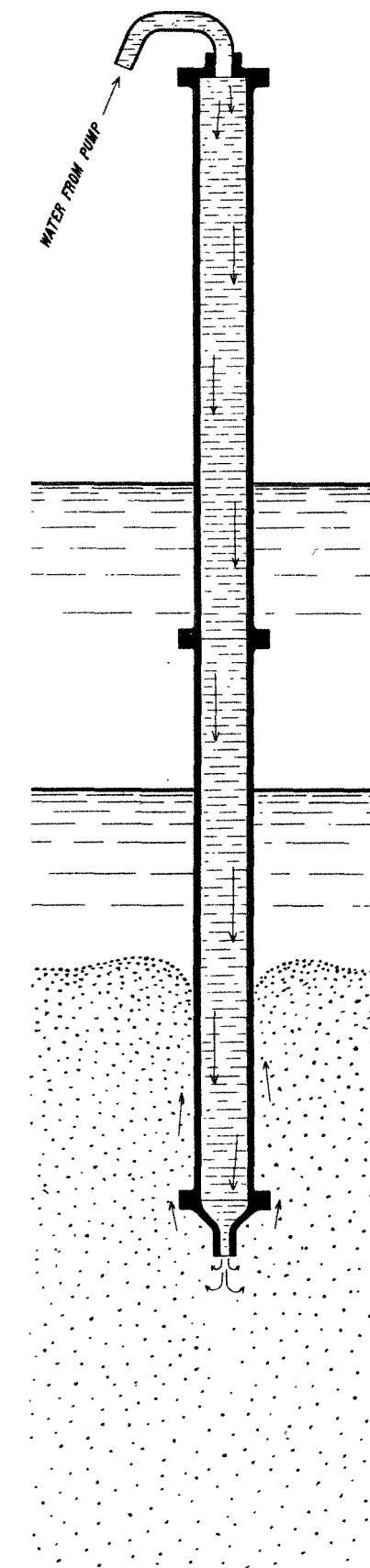


Photo-lithographed by  
 W. A. Cullich, Government Printer,  
 Sydney, N.S.W.

*W. A. Cullich*  
 10 NOV. '99

P. W. D.  
WATER CONSERVATION BRANCH

# DIAGRAM

## LONGITUDINAL SECTION OF RIVER DARLING

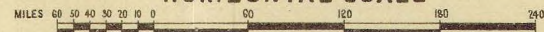
from

## WENTWORTH TO MUNGINDI

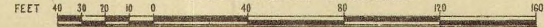
shewing

### NAVIGATION LEVEL

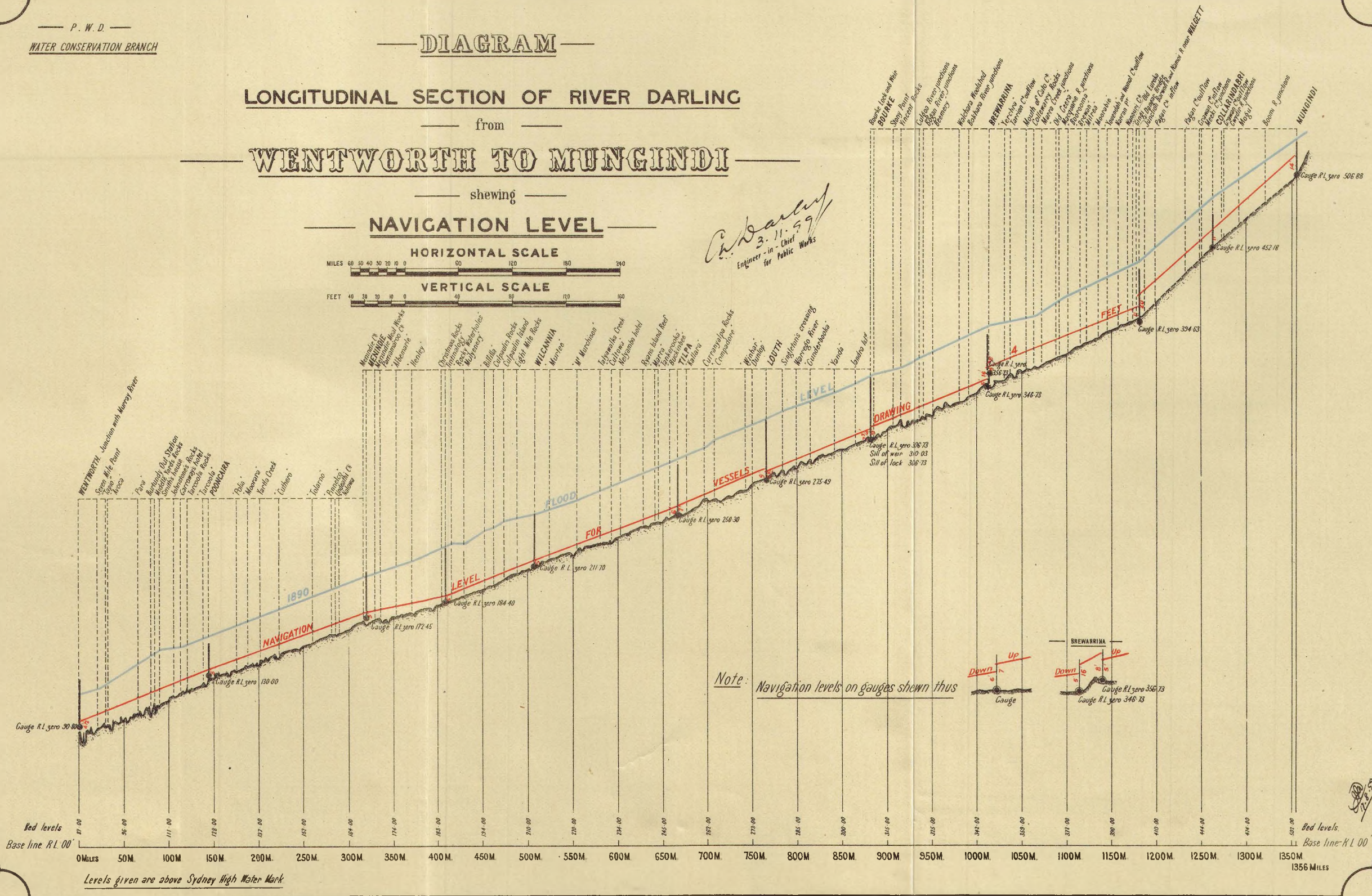
HORIZONTAL SCALE



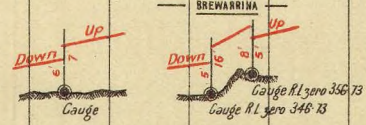
VERTICAL SCALE



*C. W. Bailey*  
3.11.59  
Engineer-in-Chief  
for Public Works



Note: Navigation levels on gauges shown thus

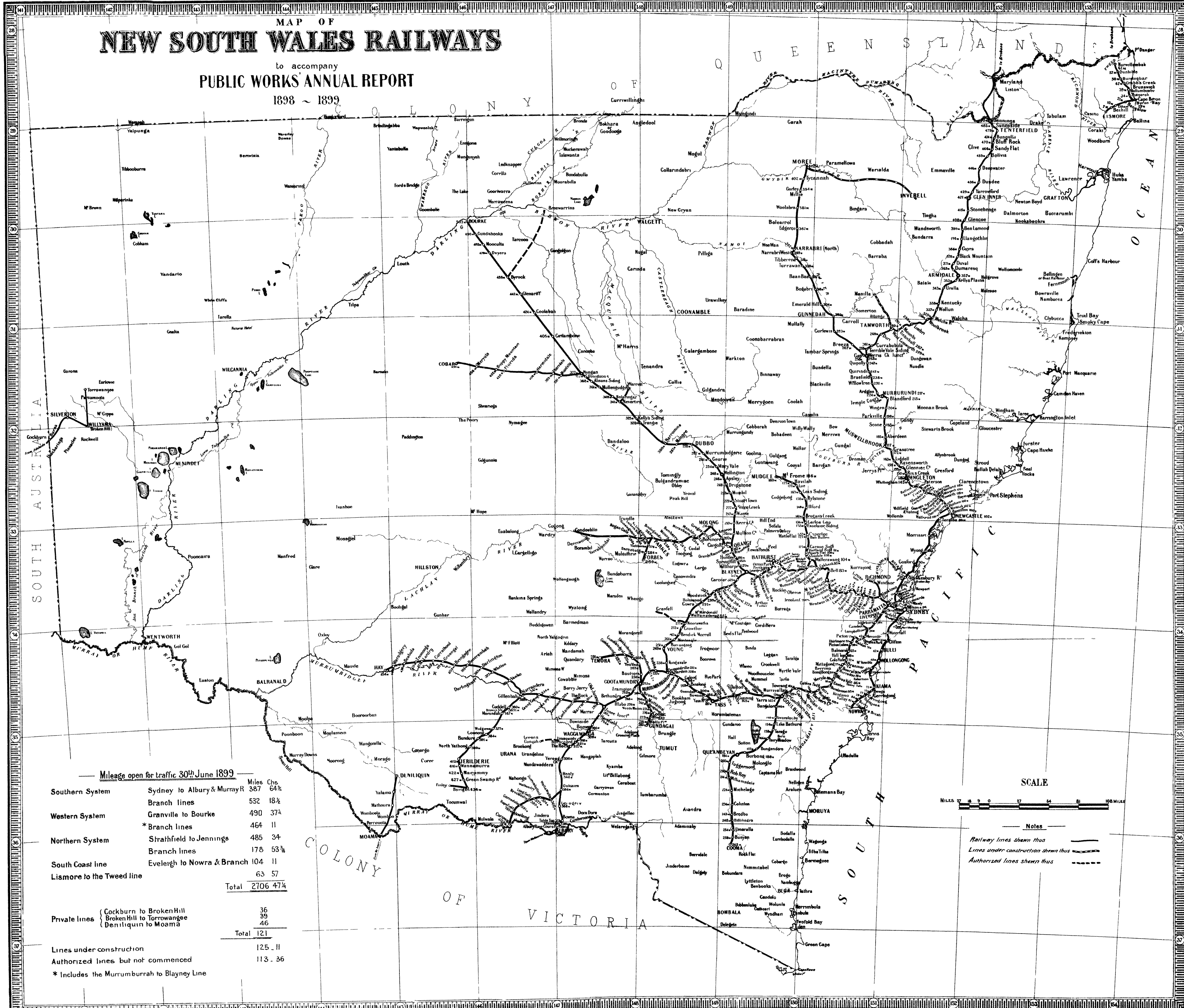


49939.

Photo-illustrated by  
W. A. Gullick, Government Printer,  
Sydney, N.S.W.

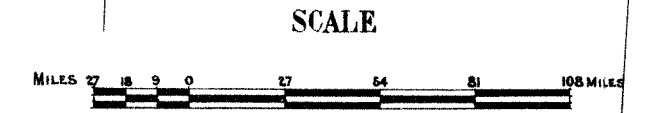
# MAP OF NEW SOUTH WALES RAILWAYS

to accompany  
**PUBLIC WORKS ANNUAL REPORT**  
1898 ~ 1899



Mileage open for traffic 30<sup>th</sup> June 1899

System	Line	Miles	Chs.
Southern System	Sydney to Albury & Murray R	387	64½
	Branch lines	532	18½
Western System	Granville to Bourke	490	37½
	* Branch lines	464	11
Northern System	Strathfield to Jennings	485	34
	Branch lines	178	53½
South Coast line	Eveleigh to Nowra & Branch	104	11
Lismore to the Tweed line		63	57
<b>Total</b>		<b>2706</b>	<b>47¼</b>
Private lines	Cockburn to Broken Hill	36	
	Broken Hill to Torowangee	39	
	Deniliquin to Moama	46	
<b>Total</b>		<b>121</b>	
Lines under construction		125	11
Authorized lines but not commenced		113	36
* Includes the Murrumburrah to Blayney Line			



**Notes**  
 Railway lines shown thus ———  
 Lines under construction shown thus - - - -  
 Authorized lines shown thus . . . . .

## References to Numbers on Map showing Work of Water Conservation Branch.

No.	District.	Nature of work.
1	Coastal .....	Hillgrove water supply—Earth dam, service reservoir, pumping machinery.
2	Upper Darling River .....	Sunny Corner water supply.
3	" .....	Bathurst Experimental Farm—Inlet well, &c.
4	" .....	Macquarie River District improvements—Cuttings Nos. 1 and 2.
5	" .....	" " Warren weir dam channel and regulator.
6	" .....	" " Gin Gin weir.
7	" .....	Coonamble bore.
7A	" .....	Bourbah bore.
8	" .....	Narran River weir and crossing.
9	" .....	Bourke lock and weir, also docking arrangements.
10	Lower Darling River.....	Mount Drysdale tank.
11	" .....	Gilgunnia tank.
12	" .....	Fifield tank.
12A	" .....	White Cliffs opal tank.
13	Murray, Murrumbidgee, and Lachlan Rivers..	Wentworth irrigation area—Engine-house, pumping machinery, channels, &c.
14	" .....	Lachlan River District improvements—Middle Billabong weir and cuttings.
15	" .....	" " Willandra Billabong regulator and Willandra weir and cuttings.
16	" .....	Lake Cudgellico—Flood-water regulator.
17	" .....	Wyalong water supply—Tanks Nos. 1 and 2.
18	" .....	Trungley tank.
19	" .....	Grong Grong tank.
20	" .....	Yanko Creek improvements—Two contracts.
21	" .....	Jerilderie dam repairs.
22	" .....	Urana by-wash dam.
23	" .....	Bywong pump-well.
24	Upper Darling River.....	Lachlan River District improvements—Channel from Middle Billabong Creek to Marowie Creek.
25	" .....	Queen Charlotte's Vale Creek dam.



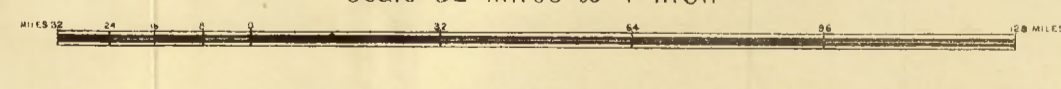


PUBLIC WORKS DEPARTMENT  
WATER CONSERVATION BRANCH.

# MAP OF NEW SOUTH WALES

SHOWING POSITIONS OF WORKS CONSTRUCTED AND PROPOSED &c.

Scale 32 Miles to 1 Inch



Head Offices of Local Land Boards shown in blue thus © BOURKE  
Railways shown thus ————  
Proportion of Crown Lands within area tinted Blue (up to 1894.)  
Murray, Murrumbidgee & Lachlan River District =  $\frac{4}{5}$   
Upper Darling River District =  $\frac{2}{3}$   
Lower Darling River District =  $\frac{1}{2}$

**REFERENCE**

- Water Conservation Surveys extend over the area tinted Blue (Area of Crown Lands affected up to 1894 - 43,400 sq miles)
- Positions of Works carried out are shown thus ○ (3) See accompanying List
- Positions of Drainage Union areas do ————
- Positions of Works under Water Rights Act do ————
- Positions of Gauging Sites do ————
- Watercourses improved by Works do ————

*C. B. ...*  
Engineer-in-Chief  
for Public Works.  
30/6/99

1899.  
(THIRD SESSION.)

—  
LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

---

PARLIAMENTARY STANDING COMMITTEE ON  
PUBLIC WORKS.

---

SIXTEENTH GENERAL REPORT

TOGETHER WITH

RETURNS GIVING A RECORD OF THE COMMITTEE'S  
INQUIRIES

AND

MINUTES OF PROCEEDINGS.

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Presented to Parliament in accordance with the provisions of the Public Works Act,  
51 Vic. No. 37.

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*Printed under No. 1 Report from Printing Committee, 3 August, 1899.*

SYDNEY : WILLIAM APPELGATE GULLICK, GOVERNMENT PRINTER.

\* 26—A

1899.  
[1s. 9d.]





MEMBERS OF THE COMMITTEE.

---

LEGISLATIVE COUNCIL.

The Honorable WILLIAM JOSEPH TRICKETT, Vice-Chairman.  
The Honorable PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Honorable ANDREW GARRAN, LL.D.

LEGISLATIVE ASSEMBLY.

JOHN PERRY, Esquire, Chairman.  
WILLIAM THOMAS DICK, Esquire.  
JOHN CHRISTIAN WATSON, Esquire.  
ROBERT HENRY LEVIEN, Esquire.



PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

SIXTEENTH GENERAL REPORT.

To His Excellency the Right Honourable WILLIAM, EARL BEAUCHAMP,  
Knight Commander of the Most Distinguished Order of Saint Michael  
and Saint George, Governor and Commander-in-Chief of the Colony  
of New South Wales and its Dependencies.

MAY IT PLEASE YOUR EXCELLENCY,—

The Parliamentary Standing Committee on Public Works, appointed during the first session of the present Parliament, under the Public Works Act of 1888, 51 Vic. No. 37, the Public Works Act Amendment Act of 1889, 52 Vic. No. 26, the Public Works (Committees' Remuneration) Act of 1889, 53 Vic. No. 11, and the Public Works Acts Further Amendment Act of 1897, 61 Vic. No. 6, have the honor to submit the following General Report, containing a statement of proceedings since the date of the last Report, 7th April, 1899:—

At the date of their last Report the Committee had before them four proposed works respecting which the inquiries were in progress, and two in relation to which the inquiries had not, up to that time, been commenced.

Works before  
the Com-  
mittee at date  
of their last  
Report.

The works respecting which the inquiries were in progress were:—

	Estimated cost.
Public Offices, Phillip, Bridge, and Young Streets, Sydney ... ..	£97,000
Railway from Dubbo to Coonamble ... ..	207,285
Railway from Cobar to Wilcannia ... ..	497,000
Locks and Weirs on the River Darling, between Bourke and Menindie ... ..	530,000

The inquiries relating to the following works had not then been opened:—

	Estimated cost.
Railway from Grenfell to Wyalong ... ..	£142,293
Penitentiary and Prison for Females, Randwick ... ..	118,000

Since then the inquiries referring to two of these works have been completed, and the Committee's reports concerning them will be laid before Parliament without delay. These works are:—

Inquiries  
completed.

	Estimated cost.
Public Offices, Phillip, Bridge, and Young Streets, Sydney ... ..	£97,000
Railway from Dubbo to Coonamble ... ..	207,285

The proposed public offices in Phillip, Bridge, and Young Streets, the Committee consider it inexpedient to erect until there has been a comprehensive investigation into the existing accommodation for the various public departments, and the possibility of improving it by fresh adjustments or slight structural alterations, and until the probable wants of the Government for ten years at least are approximately indicated. The Committee were led to this decision by its being apparent to them, from an inspection of the departments, that considerably more accommodation could be found in the present buildings if a better system than now exists in regard to the arrangement of offices, the style of office furniture used, and the area set apart for store-rooms, record-rooms, and also for the accommodation of messengers,

Public offices  
in Phillip,  
Bridge, and  
Young  
Streets,  
Sydney.

messengers, were introduced. They found generally that the structural fixtures of the buildings prevented a proper arrangement or a thoroughly systematic and effective control of the work. Under present conditions more single rooms are occupied than should be the case, containing a much greater superficial space than is necessary for individual officers, the consequence being that, while one officer may have a separate room of large size, a number of clerks may be crowded into a room of smaller dimensions, and the head of a room, who ought to be with the clerks or others he is expected to overlook, is either entirely apart from them in another room which he alone occupies, or he is shut off in a manner which the Committee consider renders personal supervision impossible. Much more space than appears to be requisite is used for store-rooms, and the same may be said in relation to record-rooms. The office furniture is so old-fashioned, unsuitable, and ill-arranged that it occupies a much larger proportion of space than it should do; and an imperfect system which prevails in regard to the keeping of books and papers further lessens the area required for the clerks. The investigation which the Committee recommend, should be made, they explain in their report upon the proposed offices, by a competent Board, consisting, say, of two representative public officers, two gentlemen connected with large business establishments in Sydney, and an architect; and they are of opinion that, should the results anticipated from this inquiry be realised, a new building such as that proposed in this instance may not be wanted, or the plans, if not set aside altogether, may require to be altered.

Railway from  
Dubbo to  
Coonamble.

The Railway from Dubbo to Coonamble, the Committee are of opinion, should be carried out as referred to them by the Legislative Assembly; and they have arrived at that conclusion after a careful investigation. Evidence has been collected in relation to the different routes put forward, and a close inspection made of the country which would be served by the proposed line, and of that along and in the vicinity of the route from Mudgee. The information thus obtained, together with that contained in the report by a previous Committee on the proposal to extend the railway from Warren to Coonamble, has enabled the Committee to arrive at a conclusion which they believe to be in the public interest as well as in that of the districts most concerned.

Early in the inquiry the Committee took steps to obtain from the Railway Commissioners reports upon the routes alternative to that from Dubbo. Regarding it as necessary that they should have before them expert evidence as to the probable traffic returns from the construction of lines of railway by those routes, and generally as to the nature of the country through which the lines would run, the Right Hon. the Premier and Minister for Railways was requested to have the Chief Railway Traffic Manager, or some other officer competent for the duty, instructed to visit the districts and obtain this information for the Committee, with the result that the Commissioners inspected and reported upon the Mudgee route, and the Chief Traffic Manager, who accompanied them on their tour of inspection, gave evidence on the subject. Further reports upon the Warren and Narramine routes were found to be unnecessary in view of the fact that the opinions of the Commissioners and of their expert officers concerning them were expressed in the inquiry made in 1898 with reference to the proposal for a railway from Warren to Coonamble. Reports from the Railway Commissioners upon alternative lines the Committee consider to be indispensable in all inquiries concerning proposed railways, and they trust that their action in this direction in the Dubbo-Coonamble Railway inquiry will form a precedent for the future.

Inquiries not  
yet complete.

Four works are still under consideration, but the inquiries relating to them are well advanced, and the Committee hope to be able to report upon two of them very shortly. These works are:—

	Estimated cost.
Railway from Cobar to Wilcannia ... ..	£497,000
Locks and Weirs on the River Darling, between Bourke and Menindie ... ..	530,000
Railway from Grenfell to Wyalong ... ..	142,293
Penitentiary and Prison for Females, Randwick ...	118,000

The

The evidence to be obtained in Sydney with regard to these proposals is almost complete. That relating to the Penitentiary and Prison for Females will shortly be brought to a close, and the report concerning it laid on the Table of the Legislative Assembly. The inquiry respecting the proposed Railway from Grenfell to Wyalong needs little more than an investigation by a Sectional Committee, and this will be made without delay. The inquiries with reference to the Railway from Cobar to Wilcannia, and the proposed Locks and Weirs on the River Darling between Bourke and Menindie, will necessitate a comparatively lengthy investigation in the Cobar and Darling districts, and this, up to the present, the Committee, in view of the work to be done in connection with the other works under consideration, have not yet been in the position to undertake.

Appended to this Report are the returns usually published with the Committee's General Reports, which contain a record of the inquiries by the several Committees appointed under the Public Works Act and the Amending Acts, and also a copy of the present Committee's Minutes of Proceedings. Appended returns and minutes.

JOHN PERRY,  
Chairman.

Office of the Parliamentary Standing Committee on Public Works,  
Sydney, 14th July, 1899.

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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

RECORD OF INQUIRIES.

LIST of Proposed Public Works inquired into by the several Committees, with the results of their inquiries, from 27 August, 1888, the date of the first sitting of the first Committee appointed under the Act, to 14 July, 1899.

Date of inquiry.	Proposed Work.	Expenditure proposed by the Government	Expenditure recommended by the Committee.	Amount in excess of that proposed.	Amount in reduction of that proposed.	Remarks.
		£	£	£	£	
1888. 4 Sept. to 22 Oct.	Improvements to the Circular Quay.	120,000	125,000	5,000		The Committee recommended an alteration in the plan of these improvements, by which the total estimated cost would be increased to £125,000.
26 Sept. to 22 Oct.	Storage reservoir at Potts' Hill, and second line of pipes to Crown-street.	120,000 165,000	285,000	.....	.....	Recommended as proposed.
13 Sept. to 22 Oct.	New Central Police Court	48,000		48,000	.....	.....
4 Oct. to 22 Oct.	Drainage works, Manly...	34,114	22,000	.....	12,114	The Committee recommended the adoption of a modified plan of these drainage works, by which the total estimated cost would not exceed £22,000.
10 Oct. to 22 Oct.	Drainage works, North Shore.	77,062	107,000	29,938	.....	The Committee recommended the adoption of the complete scheme proposed in relation to this work, and the estimated cost of which, as shown by the evidence, is £107,000.
31 Aug. to 22 Oct.	Harbour improvements at Newcastle.	112,000	112,000	.....	.....	Recommended as proposed.
19 Sept. to 22 Oct.	Wharfage accommodation, Woolloomooloo Bay.	42,000	.....	.....	42,000	The Committee were of opinion that the proposed expenditure was not justified either by the requirements in connection with the wharfage accommodation of the port, or by the nature of the proposal if regarded as a scheme for the improvement of a very valuable Government property.
16 Nov. to 1889. 11 Jan.	Bridge at the Spit, Middle Harbour.	62,000	.....	.....	62,000	The Committee decided that the proposed expenditure was not justified by the evidence, and that a steam-punt would meet the requirements of the district in the vicinity of the proposed work for some years to come.
1888. 7 Dec. to 1889. 27 Aug.	Drainage works for the Western Suburbs.	830,304	830,304	.....	.....	Recommended as proposed.
26 June to 30 Sept.	Improvements to the entrance of the Richmond River.	326,000	326,000	.....	.....	The Committee recommended that the proposed works be carried out in a certain order, so that the results from the works first constructed might be ascertained before others were proceeded with.
9 Oct. to 11 Dec.	Railway to connect North Shore Railway with Port Jackson, at Milson's Point.*	262,000	.....	.....	262,000	The Committee considered, for various reasons stated in their report on the subject, that the work as proposed should not be carried out.
29 Aug. to 12 Dec.	Railway from Culcairn to Corowa.	197,300 (or £4,184 per mile.)	164,500 (or £3,500 per mile.)	.....	32,800	The Committee were of opinion that this line should be constructed at a cost not exceeding £3,500 per mile.
22 Aug. to 19 Dec.	Railway from Goulburn to Crookwell.	193,300 (or £5,984 per mile.)	148,500 (or £4,500 per mile.)	.....	49,800	The Committee considered that the cost of this railway should not exceed £4,500 per mile, and that a saving should also be effected by utilizing a certain portion of the present main line instead of taking the proposed railway through a part of the city of Goulburn.
1890. 22 Jan. to 6 Feb. 1889.	Dredge and plant for Sydney Harbour.	30,000	.....	.....	30,000	The evidence showed that this class of dredge was not required
25 Sept. to 1890. 18 Feb.	Railway from Nyngan to Cobar.	207,360	207,360	.....	.....	The Committee recommended the construction of this railway as part of a line which should be extended to Wilcannia and Broken Hill.
14 Jan. to 11 Feb.	Offices for the Board of Water Supply and Sewerage.	50,000	50,000	.....	.....	Recommended as proposed.
14 Jan. to 6 Feb.	Reticulation of the Western Suburbs Drainage Scheme.	713,592	713,592	.....	.....	Recommended as proposed.
14 Jan. to 11 Feb.	Extension of Sydney Water Supply to Southern Suburbs—Hurstville and Rockdale.	66,000	.....	.....	66,000	This expenditure was rendered unnecessary by reason of a temporary water-supply scheme being sufficient to meet requirements for some years.
19 Nov. to 2 April.	Railway from Marrickville to the Burwood Road.	90,250	90,250	.....	.....	Recommended as proposed.
	Carried forward.....£	3,751,282	3,229,506	34,938	556,714	

List of Proposed Public Works inquired into by the Committee, &c.—*continued.*

Date of inquiry.	Proposed Work.	Expenditure proposed by the Government.	Expenditure recommended by the Committee.	Amount in excess of that proposed.	Amount in reduction of that proposed.	Remarks.
		£	£	£	£	
	Brought forward ...£	3,751,282	3,229,506	34,938	556,714	
1890. 23 Oct. to 24 April.	Improvements to the entrance of the Clarence River.	580,900	211,900	.....	369,000	In this case the Committee recommended the construction of only a portion of the works proposed, as they were of opinion that when this portion had been constructed it might be found that the remainder would not be required.
31 Oct. to 15 April.	Breakwater at Byron Bay.	241,723	241,723	.....	.....	The original estimate for this work was £162,000; the increase was due to a difficulty in obtaining stone.
4 Dec. to 24 April.	Railway from Kiama to Nowra.	381,390	381,390	.....	.....	In this case there was an original estimate of £441,663. The reduction was due to an amended estimate made by the Acting Engineer-in-Chief for Railways since the railway was referred to the Committee.
12 Nov. to 24 April.	Railway from Grafton to the Tweed.*	1,728,100	800,000	.....	928,100	The Committee recommended that this railway should be constructed from Lismore to Murwillumbah, instead of from Grafton to Murwillumbah, the Committee's recommendation involving a length of about 60½ miles as compared with 140 miles 76 chains, the length of the line as referred to them by the Legislative Assembly.
15 Jan. to 24 April.	Railway from Cootamundra to Temora.	138,000 (or £3,656 per mile.)	125,400 (or £3,300 per mile.)	.....	12,600	The Committee considered that the cost of constructing this railway should not exceed £3,300 per mile.
23 Jan. to 24 April.	Railway from Moss Vale to Robertson.	84,900	.....	.....	84,900	The Committee negatived this proposal because they considered another route, described in their report, was preferable.
23 Jan. to 25 Mar.	Railway from Mudgee to Gulgong.	109,330	.....	.....	109,330	The Committee decided against this work, on the ground that any extension of the Mudgee Railway should form part of a more comprehensive proposal, the consideration of which should be deferred until after the suggestion for the connection of the Northern and Western systems, by a line between Dubbo and Werris Creek, has been dealt with.
12 Feb. to 24 April.	Bridge over Tarban Creek, Parramatta River.	26,000	.....	.....	26,000	The Committee considered this bridge to be unnecessary.
20 Feb. to 15 April.	Bridge over the Hunter River, at Jerry's Plains.	20,000	.....	.....	20,000	The Committee considered that a less expensive bridge would be sufficient to meet requirements.
25 Feb. to 24 April.	Bridge to connect Bullock Island with the mainland at Newcastle.	33,000	.....	.....	33,000	The Committee considered that this proposed expenditure was premature, pending certain reclamation works.
12 Feb. to 21 May.	Iron Bridge at Cowra ...	26,537	26,537	.....	.....	The original proposal represented an expenditure of £69,971, which amount was afterwards reduced to £26,537, as the result of a revision of the system of bridge-building in the Colony. Recommended as proposed.
22 Jan. to 21 May.	Railway from Molong to Parkes and Forbes.	433,000	433,000	.....	.....	
28 May to 8 July.	Hospital for the Insane upon the Kenmore Estate, near Goulburn.*	120,000	.....	.....	120,000	This proposed work, after being partly considered, was withdrawn from the Committee by resolution of the Assembly.
28 May to 21 Aug.	Railway to connect the North Shore Railway with the deep waters of Port Jackson, at Milson's Point.* (Second Reference.)	231,156	231,156	.....	.....	This proposal was before the Committee on a previous occasion (estimated cost, £262,000), when it was negatived; but having been referred to the Committee for further consideration, and circumstances appearing in the second inquiry which justified the construction of the railway, the Committee approved of the proposed work.
10 Dec. to 13 May, 1891.	Hospital Buildings, Macquarie-street.	140,000	56,000	.....	84,000	In this case, two sets of plans for the buildings were submitted to the Committee, one representing a design that was estimated to cost £140,000, and the other a design to cost £56,000, and the Committee approved of the latter.
1891. 11 Feb. to 25 Mar.	College for the Training of Teachers of Public Schools.	37,500	37,500	.....	.....	Recommended as proposed.
1 Feb. to 21 April.	Extension of the Kiama to Nowra Railway into the town of Nowra.	75,000	75,000	.....	.....	Recommended as proposed.
24 Feb. to 14 May.	Railway from Cobar to Cockburn.	1,168,000	1,018,000	.....	150,000	The Committee recommended the construction of this railway as far as Broken Hill only, which would reduce the proposed expenditure by £150,000.
22 Jan., 1890, to 19 May, 1891.	Cable Tramway from King-st., via William-street, to Ocean-street.	80,000	80,000	.....	.....	Recommended as proposed.
25 Nov., 1890, to 3 June, 1891.	Cable Tramway through George, Pitt, and Harris Streets, Sydney.	120,000	.....	.....	120,000	The Committee considered that it was not expedient at present, for reasons stated in their report, that this tramway should be constructed.
	Carried forward .....	£ 9,525,818	6,947,112	34,938	2,613,644	



List of Proposed Public Works inquired into by the Committee, &c.—*continued.*

Date of Inquiry.	Proposed Work.	Expenditure proposed by the Government.	Expenditure recommended by the Committee.	Amount in excess of that proposed.	Amount in reduction of that proposed.	Remarks.
1892. 5 May to 2 June.	Brought forward .. £ Improvements at Darling Island.	£ 9,525,818 142,000	£ 6,947,112 .....	£ 34,938 .....	£ 2,613,644 142,000	The Committee considered that the proposed works might be postponed for the present without inconvenience, and that a more suitable design might be submitted.
7 June to 12 July.	Stormwater sewers discharging into Johnstone's Bay.	51,352	51,352	.....	.....	Recommended as proposed.
15 June to 4 Aug.	Reservoir at Centennial Park for Sydney Water Supply.	83,000	83,000	.....	.....	Recommended with an alteration of site.
14 July to 24 Aug.	Water Supply for Wollongong and the surrounding districts.	66,000	30,000	.....	36,000	The Committee found that the Water Supply proposed for the surrounding districts was not needed, and that the estimate of cost for supplying Wollongong might be reduced to £30,000.
28 July to 24 Aug.	Second pipe-line from Walka to Buttai, for Hunter River District Water Supply.	50,000	50,000	.....	.....	Recommended as proposed.
26 July to 9 Aug.	Sewerage works at Cottage Creek.	25,000	13,000	.....	12,000	The amount of £25,000 provided for a covered sewer; but the Committee found that a cover was not necessary at present, and that by constructing an open sewer the cost could be reduced by £12,000.
21 April, 1891, to 27 May, 1892.	Railway from Glen Innes to Inverell.*	427,400	.....	.....	427,400	The evidence in this case showed that the estimated cost of constructing the railway was excessive, and indicated the probability of a serious annual loss in the working of the line. In addition to this, the Committee were not as fully informed as desirable with regard to connecting Inverell not only with the Great Northern Railway but with the coast, a matter of considerable importance in the inquiry.
31 May to 18 Aug.	Railway from Jerilderie to Deniliquin.	148,000	.....	.....	148,000	The Committee were of opinion that the consideration of this proposed work should be postponed until it should be determined by Parliament as a matter of public policy to purchase the Deniliquin to Moama Railway.
12 July to 24 Aug.	Lunatic Asylum at Kenmore, near Goulburn.* (Second Reference.)	150,000	150,000	.....	.....	Recommended as proposed.
14 June to 28 Sept.	Railway from Grafton to Lismore.*	662,000 (or £8,000 per mile.)	108,000 (or £6,000 per mile.)	.....	554,000	The Committee decided that, for the present, only the Lismore to Casino section of the proposed railway should be constructed, that the cost should not exceed £6,000 per mile, and that the betterment principle be applied to the land to be served by the proposed line.
10 July to 26 Oct.	Railway from Eden to Bega.	564,000 (or £15,350 per mile.)	.....	.....	564,000	The Committee considered that the present resources of the district did not warrant the construction of such an expensive line, but they were of opinion that a cheaply constructed railway might be favorably considered.
22 June to 4 Oct.	Sewerage Works for Parramatta.*	75,926	.....	.....	75,926	The Committee were of opinion that the sewage farm included in the scheme was too small for the purpose, and that the sewage should be dealt with by precipitation and filtration or other effective modern process at a proposed pumping station at Clay Cliff Creek.
12 Oct. to 21 Dec.	Water Supply for Tamworth.	22,500	22,500	.....	.....	Recommended as proposed, with a provision as to the quantity of water obtainable, and the resumption of land surrounding the well in the drift forming the source of supply.
14 Sept. to 16 Nov.	Water Supply for Lithgow.	15,000	15,000	.....	.....	Recommended as proposed.
15 Sept. to 16 Nov.	Water Supply for Armidale.	43,500	43,500	.....	.....	Recommended as proposed.
17 Nov. to 10 Jan. 1893.	Railway from Glen Innes to Inverell.* (Second Reference.)	421,400 (or £7,975 per mile.)	369,862 (or £7,000 per mile.)	.....	51,538	The Committee considered it expedient this railway should be constructed, provided that the cost did not exceed £7,000 per mile, that special local rates were charged until the railway paid working expenses and interest on cost of construction, and that the betterment principle was applied to the land served by the railway.
14 Feb. to 8 Mar.	Waterworks for the town of Junee.	45,000	45,000	.....	.....	The Committee recommended that these works should be carried out, conditionally upon the Railway Commissioners undertaking to enter into an agreement for a period of not less than ten years to pay a minimum of £1,900 per annum for water supplied for railway purposes at Junee and Bethungra.
14 Nov., 1893, to 11 Jan., 1894.	Railway from Narrabri to Moree.	153,000	153,000	.....	.....	Recommended as proposed, with the condition that the work be not undertaken until a Betterment Act is passed.
	Carried forward.....£	12,670,896	8,081,326	34,938	4,624,508	

List of Proposed Public Works inquired into by the Committee, &c.—*continued.*

Date of inquiry.	Proposed Work.	Expenditure proposed by the Government.	Expenditure recommended by the Committee.	Amount in excess of that proposed.	Amount in reduction of that proposed.	Remarks.
1894. 7 Feb. to 22 Mar.	Brought forward ...£ Sewerage Works for Parramatta.* (Second reference.)	£ 12,670,896 75,926	£ 8,081,326 .....	£ 34,938 .....	£ 4,624,508 75,926	The Committee decided that it was not expedient the proposed works should be carried out, for the reasons that the scheme had not been adequately considered, and that, according to the evidence, Parramatta was neither willing nor able to pay the rate necessary to provide the interest on the expenditure, and did not want the proposed works.
6 Mar. to 16 April.	Deviation to avoid the Lithgow Zigzag.	181,072	.....	... ..	181,072	The Committee were of opinion that as the professional evidence, as well as much of the evidence generally, indicated that the proposed deviation was not a matter of urgency it was not expedient the work should be carried out.
9 April, to 22 May.	Railway from Temora to Wyalong.*	104,430	.....	.....	104,430	The Committee were of opinion that the decision upon the proposal should be deferred for six months.
11 April, to 20 June.	Removal of Pyrmont and Glebe Island Bridges.*	296,500	.....	.....	296,500	The Committee recommended that when renewal becomes necessary the existing bridges at Darling Harbour and Glebe Island should be replaced by timber structures of a kind specified in their report, which report, however, in consequence of the sudden dissolution of Parliament was not presented to the Legislative Assembly.
3 Oct. to 14 Nov.	Removal of Pyrmont and Glebe Island Bridges.* (Second reference.)	296,500	82,500	... ..	214,000	The Committee recommended that the Pyrmont Bridge be replaced by a timber bridge with steel span, to cost £82,500, and decided that the Glebe Island Bridge did not at present require renewal.
19 Dec. to 27 Feb., 1895.	Railway from Jerilderie to Berrigan.	43,543	43,543	.....	.....	The construction of this railway was recommended, with the condition that the estimated cost, £2,000 per mile, should include goods and grain sheds, engineering charges, and all contingencies.
7 Mar. to 10 May.	Railway from Parkes to Condobolin.	127,000	127,000	.....	.....	In this inquiry the Committee, while considering it expedient the railway should be constructed, resolved that the cost should not exceed £2,100 per mile, including the cost of land resumptions.
17 May to 28 June.	Railway from Temora to Wyalong.* (Second reference.)	92,000	.....	.....	92,000	The Committee, in deciding against this proposed work, were of opinion that at the present time there is no justification for its construction, and the prospects of Wyalong's future are not such as to lead them to conclude that the line should be built in anticipation of what may be the condition of the gold-field and the district some years hence.
20 Mar. to 7 May.	Harbour Improvements at Newcastle.	141,000	141,000	.....	.....	In this inquiry the Committee recommended a modification of the works proposed by the Department and an additional work, the cost of the works as recommended by the Committee being about the same as that of the works proposed by the Department.
26 June, to July.	Tramway from Woolwich to the Field of Mars Common.	19,300	.....	.....	19,300	This proposed work was referred to the Fifth Committee who, at the termination of their existence, had inquired partly into it. A motion in the Legislative Assembly to refer the proposal to the Sixth Committee was, however, negatived on 11 December, 1895.
12 Dec. to 14 Dec.	Deviation at Locksley, Great Western Railway.	47,500	47,500	.....	.....	The Committee considered this work to be an urgent and necessary one, and recommended that it be carried out without delay.
17 Dec. to 24 Jan. 1896.	Water Supply for the Town of Tamworth.	32,824	32,824	.....	.....	The Committee recommended that this work be carried out, with the proviso that the capacity of the storage reservoir be increased from 35,000,000 to 50,000,000 gallons.
18 Mar. to 8 May.	Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-st. to the inter- section of John-street.	130,500	130,500	.....	.....	Recommended as proposed.
1 Jan. to 10 Mar.	Erection of Buildings at Rookwood for Infirm and Destitute Persons.	118,285	62,900	.....	55,385	The Committee decided that it was not expedient the proposed works should be carried out, deeming it inadvisable, for reasons stated in their Report, to concentrate the infirm and destitute at Rookwood. The Government estimate for the proposed buildings was £103,350 without, and £118,285 with, provision for sewage. The Committee recommended that the inmates of the Parramatta Asylums be removed, the healthy patients being housed at Rookwood and Liverpool, provision for the chronic and acute sick to be made on Crown lands near Campbelltown.
	Carried forward.....£	14,377,276	8,749,093	34,938	5,663,121	

LIST of Proposed Public Works inquired into by the Committee, &c.—*continued.*

Date of inquiry.	Proposed Work.	Expenditure proposed by the Government.	Expenditure recommended by the Committee.	Amount in excess of that proposed.	Amount in reduction of that proposed.	Remarks.
		£	£	£	£	
1896.	Brought forward.....	14,377,276	8,749,093	34,938	5,663,121	
9 Jan. to 17 July.	Additions to the Treasury Buildings.	21,500	21,500	.....	.....	Recommended as proposed.
20 Feb. to 1 Oct.	Railway from Tamworth to Manilla.	72,150	71,875	.....	275	The Committee's recommendation provided for an amended route, the cost of the railway not to exceed £2,500 per mile.
21 April, to 20 May.	Railway from Nevertire to Warren.	32,730	32,730	.....	.....	Recommended as proposed.
12 May, to 31 July.	Construction of Locks and Weirs on the River Darling.	121,100	.....	.....	121,100	The Committee negated this proposed work.
5 June, to 19 Aug.	Railway from Berrigan to Finley.	27,250	27,250	.....	.....	The Committee recommended that this proposed railway should be constructed, the cost not to exceed £2,000 per mile.
16 June to 21 July.	Improvement of Cook's River.	36,400	15,000	.....	21,400	As recommended by the Committee the construction of the proposed works would involve an expenditure of £15,000—a reduction on the Departmental estimate of £21,400—which, in the opinion of the Committee, would meet the requirements of the case.
1 Sept. 1896, to April, 1897.	Railway from Moree to Inverell.	279,500	279,500	.....	.....	The Committee resolved that it was expedient this railway should be constructed as proposed.
28 Oct. 1896, to 10 Feb., 1897.	Construction of a Deep-water Harbour at Port Kembla.	440,000	200,000	.....	240,000	The Departmental estimate of cost provided for the construction of two breakwaters, known respectively as the northern and eastern, and the necessary equipment of the port for coal-shipping and general commercial purposes. The Committee were of opinion, however, that the proposed harbour would be rendered sufficiently secure to meet present requirements if the eastern breakwater only were carried out, and the estimated cost reduced by £240,000.
5 Aug. to 10 Dec., 1896.	Railway from Condobolin to Broken Hill.	955,063	.....	.....	955,063	The Committee, while having regard to the various aspects of this proposed work, and considering also that the annual loss on the working of the railway would amount to £60,000, were of opinion that it should not, at present, be proceeded with.
11 Feb., 1897, to 13 April.	*Sewerage Works for Parramatta. (Third Reference.)	60,000	60,000	.....	.....	This work was passed by the Committee with the provision that the cost should not exceed the Departmental estimate, and that the carrying out of the work should be subject to a guarantee (by the Municipal Council of Parramatta) of the annual payment required to cover maintenance and interest, and redemption of the principal outlay.
4 May to 8 June.	Duplicate Main from Prospect to Potts' Hill.	109,317	109,317	.....	.....	The Committee recommended the amended scheme submitted by the Engineer-in-Chief for Public Works, by which the sides of the canal between Prospect and the Pipe Head Basin would be raised, the canal strengthened, and the 6-foot pipe-line between the Basin and Potts' Hill Reservoir duplicated.
14 April to 6 Dec.	New Houses of Parliament.	533,484	15,000	.....	518,484	The Committee recommended the adoption of the scheme submitted by the Government Architect, providing for alterations to the present Parliamentary Buildings, at a cost not exceeding £15,000.
16 June to 15 Sept.	New Bridge at Glebe Island.	89,100	89,100	.....	.....	The Committee recommended that there be substituted for the existing structure a stone causeway, with a central, steel swing-span.
13 July to 25 Aug.	Railway from Redfern to St. James' Road.	650,000	650,000	.....	.....	Recommended as proposed.
31 Aug. to 7 Dec.	Railway from Condobolin Euabalong.	108,225	.....	.....	108,225	The Committee negated this proposed work, but recommended, in connection with any proposal for a railway towards Hillston, that a survey be made for a line from Koorawatha, with a view to its consideration in conjunction with existing surveys.
16 Sept. to 25 Nov.	Railway from The Rock to Green's Gonyah.	67,000	67,000	.....	.....	Recommended as proposed.
5 Sept. to 18 Nov.	Railway from Coolamon to Ariaah.	91,307	.....	.....	91,307	The Committee negated this proposal.
	Carried forward.....£	18,071,402	10,387,365	34,938	7,718,975	

Date of Inquiry.	Proposed Work.	Expenditure proposed by the Government.	Expenditure recommended by the Committee.	Amount in excess of that proposed.	Amount in reduction of that proposed.	Remarks.
	Brought forward.....	£ 18,071,402	£ 10,387,365	£ 34,938	£ 7,718,975	
1897. 20 Dec. to 1 April, 1898. 1898. 5 Jan. to 13 April, 1897.	Railway from Koorawatha to Grenfell.	89,250	89,250	.....	.....	Recommended as proposed.
14 Dec. to 29 April, 1898. 1898. 15 Mar. to 26 April, 1897.	Railway from the Terminus of the Rose Hill Railway to Dural.	57,000	.....	.....	57,000	The Committee negated this proposal.
14 Dec. to 29 April, 1898. 1898. 15 Mar. to 26 April, 1897.	Railway from Warren to Coonamble.	150,000	.....	.....	150,000	The Committee negated this proposal, but recommended that a survey be made of a route from Dubbo to Coonamble.
15 Mar. to 26 April, 1897.	Harbour Works at Tweed River.	43,600	43,600	.....	.....	Recommended as proposed.
19 Oct. to 23 June, 1898. 1897. 1 Oct. to 22 June, 1898.	Railway from Narrabri to Pilliga.	128,650	.....	.....	128,650	The Committee negated this proposal, but suggested a route from Narrabri to Eurie Eurie, which could, if necessary, be extended on to Walgett.
1 Oct. to 22 June, 1898.	Railway from Byrock to Brewarrina.	146,350	146,350	.....	.....	The Committee recommended that the railway should be carried out, provided that it be made legally binding upon the Crown lessees in the district served to pay, until the railway shall become self-supporting, one farthing per acre rent additional to their present or ordinary assessment, such additional rent to be credited to the Railway Commissioners.
9 Mar. to 24 June.	Railway from Woolabra to Collarenebri.	207,798	.....	.....	207,798	The Committee negated this proposal, but suggested a route by which a railway would go from Narrabri towards Eurie Eurie, and, at a point about 315 miles from Newcastle, proceed in a north-westerly direction to Collarenebri.
22 Feb. to 6 July.	Railway from Maitland to Taree.	982,233	.....	.....	982,233	The Committee negated this proposal.
30 Mar. to 6 July.	Harbour Works at Bellinger River.	36,000	36,000	.....	.....	Recommended as proposed.
8 Feb. to 1 July.	Harbour Works at Macleay River.	95,000	95,000	.....	.....	Recommended as proposed.
27 April to 29 June.	Harbour Works at Hastings River.	46,500	13,915	.....	32,585	The Committee recommended that for the present the southern training-wall only, estimated to cost £13,915, should be carried out.
22 Mar. to 1 July.	Harbour Works at Manning River.	100,000	100,000	.....	.....	The Committee recommended the construction of the proposed work, with some slight modifications.
14 April to 7 July, 1899.	Harbour Works at Nambucca River.	72,500	49,393	.....	23,107	Recommended with modifications.
25 Jan. to 2 Mar.	Water Supply Works for the Borough of Wollongong.	25,211	25,211	.....	.....	The Committee recommended the larger of the two schemes submitted, providing for an extension to Port Kembla on the south, and Bulli on the north.
18 Jan. to 28 Mar.	Public Offices, Phillip and Hunter Streets, Sydney.	44,810	16,000	.....	28,810	The Committee recommended a modification of the Government proposal, providing for a building containing a basement, ground-floor, and first-floor, at a cost not exceeding £16,000.
2 Feb. to 28 April.	Public Offices, Phillip, Bridge, and Young Sts., Sydney.	97,000	.....	.....	97,000	The Committee were of opinion that it was inexpedient to erect this building until there had been a comprehensive investigation into the existing accommodation for the various public Departments and the possibility of improving it by fresh adjustments or slight structural alterations, and until the probable wants of the Government for ten years, at least, were approximately indicated.
9 Mar. to 13 July.	Railway from Dubbo to Coonamble.	207,285	207,285	.....	.....	Recommended as proposed.
		£ 20,600,639	11,209,369	34,938	9,426,208	

\* Works marked with an asterisk have been referred to the Committee more than once, and allowing for these repeated references, and for the expenditure recommended in two instances in excess of that proposed, the actual saving effected amounts to £7,100,938.

#### WORKS RESPECTING WHICH THE INQUIRIES ARE PROCEEDING.

Railway from Cobar to Wilcannia .....	£497,000
Locks and Weirs on the River Darling, between Bourke and Menindie ...	530,000
Railway from Grenfell to Wyalong .....	142,293
Penitentiary and Prison for Females, Randwick .....	118,000

# PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

RETURN SHOWING THE COURSE OF THE COMMITTEES' INQUIRIES FROM THE REFERENCE OF THE WORKS TO THE  
ULTIMATE ACTION RESPECTING THEM.

## FIRST COMMITTEE—FROM 12 JUNE, 1888, TO 22 OCTOBER, 1888.

### MEMBERS OF THE COMMITTEE.

#### LEGISLATIVE COUNCIL.

The Honorable JOHN LACKEY, Chairman.

The Honorable GEORGE CAMPBELL.

The Honorable WILLIAM HENRY SUTTOR.

The Honorable JAMES WATSON.

The Honorable FREDERICK THOMAS HUMPHERY.

#### LEGISLATIVE ASSEMBLY.

JOSEPH PALMER ABBOTT, Esquire, Vice-Chairman.

JAMES NIXON BRUNKER, Esquire.\*

HENRY COPELAND, Esquire.

ALEXANDER KETHEL, Esquire.

JOHN RENDELL STREET, Esquire.

THOMAS MICHAEL SLATTERY, Esquire.

JACOB GARRARD, Esquire.

SYDNEY SMITH, Esquire.

\* James Nixon Brunker, Esquire, by reason of his accepting the office of Minister for Lands, did not take his seat as a member of the Committee.

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Wharfage Accommodation, Woolloomooloo Bay.	1888. 23 July .....	1888. 19 September	.....	.....	1888. Inquiry completed by Second Committee.	See Second Committee.	See Second Committee.	See Second Committee.
Improvements to the Circular Quay.	23 ,, .....	4 ,, ...	.....	.....	22 October ...	The Committee recommended an alteration in the plan of these improvements, by which the estimated total cost would be increased from £120,000 to £125,000.	Passed.	Legislative Assembly—11 April, 1889—Bill read third time. Legislative Council—24 April, 1889—Bill read third time; 30 April, 1889—Assent reported.
Storage Reservoir at Potts' Hill	23 ,, .....	26 ,, ...	.....	.....	22 ,, ...	Recommended as proposed.	Passed.	Legislative Assembly—17 May, 1889—Bill read third time. Legislative Council—30 May, 1889—Bill read third time; 5 June, 1889—Assent reported.

FIRST COMMITTEE—continued.

Proposed Work	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Second Pipe between Potts' Hill and Crown-street.	1888. 23 July.....	1888. 26 September	.....	.....	1888. 22 October ...	Recommended as proposed.	Passed [Sydney Water Supply (Partial Reduplication) Bill].	Legislative Assembly—24 July, 1889—Bill read third time. Legislative Council—17 Sept., 1889—Bill read third time; 30 Sept., 1889—Assent reported.
Dredge and Plant for Sydney Harbour.	23 ,, .....	Dealt with by Third Committee.	.....	.....	.....	See Third Committee.	See Third Committee.	See Third Committee.
Improvements to the Entrance of the Richmond River.	23 ,, .....	,, ,,	.....	.....	.....	,, ,,	,,	,, ,,
Bridge at the Spit, Middle Harbour.	23 ,, .....	Dealt with by Second Committee.	.....	.....	.....	See Second Committee.	See Second Committee.	See Second Committee.
New Central Police Court .....	23 ,, .....	13 September	.....	.....	22 October ...	Recommended as proposed.	Passed.	Legislative Assembly—15 May, 1889—Bill read third time. Legislative Council—23 May, 1889—Bill read third time; 30 May, 1889—Assent reported.
Improvements to the Entrance of the Clarence River.	23 ,, .....	Dealt with by Third Committee.	.....	.....	.....	See Third Committee.	See Third Committee.	See Third Committee.
Drainage Works, Manly .....	23 ,, .....	4 October ...	.....	.....	22 October ...	The Committee recommended the adoption of a modified plan of these drainage works, by which the estimated total cost would not exceed £22,000, or £12,114 less than the original estimate.	Passed.	Legislative Assembly—23 May, 1889—Bill read third time; 3 Sept., 1889—Bill finally passed. Legislative Council—20 June, 1889—Bill read third time; 12 Sept., 1889—Assent reported.
Drainage Works, North Shore	23 ,, .....	10 ,, ...	.....	.....	22 ,, ..	The Committee recommended the adoption of the complete scheme proposed in relation to this work, the estimated cost of which, as shown by the evidence, was £107,000.	Passed.	Legislative Assembly—17 April, 1889—Bill read third time; 15 May, 1889—Bill finally passed. Legislative Council—9 May, 1889—Bill read third time; 22 May, 1889—Assent reported.
Drainage Works for the Western Suburbs.	23 ,, .....	Dealt with by Second and Third Committees.	.....	.....	.....	See Third Committee.	See Third Committee.	See Third Committee.
Harbour Improvements at Newcastle.	23 ,, .....	31 August ...	.....	.....	22 October ...	Recommended as proposed.	Passed.	Legislative Assembly—11 April, 1889—Bill read third time. Legislative Council—24 April, 1889—Bill read third time 30 April, 1889—Assent reported.

SECOND COMMITTEE—FROM 24 OCTOBER, 1888, TO 19 JANUARY, 1889.

MEMBERS OF THE COMMITTEE.

LEGISLATIVE COUNCIL.

The Honorable JOHN LACKEY, Chairman.  
The Honorable GEORGE CAMPBELL.

The Honorable WILLIAM HENRY SUTTON.  
The Honorable JAMES WATSON.

The Honorable FREDERICK THOMAS HUMPHERY.

LEGISLATIVE ASSEMBLY.

JOSEPH PALMER ABBOTT, Esquire, Vice-Chairman.  
HENRY COPELAND, Esquire.  
JACOB GARRARD, Esquire.  
ALEXANDER KETHEL, Esquire.

SYDNEY SMITH, Esquire.  
THOMAS MICHAEL SLATTERY, Esquire.  
JOHN RENDELL STREET, Esquire.  
DANIEL O'CONNOR, Esquire.

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Wharfage Accommodation, Woolloomooloo Bay.	1888. 23 July .....	1888. 19 September	.....	.....	1889. 10 January ...	The Committee were of opinion that the proposed expenditure was not justified either by the requirements in connection with the wharfage accommodation of the port, or by the nature of the proposal if regarded as a scheme for the improvement of a very valuable Government property. See Third Committee.	Not dealt with.	.....
Dredge and Plant for Sydney Harbour.	23 ,, .....	Dealt with by Third Committee.	.....	.....	.....	.....	See Third Committee.	See Third Committee.
Improvements to the Entrance of the Richmond River.	23 ,, .....	” ”	.....	.....	.....	” ”	” ”	” ”
Bridge at the Spit, Middle Harbour.	23 ,, .....	16 November	.....	.....	11 January ...	The Committee decided that the proposed expenditure was not justified by the evidence, and that a steam-punt would meet the requirements of the district in the vicinity of the proposed work for some years to come. See Third Committee.	Not dealt with.	.....
Improvements to the Entrance of the Clarence River.	23 ,, .....	Dealt with by Third Committee.	.....	.....	.....	.....	See Third Committee.	See Third Committee.
Drainage Works for the Western Suburbs.	23 ,, .....	7 December	.....	.....	Inquiry completed by Third Committee.	” ”	” ”	” ”

## THIRD COMMITTEE—FROM 7 JUNE, 1889, TO 6 JUNE, 1891.

### MEMBERS OF THE COMMITTEE.

#### LEGISLATIVE COUNCIL.

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| <ul style="list-style-type: none"> <li>* The Honorable JOHN LACKEY, Chairman.</li> <li style="padding-left: 2em;">The Honorable ANDREW GARBAN.</li> <li>* The Honorable JAMES WATSON.</li> </ul> | <ul style="list-style-type: none"> <li style="padding-left: 2em;">The Honorable FREDERICK THOMAS HUMPHREY.</li> <li style="padding-left: 2em;">The Honorable WILLIAM JOSEPH TRICKETT.</li> <li>* The Honorable GEORGE HENRY COX.</li> </ul> |
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#### LEGISLATIVE ASSEMBLY.

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| <ul style="list-style-type: none"> <li>* JOSEPH PALMER ABBOTT, Esquire, Chairman.</li> <li>* JACOB GARRARD, Esquire, Vice-Chairman.</li> <li style="padding-left: 2em;">HENRY COPELAND, Esquire.</li> <li style="padding-left: 2em;">JAMES EBENEZER TONKIN, Esquire.</li> <li style="padding-left: 2em;">WILLIAM SPRINGTHORPE DOWEL, Esquire.</li> </ul> | <ul style="list-style-type: none"> <li>* JOHN SUTHERLAND, Esquire.</li> <li style="padding-left: 2em;">EDWARD WILLIAM O'SULLIVAN, Esquire.</li> <li>* JOHN HURLEY, Esquire.</li> <li>* CHARLES ALFRED LEE, Esquire.</li> <li>* WILLIAM MCCOURT, Esquire.</li> </ul> |
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- \* JAMES PATRICK GARVAN, Esquire.

\* Shortly after the first meeting of the third Committee, John Sutherland, Esquire, died, and his place was filled by the appointment of Charles Alfred Lee, Esquire. Subsequently the Honorable James Watson resigned his seat on the Committee, and the Honorable George Henry Cox was appointed in his place. On 22nd October, 1890, Mr. Joseph Palmer Abbott, having been appointed Speaker of the Legislative Assembly, resigned his position as Chairman and member of the Committee. The Honorable John Lackey, who at that time was Vice-Chairman of the Committee, was appointed Chairman in Mr. Abbott's place, and Mr. Jacob Garrard was chosen as Vice-Chairman. Mr. William McCourt was appointed a member of the Committee on 16th July, 1890, in the place of Mr. John Hurley, whose seat became vacant by reason of his resignation from the Legislative Assembly; and Mr. James Patrick Garvan was appointed a member on the 6th November, 1890, in the room of Mr. Joseph Palmer Abbott.

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Dredge and Plant for Sydney Harbour.	23 July, 1888	22 Jan., 1890	... ..	.....	6 Feb., 1890	The evidence showed that this class of dredge was not required.	Not dealt with.	.....
Improvements to the Entrance of the Richmond River.	23 ,, ,,	26 June, 1889	.....	.....	30 Sept., 1889	The Committee recommended that the proposed works should be carried out in a certain order, so that the results from the works first constructed might be ascertained before others were proceeded with.	Passed.	Legislative Assembly—23 July, 1890—Bill read third time. Legislative Council—28 Aug., 1890—Bill read third time; 3 Sept., 1890—Assent reported.
Improvements to the Entrance of the Clarence River.	23 ,, ,,	23 Oct., ,,	14 Nov., 1889	28 Jan., 1890	2 April, 1890	In this case the Committee recommended the construction of only a portion of the works proposed, as they were of opinion that when this portion had been constructed it might be found that the remainder would not be required.	Passed.	Legislative Assembly—23 July, 1890—Bill read third time. Legislative Council—17 Sept., 1890—Bill read third time; 1 Oct., 1890—Assent reported.
Drainage Works for the Western Suburbs.	23 ,, ,,	7 Dec., 1888	.....	.....	27 Aug., 1889	Recommended as proposed.	Passed.	Legislative Assembly—26 Sept., 1889—Bill read third time. Legislative Council—26 Sept., 1889—Bill read third time; 30 Sept., 1889—Assent reported.



THIRD COMMITTEE—continued.

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Railway from Goulburn to Crookwell.	31 July, 1889	22 Aug., 1889	29 Aug., 1889	17 Sept., 1889	19 Dec., 1889	The Committee considered that the cost of this railway should not exceed £4,500 per mile, and that a saving should also be effected by utilizing a certain portion of the present main line instead of taking the proposed railway through a part of the city of Goulburn.	Negated by the Legislative Council.	Legislative Assembly—25 Sept., 1895—Bill read third time. Legislative Council—12 Nov., 1895—Second reading resolved in the negative.
Railway from Nyngan to Cobar	1 Aug., "	25 Sept., "	24 Sept., "	31 Oct., "	18 Feb., 1890	The Committee recommended the construction of this railway as part of a line which should be extended to Wilcannia and Broken Hill.	Passed.	Legislative Assembly—10 July, 1890—Bill read third time. Legislative Council—17 July, 1890—Bill read third time; 23 July, 1890—Assent reported.
Railway from Kiama to Nowra	1 " "	4 Dec., "	14 Jan., 1890	30 Jan., 1890	22 April, "	In this case there was an original estimate of £441,663. The amount recommended by the Committee was £381,390. The reduction was due to an amended estimate made by the Acting Engineer-in-Chief for Railways after the railway was referred to the Committee.	Passed.	Legislative Assembly—10 July, 1890—Bill read third time. Legislative Council—7 Aug., 1890—Bill read third time; 13 Aug., 1890—Assent reported.
Railway from Marrickville to the Burwood Road.	1 " "	19 Nov., "	.....	.....	2 " "	Recommended as proposed.	Passed.	Legislative Assembly—11 Dec., 1890—Bill read third time. Legislative Council—18 Dec., 1890—Bill read third time; 19 May, 1891—Assent reported.
Railway from Culcairn to Corowa.	6 " "	29 Aug., "	29 Aug., 1889	11 Sept., 1889	12 Dec., 1889	The Committee were of opinion that this line should be constructed at a cost not exceeding £3,500 per mile.	Passed.	Legislative Assembly—10 July, 1890—Bill read third time. Legislative Council—31 July, 1890—Bill read third time; 6 Aug., 1890—Assent reported.
Breakwater at Byron Bay .....	6 " "	31 Oct., "	14 Nov., "	28 Jan., 1890	15 April, 1890	The original estimate for this work was £162,000. The estimate placed before the Committee, which they adopted in their recommendation, was £241,723. The increase was due to a difficulty in obtaining stone.	Negated by the Legislative Council.	Legislative Assembly—17 July, 1890—Bill read third time. Legislative Council—15 Oct., 1890—Bill negated in Council on motion, "That it be read the second time this day six months."
Railway to connect North Shore Railway with Port Jackson, at Milson's Point.	7 " "	9 " "	.....	.....	11 Dec., 1889	The Committee considered, for various reasons stated in their report on the subject, that the work as proposed should not be carried out.	See second reference.	See second reference.
Railway from Grafton to the Tweed.	27 Sept., "	12 Nov., "	14 Nov., "	28 Jan., "	15 April, 1890	The Committee recommended that this railway should be constructed from Lismore to Murwillumbah, instead of from Grafton to Murwillumbah, the Committee's recommendation involving a length of about 60½ miles as compared with 140 miles 76 chains, the length of the line as referred to them by the Legislative Assembly.	Passed.	Legislative Assembly—17 July, 1890—Bill (Lismore to the Tweed Railway Bill) read third time. Legislative Council—10 Sept., 1890—Bill read third time; 24 Sept., 1890—Assent reported.
Railway from Cootamundra to Temora.	27 " "	15 Jan., 1890	16 Jan., 1890	11 Feb., "	23 " "	The Committee considered that the cost of constructing this railway should not exceed £3,300 per mile.	Passed.	Legislative Assembly—23 July, 1890—Bill read third time. Legislative Council—17 Sept., 1890—Bill read third time; 1 Oct., 1890—Assent reported.

THIRD COMMITTEE—continued.

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
26—D Railway from Mudgee to Gulgong.	27 Sept., 1889	23 Jan., 1890	12 Mar., 1890	26 Mar., 1890	6 May, 1890	The Committee decided against this work on the ground that any extension of the Mudgee Railway should form part of a more comprehensive proposal, the consideration of which should be deferred until after the suggestion for the connection of the Northern and Western systems, by a line between Dubbo and Werris Creek, had been dealt with.	Not dealt with.	.....
Railway from Moss Vale to Robertson.	1 Oct., "	23 " "	30 Jan., "	12 Feb., "	29 April, "	The Committee negatived this proposal because they considered another route, described in their report, was preferable.	" "	.....
Railway from Molong to Parkes and Forbes.	1 " "	22 " "	12 Feb., "	19 Mar., "	21 May, "	Recommended as proposed.	Passed.	Legislative Assembly—23 July, 1890—Bill read third time. Legislative Council—21 Aug., 1890—Bill read third time; 27 Aug., 1890—Assent reported.
Bridge over Tarban Creek, Parramatta River.	1 " "	12 Feb., "	.....	.....	15 April, "	The Committee considered this bridge to be unnecessary.	Not dealt with.	.....
Bridge over the Hunter River, at Jerry's Plains.	1 " "	20 " "	4 Mar., 1890	11 Mar., 1890	15 " "	The Committee considered that a less expensive bridge would be sufficient to meet requirements.	" "	.....
Bridge to connect Bullock Island with the Mainland at Newcastle.	1 " "	25 " "	4 " "	11 " "	29 " "	The Committee considered that this proposed expenditure was premature, pending the carrying out of certain reclamation works.	" "	.....
Iron Bridge at Cowra .....	1 " "	12 " "	18 Feb., "	19 " "	21 May, "	The original proposal represented an expenditure of £69,971, which amount was afterwards reduced to £26,537, as the result of a revision of the system of bridge-building in the Colony, and the construction of the bridge at the reduced cost was recommended by the Committee.	Passed.	Legislative Assembly—23 July, 1890—Bill read third time. Legislative Council—21 Aug., 1890—Bill read third time; 27 Aug., 1890—Assent reported.
Hospital for the Insane upon the Kenmore Estate, near Goulburn.	1 " "	28 May, "	.....	.....	Inquiry not completed.	This proposed work, after being partly considered, was withdrawn from the Committee by resolution of the Assembly.	Rescinded.	Legislative Assembly—2 July, 1890—Resolution passed rescinding previous resolution referring proposed work to the Committee.
Offices for Board of Water Supply and Sewerage.	1 " "	14 Jan., "	.....	.....	11 Feb., 1890	Recommended as proposed.	Passed.	Legislative Assembly—7 Nov., 1890—Bill read third time. Legislative Council—20 Nov., 1890—Bill read third time; 27 Nov., 1890—Assent reported.
Reticulation of Western Suburbs Drainage Scheme.	1 " "	14 " "	.....	.....	6 " "	" "	"	Legislative Assembly—23 July, 1890—Bill read third time. Legislative Council—24 Sept., 1890—Bill read third time; 8 Oct., 1890—Assent reported.

THIRD COMMITTEE—*continued.*

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Extension of Sydney Water Supply to Southern Suburbs—Hurstville, Rockdale.	1 Oct., 1889	14 Jan., 1890	.....	.....	11 Feb., 1890	This expenditure was rendered unnecessary by reason of a temporary water-supply scheme being sufficient to meet requirements for some years.	Not dealt with.	.....
Cable Tramway from King-street, <i>via</i> William-street, to Ocean-street.	1 ,, ,,	22 ,, ,,	.....	.....	2 June, 1891	Recommended as proposed.	Passed.	Legislative Assembly—8 March, 1892—Bill read third time. Legislative Council—10 March, 1892—Bill read third time; 17 March, 1892—Assent reported.
Cable Tramway through George, Pitt, and Harris Streets, Sydney.	1 ,, ,,	25 Nov. ,,	.....	.....	4 ,, ,,	The Committee considered that it was not expedient, for reasons stated in their report, that this tramway should be constructed.	Not dealt with.	.....
Railway to connect North Shore Railway with the deep waters of Port Jackson, at Milson's Point (second reference).	8 May, 1890	28 May, ,,	.....	.....	21 Aug., 1890	This proposal was before the Committee on a previous occasion when it was negatived; but having been referred to the Committee for further consideration, and circumstances appearing in the second inquiry which justified the construction of the railway, the Committee approved of the proposed work.	Passed.	Legislative Assembly—12 Nov., 1890—Bill read third time. Legislative Council—20 Nov., 1890—Bill read third time; 27 Nov., 1890—Assent reported.
College for the Training of Teachers of Public Schools.	21 Nov., ,,	11 Feb., 1891	.....	.....	19 Mar., 1891	Recommended as proposed.	Not dealt with.	.....
Hospital Buildings, Macquarie-street.	3 Dec., ,,	10 Dec., 1890	.....	.....	12 May, ,,	In this case two sets of plans for the buildings were submitted to the Committee, one representing a design that was estimated to cost £140,000, and the other a design to cost £56,000, and the Committee approved of the latter.	Passed.	Legislative Assembly—9 March, 1892—Bill read third time. Legislative Council—17 March, 1892—Bill read third time; 29 March, 1892—Assent reported.
Railway from Cobar to Cockburn.	19 ,, ,,	24 Feb., 1891	.....	.....	14 ,, ,,	The Committee recommended the construction of this railway as far as Broken Hill only, thereby reducing the proposed expenditure (£1,168,000) by £150,000.	.....	Legislative Assembly—25 June, 1895—Motion to go into Committee to bring in a Bill; 27 June, 1895—Motion passed to withdraw item from Loan Estimates.
Railway from Glen Innes to Inverell.	19 ,, ,,	21 April, ,,	23 April, 1891	2 June, 1891	See Fourth Committee.	See Fourth Committee.	See Fourth Committee.	.....
Extension of the Kiama to Nowra Railway into the town of Nowra.	19 ,, ,,	19 Feb., ,,	.....	.....	21 April, 1891	Recommended as proposed.	Not dealt with.	.....

# FOURTH COMMITTEE—FROM 31 MARCH, 1892, TO 25 JUNE, 1894.

## MEMBERS OF THE COMMITTEE.

### LEGISLATIVE COUNCIL.

The Honorable WILLIAM HENRY SUTTOR, Vice-Chairman.  
 The Honorable JAMES HOSKINS.  
 The Honorable FREDERICK THOMAS HUMPHERY.

\* The Honorable ANDREW GARRAN, LL.D.  
 The Honorable JOHN DAVIES, C.M.G.  
 \* The Honorable WILLIAM JOSEPH TRICKETT.

### LEGISLATIVE ASSEMBLY.

JACOB GARRARD, Esquire, Chairman.  
 THOMAS THOMSON EWING, Esquire.  
 WILLIAM CHANDOS WALL, Esquire.  
 WILLIAM McCOURT, Esquire.

JOHN CASH NEILD, Esquire.  
 EDWARD WILLIAM O'SULLIVAN, Esquire.  
 CHARLES COLLINS, Esquire.  
 HENRY DAWSON, Esquire.

\* The Honorable Andrew Garran, LL.D., on 5th October, 1892, resigned his seat as a member of the Committee, and on 12th October, 1892, the Honorable William Joseph Trickett was appointed to fill the vacancy.

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Improvements at Darling Island	29 Mar., 1892	5 May, 1892	.....	.....	2 June, 1892	The Committee considered that the proposed works might be postponed for the present without inconvenience, and that a more suitable design might be submitted.	Not dealt with.	.....
Water Supply for Tamworth...	29 ,, ,,	12 Oct., ,,	12 Oct., 1892	15 Nov., 1892	21 Dec., ,,	Recommended as proposed with a provision as to the quantity of water obtainable, and the resumption of land surrounding the well in the drift forming the source of supply.	Passed.	Legislative Assembly—29 May, 1894—Bill read third time. Legislative Council—31 May, 1894—Bill read third time; 5 June, 1894—Assent reported.
Storm-water Sewers discharging into Johnstone's Bay.	29 ,, ,,	7 June, ,,	.....	.....	12 July, ,,	Recommended as proposed.	„	Legislative Assembly—7 June, 1894—Bill read third time. Legislative Council—7 June, 1894—Bill read second time and passed through all stages; 7 Aug., 1894—Assent reported.
Reservoir at Centennial Park for Sydney Water Supply.	29 ,, ,,	15 ,, ,,	.....	.....	.....	Recommended with an alteration of site.	„	Legislative Assembly—20 Dec., 1894—Bill read third time. Legislative Council—21 Dec., 1894—Bill read third time; 26 Feb., 1895—Assent reported.
Water Supply for Wollongong and the Surrounding Districts.	29 ,, ,,	14 July, ,,	.....	.....	4 Aug., ,, 24 ,, ,,	The Committee found that the Water Supply proposed for the surrounding districts was not needed, and that the estimate of cost for supplying Wollongong might be reduced to £30,000.	Not dealt with.	.....
Second Pipe-line from Walka to Buttai, for Hunter River District Water Supply.	29 ,, ,,	28 ,, ,,	.....	.....	16 ,, ,,	Recommended as proposed.	.....	Legislative Assembly—2 Oct., 1895—Bill read third time. Legislative Council—12 Nov., 1895—Bill read third time; 9 Nov., 1895—Assent reported.
Sewerage Works at Cottage Creek.	29 ,, ,,	26 ,, ,,	.....	.....	9 ,, ,,	The estimated cost of this work was £25,000, which provided for a covered sewer; but the Committee found that a cover was not necessary, and that by constructing an open sewer the cost could be reduced by £12,000.	Passed.	Legislative Assembly—2 May, 1895—Bill read third time. Legislative Council—30 May, 1895—Bill read third time; 25 June, 1895—Assent reported.
Water Supply for Lithgow ...	29 ,, ,,	14 Sept., ,,	22 Oct., 1892	24 Oct., 1892	16 Nov., ,,	Recommended as proposed.	„	Legislative Assembly—5 April, 1894—Bill read third time. Legislative Council—13 April, 1894—Bill read third time; 1 May, 1894—Assent reported.
Sewerage Works for Parramatta	29 ,, ,,	22 June, ,,	.....	.....	4 Oct., ,,	The construction of this work the Committee did not recommend, as they were of opinion that the sewage farm included in the scheme was too small for the purpose, and that the sewage should be dealt with by precipitation and filtration, or other effective modern process, at a proposed pumping station at Clay Cliff Creek.	See second reference.	See second reference.

## FOURTH COMMITTEE—continued.

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Water Supply for Armidale ...	29 Mar., 1892	15 Sept., 1892	12 Oct., 1892	20 Oct., 1892	16 Nov., 1892	Recommended as proposed.	Passed.	Legislative Assembly—22 May, 1894—Bill read third time. Legislative Council—31 May, 1894—Bill read third time; 5 June, 1894—Assent reported.
Railway from Eden to Bega ...	29 ,, ,,	10 July, ,,	11 Aug., ,,	7 Sept., ,,	26 Oct., ,,	The Committee considered that the resources of the district did not warrant the construction of such an expensive line, but they were of opinion that a cheaply constructed railway might be favourably considered.	Not dealt with.	.....
Railway from Grafton to Lismore.	29 ,, ,,	14 June, ,,	15 June, ,,	10 Aug., ,,	28 Sept., ,,	The Committee decided that, for the present, only the Lismore to Casino section of the proposed railway should be constructed, that the cost should not exceed £6,000 per mile, and that the betterment principle be applied to the land to be served by the proposed line.	,, ,,	.....
Railway from Glen Innes to Inverell.	29 ,, ,,	6 April, ,,	23 April, 1891 (See Third Committee.)	2 June, 1891 (See Third Committee.)	27 May, ,,	The evidence in this case, which was partly inquired into by the Third Committee and partly by the Fourth Committee, showed that the estimated cost of constructing the railway was excessive, and indicated the probability of a serious annual loss in the working of the line. In addition to this, the Committee were not as fully informed as desirable with regard to connecting Inverell not only with the Great Northern Railway but with the coast, a matter of considerable importance in the inquiry. The Committee therefore did not recommend that the railway should be constructed.	See second reference.	.....
Railway from Jerilderie to Deniliquin.	29 ,, ,,	31 May, ,,	2 June, 1892	23 June, 1892	18 Aug., ,,	The Committee were of opinion that the consideration of this proposed work should be postponed until it should be determined by Parliament as a matter of public policy to purchase the Deniliquin to Moama Railway.	Not dealt with.	.....
Lunatic Asylum at Kenmore, near Goulburn (second reference).	31 ,, ,,	12 July, ,,	.....	.....	24 ,, ,,	Recommended as proposed.	Passed.	Legislative Assembly—18 October, 1894—Bill read third time. Legislative Council—1 November, 1894—Bill read third time; 14 November, 1894—Assent reported.
Railway from Glen Innes to Inverell (second reference).	27 Oct., ,,	17 Nov., ,,	23 Nov., 1892	13 Dec., ,,	10 Jan., 1893	The Committee considered it expedient this railway should be constructed, provided that the cost did not exceed £7,000 per mile, that special local rates were charged until the railway paid working expenses and interest on cost of construction, and that the betterment principle was applied to the land served by the railway.	Negatived.	Legislative Assembly—18 April, 1894—Bill read third time. Legislative Council—7 June 1894—Bill negatived on motion for second reading.
Waterworks for the town of Junee.	2 Feb., 1893	14 Feb., 1893	15 Feb., 1893	28 Feb., 1893	14 Mar., ,,	The Committee recommended that the proposed works should be carried out, conditionally on the Railway Commissioners entering into an agreement for a period of not less than ten years to pay a minimum of £1,900 per annum for water supplied for railway purposes at Junee and Bethungra.	Passed.	Legislative Assembly—4 April, 1894—Bill read third time. Legislative Council—18 April, 1894—Bill read third time; 1 May, 1894—Assent reported.

FOURTH COMMITTEE—continued.

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action
Railway from Narrabri to Moree.	1 Nov., 1893	14 Nov., 1893	15 Nov., 1893	5 Dec., 1893	12 Jan., 1894	Recommended as proposed, with the condition that the work be not undertaken until a Betterment Act is passed.	Passed.	Legislative Assembly—20 March, 1895—Bill read third time. Legislative Council—4 April, 1895—Bill read third time; 24 April, 1895—Assent reported.
Sewerage Works for Parramatta (second reference).	1 Feb., 1894	7 Feb., 1894	.....	.....	22 Mar., ,,	The Committee decided that it was not expedient the proposed works should be carried out, for the reasons that the scheme had not been adequately considered, and that, according to the evidence, Parramatta was neither willing nor able to pay the rate necessary to provide the interest on the expenditure, and did not want the proposed works.	See Sixth Committee.	.....
Deviation to avoid the Lithgow Zigzag.	25 Jan., ,,	6 Mar., ,,	.....	.....	16 April, ,,	The Committee were of opinion that as the professional evidence, as well as much of the evidence generally, indicated that the proposed deviation was not a matter of urgency, it was not expedient the work should be carried out.	Not dealt with.	.....
Railway from Temora to Wyalong.	29 Mar., ,,	9 April, ,,	9 April, 1894	24 April, 1894	28 May, ,,	The Committee were of opinion that owing to the uncertainty of the permanence of the Wyalong goldfield, the decision upon the proposed Railway should be deferred for six months.	See Fifth Committee.	.....
Removal of Pyrmont and Glebe Island Bridges.	25 Jan., ,,	11 ,, ,,	.....	.....	25 June, ,,	The Committee negatived the Departmental scheme, but recommended that when renewal becomes necessary the existing bridges at Darling Harbour and Glebe Island should be replaced by timber structures of a kind specified in their report, which report, however, in consequence of the sudden dissolution of Parliament was not presented to the Legislative Assembly.	,, ,,	.....

# FIFTH COMMITTEE—FROM 19 SEPTEMBER, 1894, TO 5 JULY, 1895, TO 17 JUNE, 1898.

## MEMBERS OF THE COMMITTEE.

### LEGISLATIVE COUNCIL.

The Honorable FREDERICK THOMAS HUMPHERY, Vice-Chairman.  
The Honorable WILLIAM JOSEPH TRICKETT.

The Honorable JAMES HOSKINS.  
The Honorable JOHN DAVIES, C.M.G.

The Honorable CHARLES JAMES ROBERTS, C.M.G.

### LEGISLATIVE ASSEMBLY.

\* VARNEY PARKES, Esquire, Chairman.  
\* THOMAS THOMSON EWING, Esquire, Chairman.  
JAMES HAYES, Esquire.  
ROBERT HENRY LEVIEN, Esquire.

JOHN MOORE CHANTER, Esquire.  
CHARLES ALFRED LEE, Esquire.  
JAMES GORMLY, Esquire.  
EDMUND WILLIAM MOLESWORTH, Esquire.

\* On 15th November, 1894, Varney Parkes, Esquire, resigned his seat on the Committee, and on 20th November, 1894, Thomas Thomson Ewing, Esquire, was elected Chairman.

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Removal of Pymont and Glebe Island Bridges (second reference).	27 Sept., 1894	3 Oct., 1894	.....	.....	21 Nov., 1894	The Committee recommended that the Pymont Bridge be replaced by a timber bridge, with steel span, to cost £82,500; the Glebe Island Bridge, they decided, did not at present require renewal.	Passed.	Legislative Assembly—6 October, 1897—Bill read third time. Legislative Council—17 November, 1897—Bill read third time; 2 December, 1897—Assent reported.
Railway from Jerilderie to Berri-gan.	18 Dec., ,,	19 Dec., ,,	8 Jan., 1895	22 Jan., 1895	28 Feb., 1895	The construction of this railway was recommended, with the condition that the estimated cost, £2,000 per mile, should include goods and grain sheds, engineering charges, and all contingencies.	„	Legislative Assembly—7 May, 1895—Bill read third time. Legislative Council—12 June, 1895—Bill read third time; 25 June, 1895—Assent reported.
Railway from Parkes to Con-dobolin.	6 Mar., 1895	7 Mar., 1895	19 Mar., ,,	3 April, ,,	21 May, ,,	In this inquiry the Committee, while considering it expedient the railway should be constructed, resolved that the cost should not exceed £2,100 per mile, including the cost of land resumption.	„	Legislative Assembly—27 June, 1895—Bill read third time. Legislative Council—3 July, 1895—Bill read third time; 14 August, 1895—Assent reported.
Railway from Temora to Wyalong (second reference).	7 ,, ,,	17 May ,,	5 June, ,,	19 June, ,,	27 June, ,,	The Committee negatived this proposed work, being of opinion that at the present time there is no justification for the construction of this railway, and that the prospects of Wyalong's future are not such as to lead them to conclude that the line should be built in anticipation of what may be the condition of the gold-field and the district some years hence.	Not dealt with.	.....
Harbour Improvements at New-castle.	14 ,, ,,	20 Mar. ,,	28 Mar., ,,	9 April, ,,	16 May, ,,	In this inquiry the Committee recommended a modification of the works proposed by the Department and an additional work, the cost of the works as recommended by the Committee being about the same as that of the works proposed by the Department.	Passed.	Legislative Assembly—17 September, 1895—Bill read third time. Legislative Council—6 November, 1895—Bill read third time; 13 November, 1895—Assent reported.
Tramway from Woolwich to the Field of Mars Common.	20 June, ,,	25 June ,,	.....	.....	Inquiry not completed.	.....	Withdrawn.	Motion to refer work to Sixth Committee negatived—11 December, 1895.

# SIXTH COMMITTEE—FROM 11 DECEMBER, 1895, TO 8 JULY, 1898.

## MEMBERS OF THE COMMITTEE.

### LEGISLATIVE COUNCIL.

The Honorable FREDERICK THOMAS HUMPHERY, Vice-Chairman.  
 \*The Honorable JOHN DAVIES, C.M.G.  
 The Honorable WILLIAM JOSEPH TRICKETT.

The Honorable JAMES HOSKINS.  
 The Honorable CHARLES JAMES ROBERTS, C.M.G.  
 \*The Honorable DANIEL O'CONNOR.

### LEGISLATIVE ASSEMBLY.

THOMAS THOMSON EWING, Esquire, Chairman.  
 HENRY CLARKE, Esquire.  
 CHARLES ALFRED LEE, Esquire.  
 JOHN LIONEL FEGAN, Esquire.

\* ANGUS CAMERON, Esquire.  
 THOMAS HENRY HASSALL, Esquire.  
 GEORGE BLACK, Esquire.  
 FRANCIS AUGUSTUS WRIGHT, Esquire.

\*FRANK FARNELL, Esquire.

\* Since the appointment of the Committee, vacancies were caused by the decease of the Honorable John Davies, C.M.G., and Angus Cameron, Esquire. These were subsequently filled by the appointment of the Honorable Daniel O'Connor, and Frank Farnell, Esquire.

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Deviation at Locksley, Great Western Railway.	11 Dec., 1895	12 Dec., 1895	13 Dec., 1895	14 Dec., 1895	17 Dec., 1895	Recommended as proposed .....	Passed.	Legislative Assembly—17 December, 1895—Bill passed through all its stages. Legislative Council—18 December, 1895—Bill passed through all its stages.
Water Supply for the Town of Tamworth.	11 Dec., 1895	17 Dec., 1895	8 Jan., 1896	16 Jan., 1896	30 Jan., 1896	The Committee recommended that the proposed work should be carried out, with the proviso that the capacity of the storage reservoir be increased from 35,000,000 to 50,000,000 gallons.	Passed.	Legislative Assembly—27 October, 1896—Bill read third time. Legislative Council—4 November, 1896—Bill read third time; 11 November, 1896—Assent reported.
Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.	11 Dec., 1895	18 Mar., 1896	.....	.....	8 May, 1896	Recommended as proposed .....	Passed.	Legislative Assembly—2 September, 1896—Bill read third time. Legislative Council—10 September, 1896—Bill read third time; 16 September, 1896—Assent reported.



SIXTH COMMITTEE--continued.

Proposed Work	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Erection of Buildings at Rookwood for Infirm and Destitute Persons.	11 Dec., 1895	21 Jan., 1896	.....	.....	13 Mar., 1896	In this case the Committee deemed it inexpedient that the proposed buildings should be erected, but they recommended that the inmates of the Asylums in Macquarie, George, and Harris Streets, Parramatta, be removed as speedily as possible, and that the healthy destitute be housed at Rookwood and Liverpool; and further that suitable accommodation be provided near Campbelltown on available Crown lands for the chronic and acute sick.	Not dealt with.	.....
Additions to the Treasury Building.	18 ,, ,,	9 ,, ,,	.....	.....	17 July, ,,	Recommended as proposed ..	Passed.	Legislative Assembly—2 September, 1896—Bill read third time. Legislative Council—16 September, 1896—Bill read third time; 22 September, 1896—Assent reported.
Construction of Locks and Weirs on the River Darling.	19 ,, ,,	12 May, ,,	15 June, 1896	7 July, 1896	31 ,, ,,	Negated ..	Not dealt with.	.....
Railway from Tamworth to Manilla.	11 ,, ,,	20 Feb., ,,	17 Mar., ,,	31 Mar., ,, *19 June, ,,	} 1 Oct., ,,	.....	Passed.	Legislative Assembly—4 November, 1896—Bill read third time. Legislative Council—11 November, 1896—Bill read third time; 13 November, 1896—Assent reported.
Railway from Nevertire to Warren.	11 ,, ,,	21 April, ,,	6 May, ,,	14 May, ,,	20 May, ,,	Recommended as proposed ..	,,	Legislative Assembly—13 August, 1896—Bill read third time. Legislative Council—27 August, 1896—Bill read third time; 9 September, 1896—Assent reported.
Railway from Berrigan to Finley.	28 May, 1896	5 June, ,,	14 July, ,,	28 July, ,,	19 Aug., ,,	The Committee recommended that this work should be carried out, with the proviso that the cost should not exceed £2,000 per mile.	,,	Legislative Assembly—27 October, 1896—Bill read third time. Legislative Council—4 November, 1896—Bill read third time; 11 November, 1896—Assent reported.
Improvement of Cook's River.	28 ,, ,,	16 ,, ,,	.....	.....	24 July, ,,	As recommended by the Committee the construction of the proposed works would involve an expenditure of £15,000, a reduction on the Departmental estimate of £25,000, and which, in their opinion, would meet the requirements of the case.	,,	Legislative Assembly—27 May, 1897—Committee agree to Council's amendments, resolution reported and agreed to. Legislative Council—25 May, 1897—Bill read third time; 9 June, 1897—Assent reported.

\* Supplementary Report.

SIXTH COMMITTEE—continued.

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Railway from Moree to Inverell	26 Aug., 1896	1 Sept., 1896	29 Sept., 1896	15 Oct., 1896	21 April, 1897	The Committee resolved that it was expedient this railway should be carried out.	Passed.	Legislative Assembly—11 August, 1897—Bill read third time. Legislative Council—21 October, 1897—Bill read third time; 27 October, 1897—Assent reported.
Construction of a Deep-water Harbour at Port Kembla.	20 Oct., „	28 Oct., „	13 Jan., 1897	25 Jan., 1897	10 Feb., „	The Committee were of opinion that the proposed harbour would be rendered sufficiently secure to meet present requirements if the eastern breakwater only were carried out, and the estimated cost reduced by £240,000.	„	Legislative Assembly—2 December, 1897—Bill read third time. Legislative Council—20 December, 1898—Bill read third time; 21 February, 1899—Assent reported.
Railway from Condobolin to Broken Hill.	1 July, „	5 Aug., „	19 Aug., 1896	15 Oct., 1896	10 Dec., 1896	The Committee, while having regard to the various aspects of this proposed work, and considering also that the annual loss on the working of the railway would amount to £60,000, were of opinion that it should not, at present, be proceeded with.	Not dealt with	.....
Sewerage Works for Parramatta (third reference).	10 Nov., „	11 Feb., 1897	.....	.....	13 April, 1897	This work was passed by the Committee with the provision that the cost should not exceed the Departmental estimate, and that the carrying out of the work should be subject to a guarantee (by the Municipal Council of Parramatta) of the annual payment required to cover maintenance and interest and redemption of the principal outlay.	„	.....
New Houses of Parliament for the Colony.	„	14 April, „	.....	.....	6 Dec., „	The Committee recommended the adoption of the scheme submitted by the Government Architect, providing for alterations to the present Parliamentary Buildings, at a cost not exceeding £15,000.	„	.....
Duplicate Main from Prospect to Potts' Hill.	11 Nov., „	.....	.....	.....	8 June, „	The Committee recommended the amended scheme submitted by the Engineer-in-Chief for Public Works, by which the sides of the canal between Prospect and the Pipe Head Basin would be raised, the canal strengthened, and the 6-foot pipeline between the Basin and Potts' Hill Reservoir duplicated.	Passed.	Legislative Assembly—1 December, 1897—Bill read third time. Legislative Council—7 December, 1897—Bill read third time; 21 June, 1898—Assent reported.
New Bridge at Glebe Island ...	9 June, 1897	16 June, 1897	.....	.....	15 Sept., 1897	The Committee recommended that there be substituted for the existing structure a stone causeway with a central steel swing-span.	„	Legislative Assembly—2 December, 1897—Bill read third time. Legislative Council—9 December, 1897—Bill read third time; 21 June, 1898—Assent reported.
Railway from Redfern to St. James' Road.	30 „ „	13 July, „	.....	.....	25 Aug., „	Recommended as proposed.	Not dealt with	.....
Railway from Condobolin to Euabalong.	5 Aug., „	31 Aug., „	17 Sept., 1897	26 Oct., 1897	7 Dec., „	The Committee negatived this proposed work.	„	.....
Railway from Narrabri to Pilliga.	5 „ „	19 Oct., „	22 April, 1898	19 May, 1898	23 June, 1898	The Committee negatived this proposal, but suggested a route from Narrabri by way of Eurie Eurie, which could, if necessary, be extended on to Walgett.	„	.....

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SIXTH COMMITTEE—continued.

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Railway from Byrock to Bre-warrina.	5 Aug., 1897	1 Oct., 1897	11 Feb., 1898	5 April, 1898	22 June, 1898	Recommended conditionally.	Passed.	Legislative Assembly—8 December, 1898—Bill read third time. Legislative Council—21 December, 1898—Bill read third time; 21 February, 1899—Assent reported.
Railway from The Rock to Green's Gonyah.	5 ,, ,,	16 Sept., ,,	7 Oct., ,,	26 Oct., 1897	25 Nov., 1897	Recommended as proposed.	,,	Legislative Assembly—7 December, 1898—Bill passed through its remaining stages. Legislative Council—22 December, 1898—Bill read third time; 21 February, 1899—Assent reported.
Railway from Coolamon to Ariaiah.	5 ,, ,,	23 ,, ,,	7 ,, ,,	26 ,, ,,	18 ,, ,,	The Committee negatived this proposed work.	Not dealt with	.....
Railway from Warren to Coonamble.	9 Dec., ,,	14 Dec., ,,	14 Mar., ,,	21 April, 1898	29 April, 1898	The Committee negatived the proposal for a railway from Warren to Coonamble, but recommended that a survey be made of a route from Dubbo to Coonamble.	,,	.....
Railway from Koorawatha to Grenfell.	9 ,, ,,	20 Dec., 1897	11 Feb., ,,	10 Mar., ,,	1 ,, ,,	Recommended as proposed.	Passed.	Legislative Assembly—8 December, 1898—Bill read third time. Legislative Council—21 December, 1898—Bill read third time; 21 February, 1899—Assent reported.
Railway from Woolabra to Col-larendabri.	9 ,, ,,	9 Mar., 1898	22 April, ,,	19 May, ,,	24 June, ,,	The Committee negatived this proposal, but suggested a route from Narrabri towards Eurie Eurie, which would proceed from a point 315 miles from Newcastle to Colla-rendabri.	Not dealt with	.....
Railway from Maitland to Taree.	9 ,, ,,	22 Feb., ,,	*14 June, ,,	.....	6 July, ,,	The Committee negatived this proposal.	,,	.....
Railway from the Terminus of the Rosehill Railway to Dural	9 ,, ,,	5 Jan., ,,	.....	.....	13 April, ,,	The Committee negatived this proposed work.	,,	.....
Harbour Works at Tweed River.	9 ,, ,,	15 Mar., ,,	22 Mar., 1898	2 April, 1898	26 ,, ,,	Recommended as proposed.	Negatived	Legislative Assembly—7 December, 1898—Bill read third time. Legislative Council—21 December, 1898—Second reading negatived.
Harbour Works at Bellinger River.	9 ,, ,,	30 ,, ,,	12 May, ,,	7 June, ,,	6 July, ,,	,,	,,	Legislative Assembly—7 December, 1898—Bill read third time. Legislative Council—15 December, 1898—Second reading negatived.
Harbour Works at Nambucca River.	9 ,, ,,	14 April, ,,	12 ,, ,,	7 ,, ,,	7 ,, ,,	,,	.....	Legislative Assembly—7 December, 1898—Bill read third time. Legislative Council—8 December, 1898—Bill read first time.†
Harbour Works at Macleay River.	9 ,, ,,	8 Feb., ,,	12 ,, ,,	7 ,, ,,	5 ,, ,,	,,	.....	Legislative Assembly—7 December, 1898—Bill read third time. Legislative Council—8 December, 1898—Bill read first time.†
Harbour Works at Hastings River.	9 ,, ,,	27 April, ,,	*14 June, ,,	.....	29 June, 1898	The Committee recommended a portion of these works only.	.....	Legislative Assembly—7 December, 1898—Bill read third time. Legislative Council—8 December, 1898—Bill read first time.†
Harbour Works at Manning River.	9 ,, ,,	22 Mar., ,,	*14 ,, ,,	.....	1 July, ,,	Recommended with slight modifications.	.....	Legislative Assembly—7 December, 1898—Bill read third time. Legislative Council—8 December, 1898—Bill read first time.†
Weirs on the River Darling, between Bourke and Wilcannia.	9 ,, ,,	.....	.....	.....	.....	.....	.....	.....

\* In this instance, the main Committee visited the district, but subsequently resolved themselves into a Sectional Committee. † Further procedure stopped by the prorogation of Parliament.

SEVENTH COMMITTEE—FROM 30 NOVEMBER, 1898 (*STILL IN OFFICE*).

MEMBERS OF THE COMMITTEE.

LEGISLATIVE COUNCIL.

The Honorable WILLIAM JOSEPH TRICKETT, Vice-Chairman,      The Honorable PATRICK LINDESAY CRAWFORD SHEPHERD,  
The Honorable ANDREW GARRAN, LL.D.

LEGISLATIVE ASSEMBLY.

JOHN PERRY, Esquire, Chairman,      JOHN CHRISTIAN WATSON, Esquire,  
WILLIAM THOMAS DICK, Esquire,      ROBERT HENRY LEVIEN, Esquire.

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Public Offices, Phillip & Hunter Streets, Sydney.	22 Dec., 1898	18 Jan., 1899	.....	.....	28 Mar., 1899	The Committee recommended a modification of the Government proposal by which there would be erected a building containing a basement, ground-floor, and first-floor, the cost not to exceed £16,000.	Not dealt with	.....
Water Supply Works for the Borough of Wollongong.	22 ,, ,,	25 ,, ,,	.....	.....	2 ,, ,,	The Committee recommended the larger of two schemes submitted, providing for an extension to Port Kembla on the south, and towards Bulli on the north.	„	.....
Public Offices, Phillip, Bridge, and Young Streets, Sydney.	22 ,, ,,	2 Feb. ,,	.....	.....	3 May, ,,	The Committee were of opinion that it was inexpedient to erect this building until there had been a comprehensive investigation into the existing accommodation for the various public Departments, and the possibility of improving it by fresh adjustments or slight structural alterations, and until the probable wants of the Government for ten years, at least, were approximately indicated.	.....	.....
Railway from Dubbo to Coonamble.	22 ,, ,,	9 Mar., ,,	.....	.....	.....	Recommended as proposed.	.....	.....
Railway from Cobar to Wilcannia.	22 ,, ,,	15 ,, ,,	.....	.....	.....	.....	.....	.....
Railway from Grenfell to Wyalong.	22 ,, ,,	30 May, ,,	.....	.....	.....	.....	.....	.....
Locks and Weirs on the River Darling, between Bourke and Menindie.	22 ,, ,,	15 ,, ,,	.....	.....	.....	.....	.....	.....
Penitentiary and Prison for Females, Randwick.	22 ,, ,,	17 ,, ,,	.....	.....	.....	.....	.....	.....

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

MINUTES OF PROCEEDINGS.

*TUESDAY, 11 APRIL, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT :—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,	William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,	John Christian Watson, Esq.,
The Hon. William Joseph Trickett,	Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence :—

Letter from Mr. E. L. Thompson, architect, expressing a desire to give evidence in the Committee's inquiry respecting the proposed erection of Public Offices, Phillip, Bridge, and Young Streets, Sydney.

The correspondence was received.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

John Kirkpatrick, architect, was sworn, and examined.

The Committee at 20 minutes to 4, then, in consequence of the opening of the Parliamentary Session, adjourned until 2 o'clock p.m. on Wednesday, the following day.

*WEDNESDAY, 12 APRIL, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT :—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,	William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,	John Christian Watson, Esq.,
The Hon. William Joseph Trickett,	Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Walter Liberty Vernon, Government Architect, was sworn, and further examined.

Charles Edward Rennie, Chief Draftsman, Department of Lands, was sworn, and examined.

The Committee adjourned at 5 minutes past 4, until 2 o'clock p.m. on Thursday, the following day.

*THURSDAY, 13 APRIL, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT :—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,	William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,	John Christian Watson, Esq.,
The Hon. William Joseph Trickett,	Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Edmund Resch was sworn, and examined.

Richard Sleath, Esq., M.P., was sworn, and further examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Friday, the following day.

*FRIDAY, 14 APRIL, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT :—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,	William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,	John Christian Watson, Esq.,
The Hon. William Joseph Trickett,	Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia. Henry

Henry Deane, Engineer-in-Chief, Railway Construction Branch, Department of Public Works, was sworn, and further examined.

Francis Edmund Wickham, Resident Engineer, Railway Construction Branch, Department of Public Works, was sworn, and examined.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

John Kirkpatrick, architect, was sworn, and further examined.

The Committee adjourned at 5 minutes past 4, until 2 o'clock p.m. on Tuesday, 18th April.

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*TUESDAY, 18 APRIL, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT :—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,	William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,	John Christian Watson, Esq.,
The Hon. William Joseph Trickett,	Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence :—

Letter from the Secretary of the Railway League, Lake Cudgellico, with reference to the proposed Railway from Grenfell to Wyalong.

Letter from the Secretary of the Cobar-Wilcannia Railway League, Wilcannia, with reference to the proposed Railway from Cobar to Wilcannia.

Statement from Mr. J. Kirkpatrick, architect, with reference to his evidence in the inquiry respecting the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

The correspondence was received.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

The Committee deliberated upon certain portions of the evidence before them, and, in view of the want of agreement on the part of expert witnesses upon some important points in the inquiry, it was decided that further professional evidence should be obtained.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Wednesday, the following day.

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*WEDNESDAY, 19 APRIL, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT :—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,	William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,	John Christian Watson, Esq.,
The Hon. William Joseph Trickett,	Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence :—

Letter from the Honorary Secretary, Warren to Coonamble Railway League, Bullagreen, with reference to the proposed Railway from Dubbo to Coonamble.

The correspondence was received.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Edward Fisher Pittman, Government Geologist and Chief Mining Surveyor, Department of Mines, was sworn, and examined.

Richard Sleath, Esq., M.P., was sworn, and further examined.

The Committee adjourned at 5 minutes past 4, until 2 o'clock p.m. on Thursday, the following day.

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*THURSDAY, 20 APRIL, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT :—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,	The Hon. William Joseph Trickett,
The Hon. Andrew Garran, LL.D.,	William Thomas Dick, Esq.,
	John Christian Watson, Esq.

The minutes of the previous meeting were read, and confirmed.

The following accounts were passed for payment :—

	£	s.	d.
Postal and Electric Telegraph Department—Rent of telephone	2	19	6
John Kirkpatrick—Services as an expert witness in the Committee's inquiry respecting the proposed Public Offices, Phillip, Bridge, and Young Streets, Sydney	15	15	0
Total	£18	14	6

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.  
Richard

Richard Sleath, Esq., M.P., and Edward Fisher Pittman, Government Geologist and Chief Mining Surveyor, Department of Mines, were sworn, and further examined.

George Charles Yeo, Draftsman, Stock Branch, Department of Mines, was sworn, and examined.

The Committee adjourned at 10 minutes past 4, until 2 o'clock p.m. on Friday, the following day.

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*FRIDAY, 21 APRIL, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,		John Christian Watson, Esq.,
The Hon. William Joseph Trickett,		Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Charles Edward Reunie, Chief Draftsman, Department of Lands; William Henry Hall, Sub-editor, Statistical Year Books, Government Statistician's Office, Chief Secretary's Department; and Henry Chamberlaine Russell, C.M.G., Government Astronomer, were sworn, and examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Tuesday, 25th April.

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*TUESDAY, 25 APRIL, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		The Hon. William Joseph Trickett,
The Hon. Andrew Garran, LL.D.,		William Thomas Dick, Esq.,
		Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Harry Chambers Kent, architect, was sworn, and examined.

John Kirkpatrick, architect, was sworn, and further examined.

The Committee adjourned at 10 minutes past 4, until 2 o'clock p.m. on Wednesday, the following day.

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*WEDNESDAY, 26 APRIL, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,		John Christian Watson, Esq.,
The Hon. William Joseph Trickett,		Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Mr. R. A. Price, M.P., with reference to the Committee's inquiry respecting the proposed Railway from Dubbo to Coonamble.

Letter from the Hon. J. M. Creed, M.L.C., expressing a desire to give evidence in the Committee's inquiry with reference to the proposed Penitentiary and Prison for Females, Randwick.

The correspondence was received.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Charles James Saunders, Inspector, Department of Lands; Robert R. P. Hickson, Under Secretary for Public Works and Chairman of the Public Service Tender Board, were sworn, and examined.

The Committee adjourned at 5 minutes past 4, until 2 o'clock p.m. on Thursday, the following day.

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*THURSDAY, 27 APRIL, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,		John Christian Watson, Esq.,
The Hon. William Joseph Trickett,		Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Robert R. P. Hickson, Under Secretary and Commissioner for Roads, Department of Public Works, and Walter Liberty Vernon, Government Architect, were sworn, and further examined.

Mr.

Mr. Levien moved,—“That the Committee proceed to consider the evidence on the proposed erection of Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney, with a view to reporting on the subject to the Legislative Assembly.”

The motion was seconded by Mr. Shepherd, and passed.

Mr. Levien moved,—“That, in the opinion of the Committee, it is not expedient the proposed erection of Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney, as referred to the Committee by the Legislative Assembly, be carried out.”

Mr. Shepherd seconded the motion.

The debate was adjourned.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Friday, the following day.

*FRIDAY, 28 APRIL, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT :—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,		John Christian Watson, Esq.,
The Hon. William Joseph Trickett,		Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

The adjourned debate upon Mr. Levien's motion,—“That, in the opinion of the Committee, it is not expedient the proposed erection of Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney, as referred to the Committee by the Legislative Assembly, be carried out”—was resumed.

Dr. Garran moved,—“That the motion be amended by the addition of the following words: ‘until there has been a comprehensive investigation into the existing accommodation for the various public Departments and the possibility of improving it by fresh adjustments or slight structural alterations, and until the probable wants of the Government for ten years, at least, are approximately indicated.’”

The amendment was seconded by Mr. Watson, and agreed to, and the motion, as amended, was then passed.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Tuesday, 2nd May.

*TUESDAY, 2 MAY, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT :—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		The Hon. William Joseph Trickett,
The Hon. Andrew Garran, LL.D.,		William Thomas Dick, Esq.,
		John Christian Watson, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing Locks and Weirs on the River Darling, between Bourke and Menindie.

Cecil West Darley, Engineer-in-Chief for Public Works, Department of Public Works, was sworn, and further examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Wednesday, the following day.

*WEDNESDAY, 3 MAY, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT :—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,		John Christian Watson, Esq.,
The Hon. William Joseph Trickett,		Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing Locks and Weirs on the River Darling, between Bourke and Menindie.

Mr. Watson moved,—“That, as this inquiry is of exceptional importance, the Full Committee visit the Darling River, for the purposes of inspection and the taking of evidence with reference to the proposed Locks and Weirs between Bourke and Menindie.”

The motion was seconded by Mr. Levien, and passed.

The Committee proceeded to consider their Report to the Legislative Assembly on the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Clauses 1 to 4 were passed.

The further consideration of the Report was adjourned.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Thursday, the following day.

*THURSDAY,*



*THURSDAY, 4 MAY, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		The Hon. William Joseph Trickett,
The Hon. Andrew Garran, LL.D.,		William Thomas Dick, Esq.,
		John Christian Watson, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered their Report to the Legislative Assembly on the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

The remaining clauses of the Report and the preamble were passed, the Report was adopted, and the Chairman was authorised to sign it for presentation to the Legislative Assembly.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Friday, the following day.

*FRIDAY, 5 MAY, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,		John Christian Watson, Esq.,
The Hon. William Joseph Trickett,		Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The following accounts were passed for payment:—

Kealy and Philip, despatch box for Sectional Committees, and office requisites ...	£	s.	d.
Daily Telegraph Newspaper Company, Limited, advertising ...	4	1	3

Total...	£5	5	9
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The Committee further considered the expediency of constructing Locks and Weirs on the River Darling, between Bourke and Menindie.

Hugh Giffen McKinney, Principal Assistant Engineer, Water Conservation Branch, Department of Public Works, was sworn, and examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Tuesday, 9th May.

*TUESDAY, 9 MAY, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd.,		William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,		John Christian Watson, Esq.,
The Hon. William Joseph Trickett,		Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Mr. J. Mackay, Clover Creek, near Bourke, with reference to the Committee's inquiry respecting the proposed Locks and Weirs on the River Darling, between Bourke and Menindie.

Report by the Railway Commissioners of New South Wales on railway communication with Coonamble, *via* Mudgee, in connection with the Committee's inquiry, respecting the proposed Railway from Dubbo to Coonamble.

The correspondence was received.

The following accounts were passed for payment:—

S. Bennett ( <i>Evening News</i> ), advertising ...	£	s.	d.
Australian Newspaper Company, Limited ( <i>Star</i> ) advertising...	0	11	3

Total...	£1	3	7
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The Committee further considered the expediency of constructing Locks and Weirs on the River Darling, between Bourke and Menindie.

Hugh Giffen McKinney, Principal Assistant Engineer, Water Conservation Branch, Department of Public Works, was sworn, and further examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Wednesday, the following day.

*WEDNESDAY, 10 MAY, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		The Hon. William Joseph Trickett.,
The Hon. Andrew Garran, LL.D.,		William Thomas Dick, Esq.,
		John Christian Watson, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing Locks and Weirs on the River Darling, between Bourke and Menindie.

Hugh

Hugh Giffen McKinney, Principal Assistant Engineer, Water Conservation Branch, Department of Public Works, was sworn, and further examined.

John Harper, Chief Traffic Manager, Department of Railways, was sworn, and examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Thursday, the following day.

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*THURSDAY, 11 MAY, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,	William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,	John Christian Watson, Esq.,
The Hon. William Joseph Trickett,	Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing Locks and Weirs on the River Darling, between Bourke and Menindie.

Charles Louis Shainwald (Inspector of Branches, Messrs. E. Rich and Co., Limited, Sydney and Bourke) was sworn, and examined.

The Committee adjourned at 5 minutes past 4, until 2 o'clock p.m. on Friday, the following day.

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*FRIDAY, 12 MAY, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,	William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,	John Christian Watson, Esq.,
The Hon. William Joseph Trickett,	Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

The Honorable George Henry Cox, M.L.C., was sworn, and further examined.

The Committee further considered the expediency of constructing Locks and Weirs on the River Darling, between Bourke and Menindie.

Charles Edward Rennie, Chief Draftsman, Department of Lands, and Henry Chamberlaine Russell, C.M.G., Government Astronomer, were sworn, and examined.

The Committee adjourned at 5 minutes past 4, until 2 o'clock p.m. on Tuesday, 16th May.

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*TUESDAY, 16 MAY, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,	William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,	John Christian Watson, Esq.,
The Hon. William Joseph Trickett,	Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing Locks and Weirs on the River Darling, between Bourke and Menindie.

The Honorable Edward Davis Millen, M.L.C., was sworn, and examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Wednesday, the following day.

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*WEDNESDAY, 17 MAY, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,	William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,	John Christian Watson, Esq.,
The Hon. William Joseph Trickett,	Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Mr. David Storey, M.P., with reference to the Committee's inquiry respecting the proposed Penitentiary and Prison for Females, Randwick.

The correspondence was received.

The Committee proceeded to consider the expediency of erecting a Penitentiary and Prison for Females, Randwick.

Robert R. P. Hickson, Under Secretary and Commissioner for Roads, and Walter Liberty Vernon, Government Architect, Department of Public Works, were sworn, and examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Friday, 19th May.

*FRIDAY, 19 MAY, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,		John Christian Watson, Esq.,
The Hon. William Joseph Trickett,		Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The following account was passed for payment:—

George Robertson & Co.—Minute-book	...	...	...	...	...	...	...	£	s.	d.	
									1	7	6

The Committee further considered the expediency of erecting a Penitentiary and Prison for Females, Randwick.

Walter Liberty Vernon, Government Architect, was sworn, and further examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Tuesday, 23rd May.

*TUESDAY, 23 MAY, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		The Hon. William Joseph Trickett,
The Hon. Andrew Garran, LL.D.,		William Thomas Dick, Esq.,

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from the Under Secretary, Department of Public Works, with reference to Biloela Gaol and Cockatoo Island, in connection with the Committee's inquiry respecting the proposed Penitentiary and Prison for Females, Randwick.

The correspondence was received.

The Committee further considered the expediency of constructing Locks and Weirs on the River Darling, between Bourke and Menindie.

The Honorable Edward Davis Millen, M.L.C., was sworn, and further examined.

The Committee adjourned at 10 minutes past 4, until half-past 10 o'clock a.m. on Thursday, 25th May.

*THURSDAY, 25 MAY, 1899.*

The Committee met at 10.30 a.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,		John Christian Watson, Esq.,
The Hon. William Joseph Trickett,		Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of erecting a Penitentiary and Prison for Females, Randwick.

Frederick William Neitenstein, Comptroller-General of Prisons, Department of Justice, was sworn, and examined.

The Committee adjourned at a quarter to 1, until 2 o'clock p.m. on Friday, the following day.

*FRIDAY, 26 MAY, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,		John Christian Watson, Esq.,
The Hon. William Joseph Trickett,		Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee, accompanied by Mr. W. L. Vernon, Government Architect, then, in pursuance of their inquiry respecting the expediency of erecting a Penitentiary and Prison for Females, Randwick, proceeded to Randwick for the purpose of inspecting the site of the proposed buildings. The position decided upon was examined, and as it appeared that the buildings when erected would be in close proximity to the houses of some of the residents of Botany-street, the Committee endeavoured to ascertain whether they could not be erected on another part of the site, which would be away from all residences, and much less noticeable. An alteration of this kind in the plans appeared to be practicable, but as the Committee were informed by the Government Architect that it involved the question of expense in connection with the levelling of some of the ground, instructions were given for an estimate of the additional cost to be prepared.

*TUESDAY,*

*TUESDAY, 30 MAY, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,		John Christian Watson, Esq.,
The Hon. William Joseph Trickett,		Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee proceeded to consider the expediency of constructing a line of Railway from Grenfell to Wyalong.

Robert R. P. Hickson, Under Secretary and Commissioner for Roads, Department of Public Works, was sworn, and examined.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

John Harper, Chief Traffic Manager, Department of Railways, was sworn, and further examined.

The Committee adjourned at 5 minutes to 4, until 2 o'clock p.m. on Wednesday, the following day.

*WEDNESDAY, 31 MAY, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,		John Christian Watson, Esq.,
The Hon. William Joseph Trickett,		Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Alexander Wilson, stock and station agent, was sworn, and examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Thursday, the following day.

*THURSDAY, 1 JUNE, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. William Joseph Trickett,		John Christian Watson, Esq.,

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Charles Edward Rennie, Chief Draftsman, Department of Lands; Edward McCarthy Allman, Assistant Engineer, Roads Branch, Department of Public Works; William Henry Hall, Sub-Editor, Statistical Year Books, Government Statistician's Office; and George Charles Yeo, Draftsman, Stock Branch, Department of Mines, were sworn, and examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Friday, the following day.

*FRIDAY, 2 JUNE, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		The Hon. William Joseph Trickett,
The Hon. Andrew Garran, LL.D.,		William Thomas Dick, Esq.,
		John Christian Watson, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Alexander Bruce, Chief Inspector of Stock, Department of Mines and Agriculture, and William Boyce Wilkinson, stock and land agent, Dubbo, were sworn, and examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Tuesday, 13th June.

*TUESDAY,*

*TUESDAY, 13 JUNE, 1899.*

The Committee met at 2 p.m.

## MEMBERS PRESENT:—

The Hon. William Joseph Trickett, Vice-Chairman.  
 The Hon. Patrick Lindesay Crawford Shepherd, | William Thomas Dick, Esq.,  
 The Hon. Andrew Garran, LL.D., | John Christian Watson, Esq.,  
 Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The following accounts were passed for payment:—

	£	s.	d.
Daily Telegraph Newspaper Co. (Ltd)—Advertising ... ..	0	11	0
Australian Newspaper Co., Ltd. ( <i>Star</i> )—Advertising ... ..	0	9	4
S. Bennett ( <i>Evening News</i> )—Advertising ... ..	0	7	6

£1 7 10

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Henry Chamberlaine Russell, C.M.G., Government Astronomer, and Joseph Clarke, Inland Mail Clerk, Postal and Electric Telegraph Department, were sworn, and examined.

The Committee further considered the expediency of constructing a line of Railway from Cobar to Wilcannia.

Joseph Clarke, Inland Mail Clerk, Postal and Electric Telegraph Department, was sworn, and examined.

The Committee further considered the expediency of constructing Locks and Weirs on the River Darling, between Bourke and Menindie.

Robert R. P. Hickson, Under Secretary and Commissioner for Roads, Department of Public Works, was sworn, and further examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Wednesday, the following day.

*WEDNESDAY, 14 JUNE, 1899.*

The Committee met at 2 p.m.

## MEMBERS PRESENT:—

The Hon. William Joseph Trickett, Vice-Chairman.  
 The Hon. Patrick Lindesay Crawford Shepherd, | William Thomas Dick, Esq.,  
 The Hon. Andrew Garran, LL.D., | John Christian Watson, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from the Honorary Secretary, Cootamundra District Council, with reference to the proposed Railway from Grenfell to Wyalong.

Letter from Mr. C. Doutreband, Woollahra, and letter from Mr. C. H. Fitzhardinge, Dubbo, with reference to the proposed Railway from Dubbo to Coonamble.

The correspondence was received.

The Committee further considered the expediency of constructing Locks and Weirs on the River Darling, between Bourke and Menindie.

James William Boulton, Inspector of Public Watering Places and Artesian Boring, Department of Mines and Agriculture, was sworn, and examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Thursday, the following day.

*THURSDAY, 15 JUNE, 1899.*

The Committee met at 2 p.m.

## MEMBERS PRESENT:—

The Hon. William Joseph Trickett, Vice-Chairman.  
 The Hon. Patrick Lindesay Crawford Shepherd, | William Thomas Dick, Esq.,  
 The Hon. Andrew Garran, LL.D., | John Christian Watson, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing Locks and Weirs on the River Darling, between Bourke and Menindie.

James William Boulton, Inspector of Public Watering Places and Artesian Boring, Department of Mines and Agriculture, and Cecil West Darley, Engineer-in-Chief for Public Works, Department of Public Works, were sworn, and further examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Friday, the following day.

*FRIDAY, 16 JUNE, 1899.*

The Committee met at 2 p.m.

## MEMBERS PRESENT:—

The Hon. William Joseph Trickett, Vice-Chairman.  
 The Hon. Patrick Lindesay Crawford Shepherd, | William Thomas Dick, Esq.,  
 The Hon. Andrew Garran, LL.D., | John Christian Watson, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

Henry Deane, Engineer-in-Chief, Railway Construction Branch, Department of Public Works, was sworn, and examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Wednesday, 21st June.

*WEDNESDAY,*

WEDNESDAY, 21 JUNE, 1899.

The Committee met at 2 p.m.

MEMBERS PRESENT :—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,	William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,	John Christian Watson, Esq.,
The Hon. William Joseph Trickett,	Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence :—

Letter from the Hon. Alexander Brown, M.L.C., suggesting witnesses in the Committee's inquiry respecting the proposed Railway from Cobar to Wilcannia.

The correspondence was received.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

The Hon. George Henry Greene, M.L.C., was sworn, and examined.

The Committee adjourned at 25 minutes past 4, until 2 o'clock p.m. on Thursday, the following day.

THURSDAY, 22 JUNE, 1899.

The Committee met at 2 p.m.

MEMBERS PRESENT :—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,	William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,	John Christian Watson, Esq.,
The Hon. William Joseph Trickett,	Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee deliberated as to the order of their proceedings in regard to making visits of inspection and inquiry in relation to those of the proposed works under consideration to be carried out in country districts.

Mr. Levien moved,—“That the Committee proceed to Dubbo to inspect and take evidence with reference to the proposed Railway from Dubbo to Coonamble.”

The motion was seconded by Mr. Shepherd, and passed.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

John Boyd Donkin, civil engineer and grazier, was sworn, and examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Friday, the following day.

FRIDAY, 23 JUNE, 1899.

The Committee met at 2 p.m.

MEMBERS PRESENT :—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,	The Hon. William Joseph Trickett,
The Hon. Andrew Garran, LL.D.,	William Thomas Dick, Esq.,
	John Christian Watson, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing a line of Railway from Grenfell to Wyalong.

John Boyd Donkin, civil engineer and grazier, was sworn, and further examined.

Alexander Wilson, stock and station agent, was sworn, and examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Monday, 26 instant, at the Court-house Dubbo.

MONDAY, 26 JUNE, 1899.

The Committee met at the Court-house, Dubbo, at 2 p.m.

MEMBERS PRESENT :—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,	John Christian Watson, Esq.,
William Thomas Dick, Esq.,	Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

William O'Neill, farmer and grazier; and Edward Cahill, stock and station agent, Narramine; and Richard M'Gee, railway station-master; Alderman James Andrew Ryan, financier and landowner; Thomas Henry Purvis, hotelkeeper; Richard James Ryan, solicitor; and Augustine Heard Fearon, manager, Bank of New South Wales, Dubbo, were sworn, and examined.

The Committee adjourned at half-past 4, until 10 o'clock a.m. on Tuesday, the following day.

TUESDAY,

*TUESDAY, 27 JUNE, 1899.*

The Committee met at the Court-house, Dubbo, at 10 a.m.

## MEMBERS PRESENT:—

John Perry, Esq., Chairman.  
 The Hon. Patrick Lindesay Crawford Shepherd, | William Thomas Dick, Esq.,  
 John Christian Watson, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Edmund Henry Utley, Mayor; William England Morgan, editor, *Dubbo Dispatch*; William Ernest Binning, Road Superintendent; George Henry Taylor, Returning Officer; Charles Caddell, stock and station agent; Craven Hyde Fitzhardinge, solicitor; Daniel Soane, alderman and member of the Land Board; John Murray, farmer and produce merchant; Frank Cridland, hotelkeeper; and Henry Beecroft Copeland, Crown Lands Agent, Dubbo, were sworn, and examined.

William England Morgan, editor, *Dubbo Dispatch*, was sworn, and further examined.

The Committee adjourned at a quarter past 3, until 7 o'clock a.m. on Wednesday, the following day.

*WEDNESDAY, 28 JUNE, 1899.*

The Committee met at the "Royal" Hotel, Dubbo, at 7 a.m.

## MEMBERS PRESENT:—

John Perry, Esq., Chairman.  
 The Hon. Patrick Lindesay Crawford Shepherd, | John Christian Watson, Esq.,  
 William Thomas Dick, Esq., | Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

In pursuance of their inquiry respecting the expediency of constructing a line of Railway from Dubbo to Coonamble, the Committee, accompanied by Mr. W. E. Binning, Road Superintendent, Dubbo, then proceeded to inspect the country traversed by the surveyed Dubbo to Werris Creek railway route, as far as Mundooran.

The Committee met at the "Mundooran" Hotel, Mundooran, at 7.45 p.m.

Richard Shannon, grazier; Patrick Brennan, grazier; Thomas Luckie, grazier; and John Buckley, farmer and grazier, were sworn, and examined.

The Committee adjourned at a quarter past 9 p.m., until 8 o'clock a.m. on Thursday, the following day.

*THURSDAY, 29 JUNE, 1899.*

The Committee met at the "Mundooran" Hotel, Mundooran, at 8 a.m.

## MEMBERS PRESENT:—

John Perry, Esq., Chairman.  
 The Hon. Patrick Lindesay Crawford Shepherd, | John Christian Watson, Esq.,  
 William Thomas Dick, Esq., | Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

In continuation of their inquiry respecting the expediency of constructing a line of Railway from Dubbo to Coonamble, and in order to inspect some of the country on the eastern side, and within the range of influence of the proposed railway, the Committee then returned to Dubbo, partly along the surveyed road to Gilgandra, and thence in a south-westerly direction, reaching Dubbo at half-past 5 p.m.

*FRIDAY, 30 JUNE, 1899.*

The Committee met at the "Royal" Hotel, Dubbo, at 8 a.m.

## MEMBERS PRESENT:—

John Perry, Esq., Chairman.  
 The Hon. Patrick Lindesay Crawford Shepherd, | William Thomas Dick, Esq.,  
 The Hon. William Joseph Trickett, | John Christian Watson, Esq.,  
 Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The following account was passed for payment:—

Charles Lyne—Expenses as Secretary accompanying Committee in their inquiry	£	s.	d.
respecting the proposed Railway from Dubbo to Coonamble	...	...	...
	7	10	0

Continuing their inquiry respecting the expediency of constructing a line of Railway from Dubbo to Coonamble, the Committee then left Dubbo for Gilgandra, Gulargambone, and Coonamble to inspect the surveyed railway route and take evidence with reference to the proposed railway.

Dividing themselves into two parties they inspected the country on each side of the Dubbo-Coonamble Road, within a distance of 7 miles of the road, as far as Gilgandra, crossing and re-crossing the railway route on the way.

The Committee met at the "Telegraph" Hotel, Gilgandra, at 7.30 p.m.

Ernest Joseph Wheble, farmer and grazier; John Wheaton, farmer and grazier; Walter Gentle Brown, farmer and grazier; James Bell, grazier; Sydney James Barden, grazier; Stephen Chandler, farmer and grazier; Alfred Mortimer, farmer; James Lewis, farmer; and James Barling, grazier, were sworn, and examined.

The Committee adjourned at half-past 10 p.m., until 9 o'clock a.m. on Saturday, the following day.

*SATURDAY,*

*SATURDAY, 1 JULY, 1899.*

The Committee met at the "Telegraph" Hotel, Gilgandra, at 9:30 a.m.

## MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. William Joseph Trickett,		John Christian Watson, Esq.,
Robert Henry Levien, Esq.		

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Henry Mechin, farmer and grazier; Arthur Frederick Garling, storekeeper; and Archibald Campbell Berry, senior-constable, Gilgandra, were sworn, and examined.

The Committee then left Gilgandra, and continued their inspection of the route for the proposed Railway as far as Gulargambone.

The Committee met at the "Castlereagh" Hotel, Gulargambone, at 7:30 p.m.

James William George Taylor, grazier; John Kearney, farmer; Thomas Hetherington, grazier; John Edward Williams, first-class constable; and Gideon Rutherford, station manager, were sworn, and examined.

The Committee adjourned at a quarter-past 9 p.m., until 10:30 a.m. on Monday, 3rd July, at Coonamble.

*MONDAY, 3 JULY, 1899.*

The Committee left Gulargambone on Sunday at 8 a.m., and arrived at Coonamble at 1 p.m.

On Monday, 3rd July, the Committee met at the Council Chambers, Coonamble, at 10:30 a.m.

## MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. William Joseph Trickett,		John Christian Watson, Esq.,
Robert Henry Levien, Esq.		

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

William Makin Thomas, Staff Surveyor, Department of Lands; Herbert Mandeville Nash, licensed surveyor; Edward Whitney, grazier; Thomas Dun Bertram, medical practitioner, and Mayor of Coonamble; Peter Aloysius Polin, storekeeper; Thomas William Medley, Stock Inspector; John Cook, hotel-keeper; Henry Lyons, manager, Wright, Heaton, & Co.; Daniel Neil McAlary, grazier; John Rigney, grazier; William Farrell, sheep farmer; and Martin Gillighan, farmer and grazier, were sworn, and examined.

The Committee adjourned at 20 minutes to 5 p.m., until half-past 10 a.m. on Tuesday, the following day.

*TUESDAY, 4 JULY, 1899.*

The Committee met at the Council Chambers, Coonamble, at 10:30 a.m.

## MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. William Joseph Trickett,		John Christian Watson, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

William Pedley, cordial manufacturer; Clement Dillon, Crown Lands Agent; Robert Crawford, contractor; William George Taylor, grazier; Sidney Richard Skuthorpe, solicitor; Richard Grove Francis, senior-sergeant of police; Jonathan Davey Young Button, solicitor, and Secretary to the proposed Coonamble Co-operative Milling Company; and Reverend John Alfred Cooper, were sworn, and examined.

Thomas William Medley, Stock Inspector, was sworn, and further examined.

The Committee adjourned at 1 p.m., until half-past 7 a.m. on Wednesday, the following day.

*WEDNESDAY, 5 JULY, 1899.*

The Committee met at "Tattersall's" Hotel, Coonamble, at 7:30 a.m.

## MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. William Joseph Trickett,		John Christian Watson, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee then left Coonamble to inspect the country along the surveyed route for a railway from Mudgee to Coonamble, and reached Tooraweena, 52 miles from Coonamble, at 7 p.m.

The



The Committee met at the "Tooraweena" Hotel at 8 p.m.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Angus Nicholson, settlement lessee; William Irwin, farmer; Henry Irwin, farmer; and William Thomas Hitchen, hotel-keeper, were sworn, and examined.

The Committee adjourned at 10 p.m., until half-past 8 a.m. on Thursday, the following day.

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*THURSDAY, 6 JULY, 1899.*

The Committee met at the "Tooraweena" Hotel, Tooraweena, at 8:30 a.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. William Joseph Trickett,		John Christian Watson, Esq.

The minutes of the previous meeting were read, and confirmed.

Continuing their inspection of the country which would be served by a railway from Mudgee to Coonamble, the Committee left Tooraweena and travelled to Mudooran, a distance of 33 miles.

The Committee met at the "Mudooran" Hotel, Mudooran, at 7:30 p.m.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Christopher Baldwin Manusa, storekeeper, Mudooran, was sworn, and examined.

The Committee adjourned at 9 p.m., until half-past 9 o'clock a.m. on Friday, the following day.

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*FRIDAY, 7 JULY, 1899.*

The Committee met at the "Mudooran" Hotel, Mudooran, at 9 a.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. William Joseph Trickett,		John Christian Watson, Esq.

The minutes of the previous meeting were read, and confirmed.

In continuation of their inspection of the country in the vicinity of the Mudgee-Coonamble railway route, the Committee left Mudooran for Cobborah, a distance of 22 miles.

The Committee met at the "Commercial" Hotel, Cobborah, at 2:30 p.m.

The Committee further considered the proposed Railway from Dubbo to Coonamble.

Howard Speight, sheep overseer; Thomas Samuel Slack, senior-constable; Joseph Louis Falconer, drover; William Latimer, farmer; Charles Stephen Hicks, senior-constable; John McLean, grazier and farmer; Thomas Paterson Yeo, farmer; Alexander Douglas, grazier; George Paterson, farmer; James Nott, farmer; James Yeo, farmer and grazier; Henry Albatross Patrick, grazier; George William New, farmer and grazier; and William Miers, farmer and grazier, were sworn, and examined.

Samuel Slack, senior-constable, was sworn, and further examined.

The Committee adjourned at 20 minutes past 6 p.m., until 9 o'clock a.m. on Saturday, the following day.

---

*SATURDAY, 8 JULY, 1899.*

The Committee met at the "Commercial" Hotel, Cobborah, at 9 a.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. William Joseph Trickett,		John Christian Watson, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee then left Cobborah to continue their inspection of the country in the vicinity of the Mudgee to Coonamble railway route, and, dividing themselves into two parties, each of which went off the main road for some miles, travelled to Gulgong.

At 7:30 p.m. the Committee met at the Municipal Council Chambers, Gulgong.

The Committee further considered the proposed Railway from Dubbo to Coonamble.

Richard Rouse, Mayor; Richard Rouse, junior, grazier; Christopher Reid Young, storekeeper; John Tuxford, produce agent; George Steel, sergeant of police; Harold Dixon Voss, manager, Bank of New South Wales; William Rudolph Bentzen, manager, Australian Joint Stock Bank; John Walter Travis, sheep overseer; John Scully, miner; Charles Edward Hilton, auctioneer; and Edward McCulloch, Council Clerk, Gulgong, were sworn, and examined.

The Committee adjourned at 10 p.m., until 10 o'clock a.m. on Monday, 10th July, at Mudgee.

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*MONDAY, 10 JULY, 1899.*

The Committee left Gulgong on Sunday, 9th July, at 9:30 a.m., and arrived at Mudgee at 12:15 p.m.

On Monday, 10th July, the Committee met at the Council Chambers, Mudgee, at 10 a.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. William Joseph Trickett,		John Christian Watson, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Henry Crossing, commission agent, and James John Underwood, drover and cattle buyer, were sworn, and examined. Henry

Henry Crossing, commission agent, was sworn, and further examined.

Eugene Daly, butcher and hotel-keeper; James Loneragan, storekeeper; Thomas James Lovejoy, Council Clerk, Municipality of Mudgee; John Henry Toose, commercial traveller; and Denis Barry Acton, stonemason, were sworn, and examined.

The Hon. George Henry Cox, M.L.C., was sworn, and further examined.

The Committee adjourned at a quarter to 1 p.m., until 2 o'clock p.m. on Tuesday, the following day, at Sydney.

*TUESDAY, 11 JULY, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. William Joseph Trickett,		John Christian Watson, Esq.,
		Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Messrs. Chaffey Brothers, Ltd., Melbourne, with reference to the Committee's inquiry respecting the proposed Locks and Weirs on the River Darling, between Bourke and Menindie.

Letter from Mr. S. D. Y. Button, Coonamble, with reference to his evidence before the Committee, respecting the proposed Railway from Dubbo to Coonamble.

Letter from the Under Secretary for Finance and Trade, enclosing a copy of a letter from the Secretary to the Railway Commissioners, with reference to a request from the Committee for a report from the Commissioners on the alternative railway route from Temora to Wyalong, in connection with the Committee's inquiry respecting the proposed Railway from Grenfell to Wyalong.

The correspondence was received.

The following account was passed for payment:—

H. C. Kent—Services as an expert witness in the Committee's inquiry respecting	£	s.	d.
the proposed Public Offices, Phillip, Bridge, and Young Streets, Sydney	...	12	12
		0	

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Mr. Watson gave notice that he would move, at the next meeting of the Committee,—“That the Committee proceed to consider the evidence on the proposed Railway from Dubbo to Coonamble, with a view to reporting on the subject to the Legislative Assembly.”

The Committee then, in pursuance of their inquiry as to the expediency of erecting a Penitentiary and Prison for Females at Randwick, and accompanied by the Comptroller-General of Prisons, proceeded by steam launch to Biloela, where they inspected the gaol, which, in the event of the proposed Penitentiary and Prison for Females being erected, would be closed, and also the classes of prisoners now confined there for whom the proposed buildings are intended.

The Committee adjourned at a quarter past 4, until 2 o'clock p.m. on Wednesday, the following day.

*WEDNESDAY, 12 JULY, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,		William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,		John Christian Watson, Esq.,
The Hon. William Joseph Trickett,		Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Mr. W. B. Wilkinson, Dubbo, with reference to his evidence in the Committee's inquiry respecting the proposed Railway from Dubbo to Coonamble.

Report on the railway trial survey, Wyalong to Hillston, forwarded by the Engineer-in-Chief, Railway Construction Branch, Department of Public Works, in connection with the Committee's inquiry respecting the proposed Railway from Grenfell to Wyalong.

The correspondence was received.

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

John Spencer Brunton, President of the Chamber of Commerce, Sydney, and Thomas Henry Smith, District Surveyor, Dubbo, were sworn, and examined.

Mr. Watson's notice of motion for the consideration of the evidence with reference to the proposed Railway from Dubbo to Coonamble was postponed.

The Committee adjourned at 10 minutes past 4, until 2 o'clock p.m. on Thursday, the following day.

*THURSDAY, 13 JULY, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,	William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,	John Christian Watson, Esq.,
The Hon. William Joseph Trickett,	Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The following accounts were passed for payment:—	£	s.	d.
Department of Lands—Map of New South Wales ... ..	2	10	0
Charles Lyne—Expenses as Secretary accompanying Committee in their inquiry respecting the proposed Railway from Dubbo to Coonamble ... ..	15	0	0
Total ... ..	£17	10	0

The Committee further considered the expediency of constructing a line of Railway from Dubbo to Coonamble.

Mr. Watson moved,—“That the Committee proceed to consider the evidence on the proposed Railway from Dubbo to Coonamble, with a view to reporting on the subject to the Legislative Assembly.”

The motion was seconded by Mr. Levien, and passed.

Mr. Watson moved,—“That, in the opinion of the Committee, it is expedient the proposed Railway from Dubbo to Coonamble, as referred to the Committee by the Legislative Assembly, be carried out.”

The motion was seconded by Mr. Shepherd, and passed on the following division:—

Ayes, 6.	Noes, 1.
Mr. Perry,	Mr. Dick.
Mr. Shepherd,	
Dr. Garran,	
Mr. Trickett,	
Mr. Watson,	
Mr. Levien.	

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Friday, the following day.

*FRIDAY, 14 JULY, 1899.*

The Committee met at 2 p.m.

MEMBERS PRESENT:—

John Perry, Esq., Chairman.

The Hon. Patrick Lindesay Crawford Shepherd,	William Thomas Dick, Esq.,
The Hon. Andrew Garran, LL.D.,	John Christian Watson, Esq.,
The Hon. William Joseph Trickett,	Robert Henry Levien, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the expediency of erecting a Penitentiary and Prison for Females, Randwick.

Edward Twynam, Chief Surveyor, Department of Lands; John See, Esq., M.P.; and James Robertson, resident, Randwick; were sworn, and examined.

The Committee proceeded to consider their Sixteenth General Report to His Excellency the Governor.

The Report was adopted, and the Chairman was authorised to sign it for presentation to His Excellency the Governor.

The Committee adjourned at 4 o'clock, until 10 o'clock a.m. on Saturday, 15th July, at Goulburn.

1899.

(THIRD SESSION.)

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LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

---

PARLIAMENTARY STANDING COMMITTEE ON  
PUBLIC WORKS.

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REPORT

TOGETHER WITH

MINUTES OF EVIDENCE AND APPENDICES,

RELATING TO THE PROPOSED

PUBLIC OFFICES, PHILLIP, BRIDGE, AND  
YOUNG STREETS, SYDNEY.

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Presented to Parliament in accordance with the provisions of the Public Works Act,  
51 Vic. No. 37.

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*Printed under No. 1 Report from Printing Committee, 3 August, 1899.*

SYDNEY: WILLIAM APPLGATE GULLICK, GOVERNMENT PRINTER.

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1899.

[3s. 6d.]

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## MEMBERS OF THE COMMITTEE.

## LEGISLATIVE COUNCIL.

The Honorable WILLIAM JOSEPH TRICKETT, Vice-Chairman.

The Honorable PATRICK LINDESAY CRAWFORD SHEPHERD.

The Honorable ANDREW GARRAN, LL.D.

## LEGISLATIVE ASSEMBLY.

JOHN PERRY, Esquire, Chairman.

WILLIAM THOMAS DICK, Esquire.

JOHN CHRISTIAN WATSON, Esquire.

ROBERT HENRY LEVIEN, Esquire.

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## PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

### PUBLIC OFFICES, PHILLIP, BRIDGE, AND YOUNG STREETS, SYDNEY.

## REPORT.

THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS, appointed during the first Session of the present Parliament, under the Public Works Act of 1888, 51 Vic. No. 37, the Public Works Act Amendment Act of 1889, 52 Vic. No. 26, the Public Works (Committees' Remuneration) Act of 1889, 53 Vic. No. 11, and the Public Works Acts Further Amendment Act of 1897, 61 Vic. No. 6, to whom was referred the duty of considering and reporting upon "the expediency of erecting public offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney," have, after due inquiry, resolved that it is not expedient the erection of the offices should be carried out until there has been a comprehensive investigation into the existing accommodation for the various public departments, and the possibility of improving it by fresh adjustments or slight structural alterations, and until the probable wants of the Government, for ten years at least, are approximately indicated; and, in accordance with the provision of sub-section IV, of clause 13, of the Public Works Act, report their resolution to the Legislative Assembly:—

#### GENERAL REMARKS.

1. In this inquiry, the Committee have had before them a proposal to erect at an approximate cost of £97,000, on Government land, which cost £33,500, with frontages to Phillip, Bridge, and Young Streets, Sydney, a stone building of six storeys and a basement, containing 70,727 superficial feet of floor space, for the accommodation of the Department of Mines and Agriculture and the Department of Public Instruction and Labour.

The initiation of this scheme, the Committee are officially informed, arose at the time the Department of Mines and Agriculture was occupying rented premises in Lincoln's Inn Chambers, Phillip-street, when the Government Architect was instructed to ascertain the possibility of finding accommodation for it in either the Public Works or the Lands Office buildings, and as a temporary measure a removal was made to the latter.

Steps were then taken to provide for the erection of a new building for the Department upon a portion of the site now before the Committee in connection with the present proposal, which faces Phillip and Bridge Streets, and £18,000 was voted on the Estimates of 1895 to meet the cost. Nothing further, however, appears to have been done until 1897, when a scheme being in course of preparation for accommodating the Inspector-General of Police and the Comptroller-General of Prisons upon a site at the corner of Phillip and Hunter Streets, a Board was appointed to consider whether it were practicable to erect on the Phillip, Bridge, and Young Streets site a building large enough to accommodate the Department of Mines and Agriculture, the Police and Prisons Departments, the Department of Public Instruction and Labour, and a number of smaller branches of the Public Service occupying rented premises or Government buildings regarded as unsuitable.

This,



This, it was found, could not be done conveniently, either as regards accommodating some of the Departments, or keeping the height of the building within reasonable limits; and, so far as the Department of Mines and Agriculture and the Department of Public Instruction and Labour were concerned, it was then decided by the Departmental Board to make the proposal subsequently referred to the Committee.

#### SCOPE OF THE INQUIRY.

2. In carrying out this inquiry, the Committee, besides examining Departmental officers, have had before them private architects and witnesses holding responsible positions in some of the large monetary and mercantile establishments of Sydney. Recognising the importance of comparing the accommodation provided in the proposed building with that which is used by the office staffs of business establishments in the city, evidence was invited from the General Manager of the Australian Mutual Provident Society, the General Manager of the Colonial Sugar Refining Company, and the Accountant of the Head Office of the Bank of New South Wales, and the information obtained from them is an important feature in the investigation. The Committee also visited and inspected most of the public offices, including those at present used by the two Departments for whose accommodation the new building is intended, and endeavoured to ascertain whether requirements might be met by some rearrangement, or by some comparatively inexpensive additions. Evidence on each of these points was obtained, part of it being reports from the Government Architect and two of the private architects examined, on the cost of adding another storey to the present Lands Office building, the Under Secretary for Mines and Agriculture having informed the Committee that, if the requirements of his Department could be fully met by the erection of an additional storey, he would be satisfied. Further, in connection with the proposal that the basement of the new offices should be set apart for the Museum of the Department of Mines and Agriculture, now in the Domain, and in order to determine whether, in view of other museums of a similar character in Sydney, that of the Department of Mines and Agriculture is required, the Committee visited and inspected the Museum in the Domain, the Australian Museum, and the Museum of the Technical College, Ultimo, and examined expert witnesses upon the subject.

#### DESCRIPTION OF THE BUILDING.

3. The external walls of the proposed building are to be of Sydney sandstone, in order to bring them into harmony with the architectural appearance of the offices of the Chief Secretary, Public Works, and Lands Departments; and as it is intended to continue the right-of-way on the southern side of the site to connect by a passage with Phillip-street, the building is designed with four façades. The spaces enclosed by the structural walls are to be subdivided by the Departments concerned. In the official statement placed before the Committee it is affirmed that the rooms will be well-lighted, either from the streets or from a spacious light-area carried upwards throughout the building. The corridors are also officially described as well-lighted and sufficiently wide, and are so arranged that a distinct system of horizontal air-shafting, connecting with upright ventilating shafts, is provided, into which communication from every room is proposed to be made, and a constant exhaustion of vitiated air set up by means of electric fans. The floors and ceilings, which will be fire-proof, it is proposed to construct on the Monier system, each floor being provided with adequate strong-rooms and lavatory accommodation. The basement is to be occupied entirely by the museum of the Department of Mines and Agriculture, the public approach to it being from the Bridge and Hunter Streets corner, and the light from windows facing the streets and from the light-area carried up through the building. The ground floor and first and second floors are divided between the two Departments; the fourth and fifth floors are to be used wholly by the Department of Mines and Agriculture. A separate entrance and lift are provided for each Department, and it is intended that the lifts shall be run, and the rooms in the building lighted and heated, by electricity.

## STATEMENTS OF ACCOMMODATION REQUIRED AND PROVIDED.

4. The minimum accommodation required and the amount provided for the two Departments are stated as follows :—

Department.	Minimum required.	Amount provided.
Mines and Agriculture ... ..	feet. 45,777	feet. 47,941
Public Instruction ... ..	19,776	22,786

The following statement shows the accommodation in superficial feet, exclusive of lavatories, corridors, staircases, lifts, ventilating shafts, &c., proposed to be given to each Department on the different floors, and the space provided for the museum in the basement :—

	Department of Public Instruction.	Department of Mines and Agriculture.
	feet.	feet.
Basement ... ..	.....	14,440
Ground floor ... ..	5,680	3,720
First floor ... ..	5,763	3,768
Second floor ... ..	5,763	3,768
Third floor ... ..	5,580	3,695
Fourth floor ... ..	.....	9,275
Fifth floor ... ..	.....	9,275
Total number of superficial feet ... ..	22,786	47,941

## THE PLANS.

5. The plans of the proposed building present to the view a façade harmonising fairly with the exterior appearance of the public buildings in Bridge-street, and the interior arrangements are generally similar to those of the existing offices; but it cannot be said that they are altogether satisfactory. The accommodation provided is in excess of present wants, and for some portions of the staff is over-liberal. The design, as regards Government buildings, is a novelty and an improvement, for partition walls as part of the structure are reduced to a minimum, the proposal being to use, for purposes of subdivision, a light fire-proof wall, which can be erected as required, in the first instance, and taken down, without difficulty or injury to the building, if any subsequent re-arrangement of the space is required. In the older offices it has been found difficult and expensive, and often impossible, to turn several small rooms into a large one, because the walls to be removed were wanted for the support of the building. At the same time, when, as in this case, the building is being constructed expressly for two Departments whose general requirements are known, the architect should have been in possession of the most detailed information as to those requirements, but it seems that little further was known or asked for than the amount of superficial space each Department desired. All the witnesses seemed to be agreed that a fair floor-space for each clerk ranges from 75 to 100 square feet, and in the large rooms it is easy to make this adjustment for any number of clerks. But in all the Departments a certain number of officers require rooms to themselves, and in these large buildings it is very difficult to provide small rooms; for as the distance from the outside walls to the corridor wall in this building, for instance, is 24 feet, and 20 feet for the interior rooms, it is only possible to make a small room by making it proportionately narrow, and each room must have at least one window. This makes the space-allowance per occupant for the single rooms proportionately larger, and makes the general average for the whole building come higher. The lighting of the rooms is satisfactory, but some of the architectural witnesses think that in the corridors the light is deficient, and it is very doubtful whether sufficient is provided for museum purposes in the basement.

That

That the accommodation shown by the plans is excessive may be seen from the following statement, which gives the average floor-space provided for the different officers of the departments in the new building :—

DEPARTMENT OF MINES AND AGRICULTURE.

Minister and Under Secretary ... ..	780 feet each.
Geological Branch (including library)...	188 „ „
Charting Branch...	133 „ „
Clerical Branch ... ..	129 „ „
Lease Clerks ... ..	124 „ „
Lease Officer and Legal Adviser ... ..	150 „ „
Inspectors of Diamond Drills ... ..	270 „ „
Accounts Branch ... ..	131 „ „
Stores ... ..	125 „ „
Plan-mounter, helio. printing, and helio. printer ... ..	495 „ „
Board-room ... ..	480 „ „
Museum ... ..	14,440 „ „
Clerical Branch (Museum) ... ..	270 „ each.
Public Watering-places... ..	164 „ „
Stock Branch (including two store-rooms) ... ..	161 „ „
Export Board (including board-room)...	200 „ „
Pathologist and Artists ... ..	285 „ „
Entomologist (including library) ... ..	430 „ „
Viticulture (including two laboratories) ... ..	665 „ „
<i>Agricultural Gazette</i> (including library) ... ..	357 „ „

DEPARTMENT OF PUBLIC INSTRUCTION AND LABOUR.

Minister ... ..	526 feet.
Minister's Ante-room ... ..	200 „
Under Secretary... ..	320 „
Under Secretary's Waiting-room ... ..	150 „
Chief Clerk ... ..	320 „
Correspondence Clerk ... ..	160 „
Teachers' Branch ... ..	110 feet each.
Correspondence ... ..	108 „
Records ... ..	161 „
Accounts... ..	138 „
Cashier ... ..	168 „
Clerks of Works and Draftsmen ... ..	232 „
Inspectors, and Messenger-in-Waiting ... ..	250 „
Cadets ... ..	106 „
Labour and Industry ... ..	140 „
Store-rooms ... ..	1,770 feet.
Cadets' Workshop ... ..	399 „
Library and Board-room ... ..	840 „

PRESENT POSITION OF THE DEPARTMENTS.

6. At the present time the Department of Mines and Agriculture has its head-quarters and the larger part of its staff in the Lands Office building. The Stock Branch is in a building owned by the Government in Young-street; the Agricultural Chemist, the Fruit Expert, the Dairy Expert, and the Entomologist are in the old Commissariat Stores, Circular Quay; the Pathologist in Agriculture is located in the Public Works building; and the Departmental Museum is in the Domain. The total space occupied, inclusive of the Museum, is 43,455 square feet, and exclusive of the Museum 36,000 square feet.

The rooms available in the Lands Office building, the Under Secretary states, are overcrowded; there is no strong-room accommodation for books and documents; and the necessity to accommodate branches of the Department in other buildings causes considerable inconvenience.

The

The Department of Public Instruction and Labour is accommodated mostly in the old building east of the Lands Office, which formerly was the office of the Colonial Secretary. The cashier, the clerks of works, and the inspectors, with the exception of the chief inspector and deputy chief inspector, are in rented buildings. The principal building is described by the Under Secretary as compact, but too small for requirements and badly ventilated. It is without a strong-room, and is deficient in store-room accommodation.

#### VISITS TO THE PUBLIC OFFICES.

7. Early in the course of the inquiry the Committee visited most of the Public Offices to acquaint themselves with the nature of the accommodation in the existing public buildings, and how it is used. They found generally that the structural features of the buildings prevented a proper arrangement of officers or a thoroughly systematic and effective control of their work. One officer may have to himself a separate room of large size, while a number of clerks may be crowded into a room of smaller dimensions. As an instance, a room in the Lands Department is occupied by twelve officers, while the Chief Surveyor of the Department has to himself a similar room, and, in addition, another room of 240 feet floor-space. The head of a room, who ought to be in the room occupied by the clerks or others he is expected to overlook, is either entirely apart from them in another room, which he alone occupies, or he is shut off from them in a manner which renders a personal supervision impossible. Wherever an officer has been able to secure a room to himself he has done so, and the buildings are so constructed that many of these rooms are much larger than they need be. The consequence is that more single rooms are occupied than should be, and they contain a much greater superficial area of space than should be allotted to individual officers.

Much space is also used as store-rooms. In all Departments it has been the practice to keep on hand large supplies of stores and stationery, and, except in the case of the Department of Public Works, which has lately altered its practice in this respect, these branch stores still exist. They occupy a considerable area which might be used to much more advantage. The same may be said of record rooms.

Then the space which should be available for the accommodation of clerks is encroached upon by unsuitable and unnecessary office furniture. In the Department of Mines and Agriculture this is particularly noticeable.

The evidence of the Under Secretary of this Department leads to the impression that the Department is insufficiently accommodated in the Lands Office building, but from what the Committee saw on their visit it does not appear to them that the most is made of the accommodation available. Unsuitable, old-fashioned, and ill-arranged office furniture occupies a large proportion of the space in most of the rooms, and what seems to be an imperfect system in regard to the keeping of books and papers further lessens the space required for the clerks. In the offices of an institution like the Bank of New South Wales, the Australian Mutual Provident Society, or the Colonial Sugar Refining Company, the clerical staff does its work at desks, either ranged around the walls or placed in the centre of the room, so that no more space than is absolutely necessary shall be taken up by office furniture, and every clerk shall be within the view of the officer over him; but in many of the rooms occupied by the Department of Mines and Agriculture the furniture consists, not of suitable desks, but of tables covering most of the floor-space, and having upon them large cupboards or sets of pigeon-holes, which lead to an undesirable accumulation and litter of papers, and effectually screen the clerks from observation. The Accountant of the Bank of New South Wales, who, at the request of the Committee, visited the Department, found a great waste of space and littering of the offices. There seemed to him to be in the rooms out-of-date and quite unnecessary furniture, superfluous books and papers, and a complete absence of method. In one large room, for instance, he saw from ten to twelve clerks, the bulk of whom had tables to themselves with plenty of space between them. The same clerks, he states, could have been accommodated at a desk, standing face to face, with perhaps a rack upon which to put their papers, in half the space. In his opinion accommodation could be found in the rooms he visited for 30 per cent. more clerks than are at present there. The unsuitable character of the office furniture in this Department is responsible for

for much of the want of space complained of. This witness noticed also, what is very apparent to the Committee, that through the manner in which the interior of the Lands Office building has been subdivided there is a much larger number of separate rooms than there ought to be, and a consequent defective system of supervision of the officers occupying them. If, instead of dividing-walls from floor to ceiling, apportioning the available space into a large number of rooms, there were partitions of wood and glass, as are to be found in the offices of most large business establishments, forming a few large rooms easily overlooked by the officers in charge, a much better system would prevail than appears to be the case at present. In the Bank of New South Wales the system is to economise space as much as possible by having in the rooms the most suitable furniture, and no obstruction to the proper supervision of the clerks, to group the officers so that their work shall be done without unnecessary running from room to room, and to provide plenty of air space by limiting the height of partitions to what is required to screen the clerks and their work from the public. A similar system prevails in the offices of those other institutions whose representatives appeared before the Committee.

The offices of the Department of Public Instruction and Labour are furnished more suitably than is the case in those of the Department of Mines and Agriculture, and there is an air of neatness and system observable about the rooms; but there appears to be unnecessarily large accommodation set apart for the storage of stationery.

#### EXCESSIVE ACCOMMODATION FOR STORES AND STATIONERY.

8. The excessive amount of space taken up in the two Departments for stores and stationery has led the Committee to the conclusion that in this respect some different system should be introduced. It would greatly lessen the necessity for store-room accommodation if the bulk of the printed forms used by the Departments were stored somewhere else, only sufficient being kept on hand for current requirements. The head office of the Bank of New South Wales manages to keep all the printed forms, and other papers required at any moment, in connection with its dealings with country branches, on the premises, in a press about 12 feet high and 10 feet wide. Anything that cannot be kept there is stored in a room at the disposal of the bank on the premises of John Sands & Co., who occupy towards the bank the same relation the Government Printing Office and the Government Stores Department do to the public Offices. The Chairman of the Public Service Tender Board, who was examined by the Committee on this subject, states that the matter has been investigated by the Board, who are very strongly of opinion that the Departmental branch stores should be practically done away with, and the annual contractors made the storekeepers for the bulk of the stores required. A very strong recommendation to this effect, the Committee are informed, has been sent to the Honorable the Colonial Treasurer. This is one direction in which it is clear to the Committee that considerable space in the Departments could be added to that used for the accommodation of clerks.

#### AN ADDITIONAL STOREY TO THE LANDS OFFICE BUILDING.

9. Being of opinion that better results might be obtained from the rooms at present occupied by the Department of Mines and Agriculture, the Committee set about ascertaining whether an additional storey to the Lands Office building were practicable at a reasonable cost. The operations of the Mines Department are so closely associated with those of the Department of Lands that it seems fitting these two Departments should occupy the same building, and, according to the evidence, an additional storey would be satisfactory to the permanent head of the first-mentioned Department, if sufficient accommodation could be thereby furnished. At the present time there are some rooms at the top of the building too much exposed to the heat of the sun to be of use, and the construction of another storey would improve these, and, with them, provide about 20,000 superficial feet of additional office space. The Government Architect states that to do this would cost £46,880. One of the private architects examined estimates the cost at from £30,000 to £35,000, and that of constructing not only an additional storey but also a mansard roof, which together would give 40,000 superficial feet of space, at £50,000. Another architect, who was called in to check the estimates of the other two, gives the cost of

of the additional storey as £45,346, though he thinks it might turn out to be something less, perhaps about £42,000. Compared with the estimated cost of the proposed new building, which would provide 70,721 superficial feet of space, accommodate two departments, and complete the line of public offices in Bridge-street, an expenditure of over £40,000 in adding to the Lands Office building does not seem to be justifiable.

#### QUESTION OF THE MUSEUM.

10. The proposal to set apart the basement of the new building, containing 14,440 superficial feet of space, for the purposes of a museum in connection with the Department of Mines and Agriculture, has been a subject of difficulty to the Committee. In 1895, when it was proposed to spend £18,000 on offices for this Department, accommodation for a museum was not contemplated. Then, as now, the Government Geologist had a collection of specimens for the purposes of reference; but in the proposal referred to the Committee, a public museum, representative of the whole of the mining and agricultural operations of the Department, is intended to be established on a wide and permanent basis. A very good collection of exhibits, representing both branches of the Department, is displayed at the present time in a galvanised iron building on the western side of the Domain; but this building is regarded as unattractive and unsuitable, and the space available is said to be much too limited. The inspection made by the Committee of this and other museums in Sydney led them to the conclusion that in timber exhibits the Technical College, Ultimo, possesses the best collection, as well as a useful display of exhibits illustrative of agriculture. Minerals also are well represented. According to the evidence of the Superintendent of the Technical College, all kinds of technological exhibits—animal, vegetable, and mineral—of an economic character are kept there for the benefit of the public and the teaching of students; they impart to the people who visit the museum an idea of the nature of the products of the country, and of how they can be employed to the best advantage, and they are used for the instruction of the college students. The total number of visitors to this museum last year, exclusive of students, was from 100,000 to 120,000; and inquiries relating to the products of the country have frequently been received from London and America, and from various other parts of the world. The Australian Museum does not contain specimens of timber or exhibits of general agricultural products, but it has a good mineral collection, though it has no connection with the mining centres and has to depend mainly upon gifts.

In view of the excellent museum at the Technical College, and the fact that it is in close proximity to the Redfern Railway station and will shortly be easily accessible by electric tram, it is questionable whether any museum is wanted in connection with the Department of Mines and Agriculture beyond what is required by the Government Geologist and his assistants, for which much less space than 14,440 feet should be sufficient, though some of the museum experts favour the proposal. Professor David is of opinion that space equal to at least three-fourths of that now occupied by the museum in the Domain is necessary for a reference museum, and that means accommodation to the extent of a little more than 5,000 feet.

#### THE COMMITTEE'S RECOMMENDATION.

11. As it is apparent to the Committee that considerably more accommodation could be found in the present public offices if a better system than now prevails in regard to the arrangement of officers, the style of office furniture, and the space used for store-rooms, record-rooms, and also for the accommodation of messengers, were introduced, they are of opinion that the proposed new offices should not be erected until there has been a comprehensive investigation into the present condition of the offices in these respects, by which it may be ascertained whether it is possible to bring about an improvement by some re-arrangement or slight structural alterations in the buildings, and until the probable wants of the Government in the direction of office accommodation, for at least the next ten years, have been approximately indicated. This investigation, which should be made by a competent Board, consisting, say, of two representative public officers, two gentlemen connected with large business establishments in Sydney, and an architect, would probably show that

that some of the buildings now used for public offices can be made to accommodate much more than they do at present. The Department of Public Instruction and Labour may not be provided for in this way; but, as a new Public Library building, and new offices for the Registrar-General, which are contemplated, will leave the buildings at present occupied for those purposes vacant, and as, in the event of the railway being brought into the City, the Railway Commissioners may find it convenient to remove from their present offices, which are of considerable area, there may before long be suitable quarters available for this Department, which will obviate any necessity for the erection of new premises for its accommodation. Federation, too, has some bearing upon the question of public offices—at least to the extent of making it desirable to postpone the construction of any costly new offices not urgently required until it is definitely known what buildings or portions of buildings the Federal Government will take over.

Should the results anticipated by the Committee from the inquiry they recommend be realized, a new building such as that which has been under their consideration may not be wanted, or the plans, if not set aside altogether, may require to be altered. In the preparation of new plans, information as to the probable future requirements of the Government with regard to office accommodation would be a valuable guide to a suitable design, and of much assistance in any inquiry as to the necessity for the new building. The Committee are of opinion, also, that before plans are prepared for any new public building the Government Architect should be in possession of complete details as to the manner in which the accommodation to be provided is to be used, and that the subdivision of the space to meet every requirement should be shown on the plans instead of being left to the subsequent action of the Departments.

#### THE RESOLUTION PASSED.

12. The Resolution passed by the Committee is shown in the following extract from their Minutes of Proceedings, of Friday, 28th April, 1899:—

Mr. Levien moved,—“That, in the opinion of the Committee, it is not expedient the proposed erection of Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney, as referred to the Committee by the Legislative Assembly, be carried out.”

Mr. Shepherd seconded the motion.

Dr. Garran moved,—“That the motion be amended by the addition of the following words:— ‘until there has been a comprehensive investigation into the existing accommodation for the various public Departments, and the possibility of improving it by fresh adjustments or slight structural alterations, and until the probable wants of the Government, for ten years at least, are approximately indicated.’”

The amendment was seconded by Mr. Watson, and agreed to, and the motion as amended was then passed.

JOHN PERRY,  
Chairman.

Office of the Parliamentary Standing Committee on Public Works,  
Sydney, 3 May, 1899.

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# PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

## MINUTES OF EVIDENCE.

### PUBLIC OFFICES, PHILLIP, BRIDGE, AND YOUNG STREETS, SYDNEY.

THURSDAY, 2 FEBRUARY, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee proceeded to consider the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Robert R. P. Hickson, Under Secretary and Commissioner for Roads, Department of Public Works, sworn, and examined:—

1. *Chairman.*] You have prepared a statement in regard to the proposed new buildings to be erected upon the site owned by the Government fronting Phillip, Bridge, and Young Streets? Yes; it is as follows:—

R. R. P.  
Hickson.

#### PROPOSED NEW PUBLIC BUILDINGS—PHILLIP, BRIDGE, AND YOUNG STREETS.

2 Feb., 1899.

*To accommodate the Department of Mines and Agriculture and the Department of Public Instruction.*

The initiation of this scheme arose from the Government Architect receiving instructions to ascertain if it were possible, or not, to accommodate the Department of Mines and Agriculture in either the Public Works or the Lands buildings. As a temporary result, that portion of the Department of Mines and Agriculture which was occupying rented premises in Lincoln's Inn Chambers was brought down to the Lands Office building, leaving a number of branches still scattered about the city.

Following this, steps were taken to provide for the erection of a new building for this Department upon the vacant land facing Phillip and Bridge Streets, being a portion of the site now under consideration, and the sum of £16,500 was voted on the Loan Estimates of 1895 to meet the cost.

The site for the scheme now placed before the Committee for investigation is that abutting upon Phillip, Bridge, and Young Streets, partially covered by Nos. 36 to 42 Young-street (four houses), and partly vacant, while it is approached on the southern side by an accommodation lane. The whole property was purchased, in November, 1883, for the sum of £33,500.

Early in 1897, a scheme was in course of preparation for accommodating the Departments of the Inspector-General of Police and the Comptroller-General of Prisons upon another site at the corner of Phillip and Hunter Streets, but as the larger site was available the Minister directed that inquiries should be made as to whether it was possible, or not, to accommodate on the latter all the Departments already referred to, together with a number of branches of other Departments, and relinquish the proposal to build distinctly for the Departments of the Inspector-General of Police and the Comptroller-General of Prisons.

A Board was, therefore, appointed, including representative officers from the Departments interested, with the Government Architect as Chairman. This Board reported that, in order to accommodate in one building all the Departments interested, it would be necessary to erect a building of an abnormal height, and considering the fact that the Inspector-General of Police and the Comptroller-General of Prisons objected to their respective Departments being housed with so many others, and in that particular locality, the Board recommended that the most advisable course would be to erect two buildings—one at the corner of Phillip and Hunter Streets for the two last-named Departments, and the other (the one now under consideration) for the Departments of Mines and Agriculture, and Public Instruction.

During the investigations made by the Board it was found necessary, in order to present a practicable scheme, to still further reduce the number of Departments to be accommodated, and therefore the following were omitted, to be provided for elsewhere, viz.:—

Auditor-General.	Public Service Board.
Charitable Institutions.	Fisheries Department.
Electoral Registrar.	Friendly Societies.
Medical and Pharmacy Boards.	Government Statistician, and
Railway Commissioners (portion).	

The Department of Mines and Agriculture is now partly housed in the building of the Lands Office, partly in the old Naval Depot, and the Public Works Offices, while its Museum is in the unsightly temporary building known as the Technological Museum, Outer Domain; while it is understood other small branches have to find accommodation elsewhere. The Education Department is somewhat similarly situated, its principal offices being in the old and inconvenient building directly to the eastward of the Lands Office. Both Departments require immediately more ample accommodation and proper arrangement of offices for their efficient administration.

There are practically few outside rentals paid by these two Departments, and the financial aspect of the scheme must be considered entirely from the point of view of the general requirements and expansion in the administration of the Colony.



R. R. P.  
Hickson.

The proposed building consists of six storeys, containing 70,727 superficial feet of floor-space available for office and museum accommodation. The minimum accommodation required by the two Departments, and the amount provided is, therefore, as follows:—

2 Feb., 1899.

Department.	Minimum required.	Amount provided.
Mines and Agriculture.....	feet. 45,777	feet. 47,941
Public Instruction.....	19,776	22,786

It is proposed to carry out the external walls in Sydney sandstone in order to bring the building into harmony with the architectural appearances of the Colonial Secretary's, Public Works, and Lands Office buildings; and, as it is intended to continue the right-of-way on the southern side to connect by a passage with Phillip-street, advantage has been taken to design the building with four facades, and complete in itself.

The basement is to be occupied entirely by the Museum of the Mines Department, and is approached by the public from the Bridge and Young Streets corner, the specimens and heavy goods entrance being from the lane on the southern side. The ground, first, second, and third floors are divided between these two Departments, and the fourth and fifth are appropriated wholly by the Mines Department.

There is a separate entrance and lift for each Department, and all the rooms are well lighted, either from the streets or from a spacious light area carried up throughout the buildings, which also forms an effective top light to the museum and basement.

The corridors are sufficiently wide and well lighted, while each floor has adequate strong-room and lavatory accommodation. The corridors referred to run a complete circuit through the building, and are so arranged that a distinct system of horizontal air shafting connecting with upright ventilating shafts is provided, into which communication from every room is proposed to be made, and a constant exhaustion of vitiated air set up by means of electrical fans. It is also proposed to construct fire-proof floors and ceilings on the Monier system, and to light and heat the rooms and run the lifts by electricity.

The estimated cost of the building, with floors of fire-proof construction as above referred to, inclusive of lifts, is, approximately, £97,000.

A schedule, showing the accommodation proposed on each floor, is appended:—

	Department of Public Instruction.	Department of Mines and Agriculture.
	feet.	feet.
Basement.....	.....	14,440
Ground floor .....	5,680	3,720
First floor .....	5,763	3,768
Second floor .....	5,763	3,768
Third floor .....	5,580	3,695
Fourth floor .....	.....	9,275
Fifth floor .....	.....	9,275
Total number of superficial feet.....	22,786	47,941

NOTE.—The lavatories, corridors, staircases, lifts, ventilating shafts, &c., are not included in the above superficial areas.

By resolution of the Legislative Assembly on 22nd December last, it was decided to refer this matter to the Parliamentary Standing Committee for investigation and report.

THURSDAY, 9 FEBRUARY, 1899.

Present:—

JOHN PERRY, Esq., CHAIRMAN.

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Robert R. P. Hickson, Under Secretary and Commissioner for Roads, Department of Public Works, sworn, and further examined:—

R. R. P.  
Hickson.

9 Feb., 1899.

2. *Chairman.*] In your statement before the Committee in reference to the proposed Public Offices now under consideration you said:

The initiation of this scheme arose from the Government Architect receiving instructions to ascertain if it were possible, or not, to accommodate the Department of Mines and Agriculture in either the Public Works or the Lands buildings. As a temporary result, that portion of the Department of Mines and Agriculture which was occupying rented premises in Lincoln's Inn Chambers was brought down to the Lands Office building, leaving a number of branches still scattered about the city.

How many branches are scattered about the city? I could not tell you the number.

3. Do you know whether any of them are in rented premises? They were when that was written, and they are still, I think. Mr. Vernon can give you all these particulars; he was chairman of the Board which dealt with this matter.

4. Can you tell me whether any public inconvenience has been felt by the association of the Mines Department and the Lands Department in the same building? I believe so. I believe the Lands people there will tell you there has been a good deal of inconvenience. Personally, I do not know.

5. In this scheme it is proposed to apportion something over two-thirds of the building to the Department of Mines and Agriculture? Yes.

6. And there is also a museum in connection with that Department;—can you point out to the Committee where this is to be placed—in what part of the building? These are particulars which Mr. Vernon would be better able to place.

7. Can you tell the Committee the amount of accommodation which the Mines Department now have? I have not the information available at this moment.
8. Do you know the building occupied by the Education Department? Yes.
9. Has there been any great complaint with reference to the accommodation there? Yes, a great deal.
10. Could you state generally what is the nature of the complaint? The rooms are too small, and are inconveniently situated, besides which the building does not accommodate anything like the whole Department. A great many of the offices are in separate buildings.
11. Occupying rented premises? Yes.
12. Have you been supplied with a statement giving you that information? Yes.
13. Have you got it with you? No. Mr. Vernon will give you that information.
14. Do you know what it is proposed to do with the old building at present occupied by the Education Department? Nothing is definitely settled; but I am a very strong advocate for doing away with it altogether, and turning the space into a little park.
15. Is there a great necessity for more parks about Sydney? Well, this is a building you cannot do anything with, except at great expense. It cannot be made suitable for any Department, and it would be much better to take it down altogether, and make a little square park between the big Lands Office and this new building, if it goes up.
16. Then you are of opinion that the building at present occupied by the Education Department could not be utilised by any other Department? I would not say it could not be utilised; but it would be a very inconvenient building.
17. You know that before the Education Department started the whole business of the Lands Department was conducted there? I believe the whole business of the Colony was done there once—except the Post Office.
18. But was it not used by the Lands Department not so very many years ago? I do not know when it was done.
19. You do not know when the Lands Department vacated that building? No; not in my time.
20. I suppose the general tendency now is to house people in more magnificent places than used to be the custom in the old times? I do not know that I would put it that way. The Colony is growing, and the Service is growing with it, and you want more accommodation.
21. Would you prefer pulling down the present Education building, and turning the ground into a park, rather than place some small or sub-department in the present building? I would, because I think it is a most unsuitable building. I know it pretty well. I know nearly every room in it, and it is most unsuitable for public offices. There could not be a more unsuitable building.
22. *Dr. Garran.*] I see you have given part of the building to one Department, and part to the other? Yes.
23. Is it more convenient to adopt that plan than to give the two Departments separate floors? I might say that the details of the proposed building were decided upon by a Board consisting of officers from the various Departments, of which Board Mr. Vernon was Chairman, and I think that gentleman could give you all the detailed information much better than I could.
24. And as to the allotment of the rooms you could not say anything? No.
25. You have a frontage to this building nearly all round? We have frontages to three main streets, and a frontage to a lane.
26. The entire building, then, will be a frontage? Yes, with the exception of one small portion.
27. Will you abut actually on any private property? No.
28. Then you will have your own outer wall entirely? Yes.

R. R. P.  
Hickson.  
9 Feb., 1899.

TUESDAY, 14 FEBRUARY, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Walter Liberty Vernon, Government Architect, sworn, and examined:—

29. *Chairman.*] Will you explain to the Committee the plans for the proposed building? I have the minutes of the Board which was specially appointed to prepare this scheme, and I think a considerable amount of light might, perhaps, be thrown on the original intentions if these minutes were placed as part of the evidence, as they embody the history of the transactions leading up to the preparation of the plans. I will read extracts from the minutes. The Board was appointed—

To inquire into the question of erecting new buildings on land resumed by the Government at the corner of Phillip and Young Streets, to accommodate the officers of the Mines and Agriculture and the Public Instruction Departments, and those employed under the Inspector-General of Police and the Comptroller-General of Prisons.

The members of the Board were:—

W. L. Vernon, Esq., Government Architect, Chairman; J. C. Maynard, Esq., Under Secretary for Public Instruction; E. Fosbery, Esq., Inspector-General of Police; F. Neitenstein, Esq., Comptroller-General of Prisons; E. F. Pitman, Esq., Government Geologist (Mines and Agriculture Department).

The first meeting of the Board was held on the 24th March.

Mr. Vernon stated that the members of the Board had been severally appointed by the heads of the respective Departments concerned, at the instigation of the Minister of Works, who had at the same time constituted the Government Architect as Chairman.

Discussion then arose as to the objects of the Board, when the Chairman fully set out the proposed scheme of accommodation. The matter, he explained, had first arisen by the Government Architect receiving instructions to see if it were possible to accommodate the Mines and Agriculture Department in either the Public Works or the Lands Office buildings,

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W. L. Vernon. buildings, which resulted in the Mines and Agriculture Department being temporarily located in a portion of the Lands Office. Steps had at that time been taken to ascertain the exact amount of floor space required by each Department, the outcome being that the sum of £18,000 was placed on the Estimates and voted for the erection of permanent offices for the Mines and Agriculture Department on the vacant block of resumed land facing Phillip, Bridge, and Young Streets. At the same time a provision of £14,000 was also made for the erection of new offices for the Inspector-General of Police and the Comptroller-General of Prisons on the site of the present offices of the Inspector-General of Police. It was now considered that if possible, instead of the Mines and Agriculture Department only being placed on the vacant land in question some more land should be included in the proposed site, and accommodation should be found for the Inspector-General of Police, the Comptroller-General of Prisons, the Audit Office, the Public Service Board, and other Government offices at present occupying rented premises or Government property requiring rebuilding.

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I may say that the first site did not include those four houses in Young-street. This proposal does include them.

The two provisions of £18,000 and £14,000 to be lumped, making a total of £32,000 already provided, and the Minister for Works to give authority for the placing of a further sum of about £45,000 on the Estimates, as it was estimated that the necessary buildings complete would cost over £70,000; the value of the site of the present offices of the Inspector-General of Police to be placed to the credit of the scheme, as it would not then be required.

Mr. Fosbery said that, from the initiation of the scheme, he was opposed to it, and that his objections had already been verbally expressed to the Colonial Secretary and Mr. Hickson. He would like to state them fully to the members of the Board. They were:—

That the premises to be occupied as a head Police Station had to be of an exceptional description, and would require to be kept open day and night.

That space would have to be reserved for mustering men and horses in cases of emergency, which should not be done in a public or open space, where they would be under the observation of the public.

That the object of purchasing the site at present occupied was to get one which was central, which was not far from the public offices and from the Houses of Parliament, and which had the advantages of separate entrance from two streets.

There was also the fact that the persons who pervaded a police establishment were not such as it was desirable to have in a public office, nor would they go to it, and it was a decided disadvantage to have a central station, where telephones were going day and night, and which would always be lit up, in a general block of Government offices.

The only other Department he recommended the Government to combine with his was that of the Comptroller-General of Prisons, as it was working amongst the same class of the community, and was in accord with the Police Department.

The plans that had been prepared by the Government Architect for the new building on the present site were somewhat on the lines of the head Police Stations in London and other large centres.

Mr. Fosbery is there speaking of the Hunter-street site, the sketches for that building being then in existence.

And amongst other requirements provided were a photographic gallery and the necessary rooms, safes for officers to put valuable property taken from prisoners, and an assembly yard for mounted, foot, and special police.

Mr. Fosbery further stated that Mr. Neitenstein had also considered the matter, without in any way consulting him, and upon receiving his (Mr. Neitenstein's) opinions, which were forwarded by the Government, he found they traversed precisely the same ground as he had taken up, and that Mr. Neitenstein objected to be accommodated in the same building with numerous other Civil Departments.

He would like to mention that he originally recommended the purchase of the present site occupied by the Police Offices by the Government for the sum of £27,500; and that, notwithstanding the great depreciation in the value of properties, it was at present a fairly valuable site for the money.

On the grounds he had referred to he most strongly objected to become a nuisance to all the other public Departments his offices would be grouped with, and likewise to have them becoming a nuisance to him by his being hived in with them in a palatial building.

Mr. Neitenstein said his objections were very much the same as Mr. Fosbery's, although they had not spoken to each other, or had any communication whatever, on the subject.

He strongly objected to his Department being mixed up with any other of the Government Departments, except that of the Police, in the occupancy of a building. The joint occupation of the building with the Police Department would be a direct advantage, as the business both Departments had to conduct was on somewhat similar lines, and communication between the two offices on official matters was frequently necessary. He had a very objectionable lot of persons continually coming to see him, and they were of a class that it would be very undesirable to have about an ordinary public office for many reasons; and many of them might be prevented from coming if they thought too much publicity would be given to their visits, for in numerous cases they were the relatives and friends of prisoners. It was also essential that the head Prison Office should be centrally situated in comparatively close proximity to the Ministerial head and the other branches of the Justice Department.

A further objection, so far as his Department was concerned, lay in the fact that a special officer engaged during the night was continually getting messages by telegram from country gaols, and that telephones were constantly going transmitting messages.

The plans providing for central offices for the officers of the Inspector-General of Police and the Comptroller-General of Prisons, as prepared by the Government Architect, had been sent to him for approval, so far as the accommodation required by his Department was concerned; and he certainly thought the designs provided for all requirements, and, moreover, appeared to be on thoroughly economical lines.

Another argument he had against the proposed new building was the length of time that must elapse before it could be completed; for, in the meantime, the agreement with the lessor of the building his Department was at present occupying would terminate, it having only about eighteen months to run. That would make it absolutely necessary to enter into another agreement, which he especially desired to avoid, as the place was most unsuitable. Money had been specially voted on the Loan Estimates for the erection of the new building, and it would be quite practicable to proceed with it at once. Any other proposal would mean diverting the use of the £14,000 from the purpose for which it was voted.

Mr. Pittman thought that as Mr. Fosbery and Mr. Neitenstein had expressed such views the inquiry was practically ended.

The Chairman pointed out, however, that there were a number of other Departments holding rented premises, or Government premises, that must sooner or later come down, and that it was necessary the matter should be inquired into so far as they were concerned. He thought the better way would be to move some resolution relieving the two gentlemen mentioned from further attendance.

Those two gentlemen were then relieved from any further attendance on the Board, and at the next meeting—

The Chairman reported that he had forwarded a copy of the minutes of the previous meeting to the Minister for Works, recommending, as therein agreed, that the new offices proposed for the Inspector-General of Police and Comptroller-General of Prisons be not further considered in connection with this scheme, and stating that the certain other Departments for which accommodation was now to be included were not represented on the Board. The Minister had approved of the recommendation, and as regards additional representation, Mr. G. Brodie, Assistant Auditor-General, had been appointed as a member of the board by the Chief Secretary's Department, but was unable to be present at the meeting on account of absence from the city.

Then the minutes go on to refer to the rentals paid by the Departments.

The Chairman explained that, as accurately as could be ascertained, the rentals for private buildings occupied as public offices amounted to £1,731 per annum. This comprised 127 offices; and there were sixty-three offices in scattered buildings the property of the Government, including Richmond Terrace, Young Terrace, Public Instruction Offices, Young-street, and such like.

Mr.

Mr. Pittman pointed out that the removal of the Mines Department from the Lands Office building would leave a large amount of vacant space which would accommodate a large number of small departments. W. L. Vernon.

The Chairman thought it would be well, now that the offices of the Inspector-General of Police and Comptroller-General of Prisons had not to be provided for, if the Board went back to the first principles of the scheme, and took the respective Departments seriatim. 14 Feb., 1899.

The Board then resolved upon certain information being asked from the following Departments:—Department of Audit, Public Service Board, Department of Public Instruction (including Inspectors, Chief Clerk of Works, Cashier, &c.), Mines and Agricultural Department (including Stock and Brands Branch), Railway Commissioners (Tramway Manager, Medical Officer, and Electrical Engineer), Government Statistician, Registrar of Friendly Societies, Electoral Registrar, Charitable Institutions, Medical Board, Pharmacy Board, and Fisheries Commissioners. On the recommendation of the Board, those Departments were all written to, and asked to send in a return as to the accommodation they were occupying, and what they would require. Upon receipt of those returns, an interim minute was addressed to the Board by myself, showing the impossibility of accommodating such a large number of Departments and sub-departments in one building on this site, the total amount of floor-space required by these Departments being 104,000 superficial feet. Then the minutes go on to show that it was necessary to reduce the number of Departments to be considered in reference to this site, and one after another was omitted. Two of them—the Auditor-General's Department and the Public Service Board—were transferred to the scheme in connection with the Police and the Prisons Departments; and with regard to the remainder, occupying rented premises, or premises to be some day taken down, it was considered that they could be accommodated in the vacant offices at the Lands Office, after the Mines Department had been moved to the new building. The building, therefore, was reduced, until it came within practicable limits, so as to include only the Education Department and the Mines Department. It is upon these minutes, which were referred to the Minister from time to time, that the present scheme has been prepared. First of all, it was intended to bring the Police Department and the Prisons Department from the other side, and bring their money with them, and place it in this scheme. Then it was found that objections were raised by the Police Department and the Prisons Department against going into such a general building, and they were sent back to their original site. Then the attempt to include all the Departments requiring housing was found to be so unweildy, that the scheme had to be reduced again to the two Departments of Mines and Education, both of which are in need of a proper house. Then the Minister made a statement in the House, with a view to a reference to this Committee, and the Under Secretary for Public Works submitted a further statement to the Committee in his evidence the other day. I hand in a statement, which I have made to date, although it is not complete, for it is almost impossible to get it complete, of the area at present occupied by a number of Departments—those Departments interested in the scheme, either directly or indirectly. The statement gives the further space they require, the number of officers to be accommodated, and in some cases, the number of rooms asked for.

30. According to the minutes just read, you stated that the Government was now renting private buildings, for which it was paying £1,731 per annum? Yes; that is only in connection with the Departments affected by the scheme.

31. The whole of that amount, then, would be saved if this proposal were adopted? That is so.

32. Will you explain by reference to the plans where you propose to house the different Departments? The whole of the ground available is covered altogether by the buildings, except a 6-feet passage at the end of the premises now standing in Phillip-street. That has been reserved in order that there should be complete access all round the four sides of the building. The plans show two distinct colours. The portion coloured yellow is that proposed to be devoted to the Mines and Agriculture Department, and the portion coloured blue represents the part to be devoted to the Education Department. On the basement the whole of the building has been thrown as much as possible into one large room in order to provide accommodation for the Technological Museum, so that the exhibits now in the Domain may be taken out of that building, and the building removed altogether. The principal instruction from the Mines Department was that we should give the Museum as good light as it now has in the Domain, and I am quite prepared to show that in all cases we have an admirable and true light for every exhibit we can possibly have in the place. The net area is about 14,500 feet, which will give a Museum of a very considerable extent. The present Museum in the Domain covers something like 16,000 feet, but it is not arranged in the most economical way, and by better classification, and more compact arrangement, this site will really go further than the one in the Domain.

33. *Mr. Watson.*] Do you know whether the timber exhibits belonging to the Lands Department are now in the Technological Museum in the Domain? I think they are.

34. You think it possible to find room in the basement of the proposed building for all the exhibits now contained in the building in the Domain? We propose to find room for the whole of them.

35. But the timber exhibits belong to the Lands Department, which has taken over the Forestry Branch? I was not aware of that.

36. Still, the timber exhibits are now in the building in the Domain, and you say you can find room in the basement of this building for all that is at present contained in the Museum in the Domain? Yes. It will be seen from the plan that the slope of the ground which is fairly rapid in Phillip-street down to Bridge-street, enables the basement to be entered almost on the level from the central principal entrance, and the whole basement is practically a ground-floor; so that people visiting the museum can do so without any interference with the officials on the upper floors of the building.

37. *Chairman.*] You excavate up to Phillip-street? I excavate, but I have kept the building back 6 feet from the pavement line in order to keep the road as wide as possible, and to prevent rather an ugly jutting out beyond the adjoining buildings. By this means we get a large amount of light in the basement. There will be, therefore, an open light area along the western front of the building. It answers two or three good purposes. The southern portion of the Museum is lighted entirely from the roof.

38. *Mr. Watson.*] Covering practically what is a court-yard? It covers practically a court-yard.

39. *Dr. Garran.*] Have you counted the lifts and strong-rooms placed in that area? I have not taken in the lift spaces.

40. They would not be available? No.

41. *Chairman.*] They will be so constructed that they can be used? All these have spaces which can be covered, or they can even be used for open exhibits.

- W.L. Vernon. 42. Will the lifts come right down to the basement? Yes; in the case of the Mines and Agriculture Department, but not in the case of the Education Department. Although there is a sunk hole there is no occasion to take the lift down in the latter case. The basement also provides a special dock for backing drays and carts in the back lane when it is required to send in heavy exhibits, such as timber or heavy mineral exhibits. These will be lowered from the level of the road on the southern side into a dock, from which they can be distributed. If necessary, the cart itself could be lowered by a hydraulic platform, so as not to damage the exhibits more than possible. There is a small lavatory on the ground-floor for the use of the public in connection with the museum, and a light area, which is more a ventilation area than a light area, and there is also room for a ventilating plant—special provision for an electric plant. On the ground-floor the main entrance is at the upper corner of the ground, and that is the entrance to the Education Department. That also, having one or two steps, leads into a simple lobby, so that the two Departments are exactly alike in that respect; although on different floors, they have precisely similar entrances. The portion coloured blue is a portion of that floor for the Education Department, leaving the yellow portion for the other Department, for which the ground floor becomes a first floor. The rooms, for economy's sake, are placed on either side of the corridor. The corridor runs through the entire centre of the building, and it is connected across the back area shown on the plan by a flying corridor until it joins the eastern and western corridors. The lavatories are placed on this back flying corridor. They have the advantage of outside ventilation, and cross ventilation, and they are sufficiently convenient to the offices, and yet are well stowed away, so as not to be objectionable. Owing to the height of the floor, it is proposed to have intermediate closets to the extent that is necessary. The general rule in Government offices is to have one closet for every ten officers, and one or two over for special cases.
- 14 Feb., 1899. 43. Have you been supplied by the various Departments with the names of the officers whom they would locate in the large room shown on the plan;—were those large rooms designed for a special purpose? No. When first preparing rough sketches of these plans I grouped together special branches, which I placed in their right positions towards each other on their respective floors, and in spaces where the accommodation would be sufficient for them. This plan is really based on that sketch, although the rooms are not absolutely named.
44. *Mr. Watson.*] They are not subdivided? They are not subdivided. I have always urged the avoidance of subdivision as much as possible. I consider that I fully supply the requirements of the Education Department, if I give them the total area they require. In fact, they would rather be supplied in that way, than that I should dictate to them where they should put this man, and where they should put that man.
45. But apart from the placing of a man in a particular place, there is the question of their employment; for instance, a draftsman requires more than an ordinary amount of room;—does the Education Department employ many draftsmen? It employs some. We provide for them up on the third floor. That has all been worked out in the rough, but has not been produced on this plan.
46. The Departments make the subdivision themselves? Yes.
47. *Chairman.*] They can easily put up partitions in these rooms? Yes.
48. What is the size of the large room shown on the plan? It contains an area of 2,432 feet, or 105 ft. by 24 ft.
49. That is for the Education Department? Yes. That room on all the floors is really the largest of the whole lot.
50. How many draftsmen would it find space for? It would take twenty draftsmen.
51. Does the Education Department employ twenty draftsmen? No; not so many as that. I have placed the draftsmen on the third floor.
52. *Mr. Shepherd.*] These long rooms are all capable of subdivision, if necessary? Yes.
53. *Chairman.*] Will you point out which would be the Minister's room? On the first-floor plan. The Minister's room is placed overlooking Bridge-street. In the sketch plan it has been subdivided, giving room for the Minister, with an ante-room and also a room for the Under Secretary, and also at the back a waiting-room, and possibly room for a type-writer or clerk. It is the same in the case of the room for the Minister for Mines. There is a partition crossing the building, dividing the front between the two Ministerial rooms, and there is a door in the partition supposed to be kept locked; it is placed there to give access to the caretaker in case of fire or other necessity.
54. *Dr. Garran.*] The subdivision of the Minister's room must be guided by the windows? That is true in each case. When you get higher up the building each staircase is faced by the lift, so that passengers have a handy way of getting up and down the floors beside the staircase, and there is a messenger stationed close by. The space that cannot be lighted owing to the nature of the site, unless too large a space were taken away, is devoted to strong-rooms on every floor all the way up.
55. *Mr. Watson.*] You do not propose lighting the strong-rooms at all? I propose to light them by electricity; they do not want an outside light.
56. *Dr. Garran.*] The subdivision of the rooms you propose to make will be of the light character you described the other day? I propose to construct all necessary divisions in terra cotta lumber.
57. Have you any ties across the building? It is tied in steel framing right through on every floor. After reaching the third floor the Education Department is fully provided for, so that on the fourth floor and the fifth floor the whole of the area of the building is devoted to the Department of Mines and Agriculture. On the fifth floor are the laboratories and experimental rooms, geological rooms, and rooms of a character which require good light and absence of noise and dust. I have here draft plans showing the different uses to which it is proposed to put the rooms. The Committee will get some idea from one plan taken haphazard. You will see that the names are marked in pencil.
58. Could you divide that large room containing 1,508 square feet into one room of 600 feet to the Minister, a room 400 feet for the Under Secretary, an ante-room of 200 feet, and a waiting-room of 300 feet? I should put the waiting-room at the back of the corridor.
59. What is your idea of the subdivision of the large front room shown on the plan, which gives you a space of 1,508 square feet to dispose of? I could bring you a plan showing the subdivision.
60. I only wanted to know what you had in your mind's eye? The Minister's room would be about square.
61. About 600 feet? It would be hardly 600 feet, and there would be a room for the Under Secretary, and an ante-room for the Minister, including his lavatory.

62. And what would be the size of the waiting-room? Eighteen feet long, and probably about 10 feet wide. W. L. Vernon.
63. *Chairman.*] You propose to give the Public Instruction Department 22,786 feet? Yes.
64. And, according to their statement, they are now occupying a space of 9,356 feet? Yes. 14 Feb., 1899.
65. That is a very great expansion? Yes; it is to accommodate the whole of the Department.
66. They have said they require the whole of that space? Yes; that is their statement. They did really ask for more.
67. That is more than twice as much as they are now occupying? Yes. Their present premises are altogether inadequate.
68. They seem to get through their work all right there? Mr. Maynard can give you evidence on that point better than I can. The proposal is to develop the control and administration of the country work a great deal more than they have hitherto done; to provide proper libraries in which to store the books, rooms for interviewing country schoolmasters, rooms for examination, and for many other purposes. In regard to the accommodation at present occupied by the Public Instruction Department, there must be some mistake in the figures just given, for I find here, in a return, that the accommodation at present is 13,608 feet. Possibly in the previous figures I omitted the rented buildings.
69. Do you know the building occupied by the cashier's branch of the Education Department in Young-street? They have two outside offices.
70. Have you any idea whether those buildings would account for the difference? I think not sufficiently. A clerical error must have crept into the statement. The Education Department now occupies the old Colonial Secretary's Office. It also rents properties in Macquarie-street and Elizabeth-street; it occupies 42 Young-street, which is Government property, and it rents 46 Young-street and 54 Young-street. So that, no doubt, the accommodation at present occupied is fully 13,608 feet.
71. Would the floor-space in the old Colonial Secretary's Office amount to 9,356 feet? I have not now with me the details with regard to that Department.
72. In the statement handed in by Mr. Hickson, the minimum accommodation required by the Mines and Agriculture Department is given at 45,777 feet, and the amount provided at 47,941 feet. In the return furnished, showing the area now occupied, the figures are 39,135 feet, and the space required 51,227 feet. Therefore, they required over 3,000 feet more space than you have provided? That is so; but when that return was prepared the requirements sent in were of a more liberal character than those to which the space was afterwards obliged to be reduced. The minutes of the Board from which I quoted would show that it was constantly found necessary to reduce the space asked for. The space they required, according to their first statement, was ultimately brought down to 47,941 feet.
73. Have you had any means of ascertaining whether their demands are, or are not extravagant? In one or two cases, I thought the demand was extravagant, and I pointed those cases out, and we cut those down ruthlessly. In one case, in particular, the chemist, Mr. Guthrie, asked for 4,400 feet, besides 225 feet for himself. We cut that down very considerably. The fact is, Mr. Guthrie had been used to the old Naval stores, where he had plenty of room to carry on his work, although it was a dilapidated building, and I suppose this had enlarged his ideas as to what he would require in the new building. I am only giving this as one instance where we found the officers were asking in excess of what could possibly be provided.
74. What did you cut that down to? I cut that down at the most, including a laboratory for the viticulturist, to 2,665 feet.
75. *Mr. Watson.*] That is a different branch? Yes; but it was proposed to put them all on the principal floor.
76. So you included another branch with him? Yes.
77. And you gave him half of what he asked for? Yes. Even after the cutting down the total area came to 47,941 feet.
78. *Chairman.*] You were with us the other day when we inspected the various offices;—did it strike you that any of them were unduly crowded? Yes, several; but they were as much overcrowded with furniture as they were with officers.
79. Did it not strike you that it was more want of method or system in respect of the furniture about the place that caused them to be overcrowded? It certainly struck me so in two cases in particular. There were large rooms where a large amount of space was no doubt lost by the use of cumbersome furniture. There is no doubt that all that class of furniture is obsolete. Clerical officers who are doing similar work day after day should be placed at long desks, at which they can either sit or stand. Make them as comfortable as possible, but let the desks be continuous, and do away absolutely with all these pigeon-holes.
80. *Mr. Watson.*] Have room for their books underneath? Yes.
81. *Chairman.*] If you did away with the present furniture in those rooms occupied by the Lands Department and the Mines Department, and substituted furniture more up to date, you could save a lot of room, could you not? You could save some room no doubt.
82. Suppose you put two desks between two officers facing each other with racks to put the papers on? We have that in the Works Department. A scheme was proposed some time ago to do it thoroughly in the Works Department, but it was not fully carried out.
83. Suppose that aspect of the case were now considered, and suppose a thorough examination of the whole of the present offices were made, bearing this point in mind, that they should economise the space as much as possible by adopting a more up-to-date kind of desk—do you not think it would be possible to do without this new building altogether? No; I do not think so.
84. You still think it would have to be put up? I am sure you would have to do something, especially to provide for the future.
85. They complain of overcrowding—that is the principal complaint, is it not? Yes; they are overcrowded, and there is also a want of arrangement. The new scheme will give opportunities for more economical control and better administration. I consider that at present the Mines Department is worked at considerable disadvantage to itself. Its rooms are not placed where they should be, but placed where they could be got. It makes a great deal of difference in administration.
86. We generally found that where an officer was supposed to be in charge of a particular branch, he was stuck away by himself;—how could he have proper control of those under him, if he were out of the room altogether? I think there is, and always should be, a head in the room who has control of the room itself.

What

W. L. Vernon. What he very often does is to partition himself off from the rest, and he is practically shut out. Then the man under him partitions himself and he is shut out, and they carry it on until almost the office-boy has a place for himself. It is an absolute mistake to do that sort of thing.

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87. *Dr. Garran.*] You have divided this block of buildings perpendicularly between the two Departments? That is so.

88. For the practical working of a Department would you rather have several storeys, or put all your men, on, say, two flats? If I were considering one Department only I should put them on flats. But if I have to consider two Departments, and the requirements of both Departments being equal, I must provide them relatively with the same accommodation.

89. Suppose you have the whole thing before you to do as you like, would you give two entire floors to the Department of Mines and Agriculture, and two entire floors to the Department of Education, or divide them as you have done, according to this plan—that is, horizontally or perpendicularly? I do not think it is necessary to give them the full sweep of the whole range of offices, because the building is so extensive that half of it is really a fine floor in itself.

90. But if the different officers have to communicate with one another, can they not do so more easily on the same floor than if they have to go running up and down stairs? They can do it more easily up to a certain extent; but the floor may be so large that it is shorter to take the lift on to an adjoining floor than to walk along a long corridor to find a particular office.

91. You considered that point, I suppose? I think the plan from that point of view is as economical as it can possibly be, although it is true that in the principal floors we have provided for the officers of the Mines Department travelling the whole way round; but this was required by the necessities of the plan.

92. They want so much more room? Yes.

93. Could you tell me from the documents handed in how many rooms the Pharmacy Board require? Two offices and a board-room. The Pharmacy Board want an experimental lavatory for examination purposes.

94. And the Electoral Office wants two rooms for four officers? Yes.

95. If we have space in the other building we are considering, in which the Public Service Board, Auditor-General, Inspector-General of Police, and Comptroller-General of Prisons are to be accommodated, we could accommodate the Electoral Office? That is so, all things being suitable.

96. Is there any reason why the Electoral Office should be in any other public building? It is under the Colonial Secretary, and, of course, should be as near the Colonial Secretary's Office as possible. At present it is in the Colonial Secretary's Office.

97. It might be inconvenient to take it away? It might.

98. *Mr. Watson.*] Is it the Electoral Registrar who issues electoral rights or the Electoral Officer, the administrative head of the Department, who is being provided for? It is the branch which now occupies the large room at the Colonial Secretary's Office.

99. Is there no room in the building where this officer now is? Yes; but he is occupying too good a room. It is the room used for conferences.

100. *Dr. Garran.*] I see you have not imitated the Chief Secretary's Office in having deep balconies? No; the ground would not afford space for it.

101. I was going to ask you whether that was because you were pinched for room, or whether you thought it would take away the light too much? Well, it does both. Although there is a great deal to be said in favour of recessed colonnades for architectural effect, we can only indulge in those now and then.

102. You have endeavoured to gain that effect by the arrangement in the present plan? At the corner there is a recess to some little extent. It is just sufficient for a person to stand outside between the window and the balcony.

103. You have the architectural effect, but you have not the walking space? I have tried to get that effect.

104. And you do not interfere with the light there? Not at all.

105. You give a separate lift to each Department, a separate entrance entirely, and a separate set of strong-rooms? Yes, and a separate set of lavatories.

106. They are as detached as if they were in separate houses? Quite so.

107. Will the court-yard be large enough to throw a good light into the windows that look on to it? Yes; it is 56 feet one way and an average of 50 feet the other way. Then the outside wall on the southern side is pierced with openings the whole way up, so that practically it is, to some extent, an open side.

108. You have a strong wall there with no rooms going off it, but you cannot help that? No rooms, only a corridor. In the southern elevation that is kept down as much as possible so as not to obstruct the angle of light.

109. It is not so thick a wall as the wall round the building? It only has to carry itself, and is not stronger than is necessary for that purpose.

110. What is the depth of your front room facing Bridge-street from the front wall to the inside or corridor wall? Twenty-three feet 6 inches.

111. Then you could give the Minister a room 23 feet 6 inches square? Yes.

112. Then there would be ample space for his Under Secretary, and his ante-room;—in so sub-dividing that large room into three you are liberal? Yes; it may be noticed that the same room for the Mines Department is not so large. That is considered large enough for the purposes, and therefore there may be a small room to spare for other purposes in connection with the Education Department.

113. You could take off a small room? I could take off a small room there, and yet the room would be the same size as that for the Mines Department.

114. What is the square feet area of the waiting-room at the back? That could be divided into other rooms besides a waiting-room.

115. You gave it all up for a waiting-room? No; I said a waiting-room about 10 feet wide could be cut off, and the remainder used for clerical purposes in connection with the Minister's room.

116. It might do for a type-writer? Something of that sort.

117. You could subdivide that into two—have two windows? Three windows if necessary.

118. You could divide it into three narrow rooms? Yes, if necessary.

119. The details as to the allotment of the offices would come best from the Under-Secretary, I presume? Yes, I should think so.

120. He has considered, I suppose, what he is going to do with his staff? I presume so; I have a detailed W.L. Vernon.  
statement.
121. Has he gone over it with you? Not personally. The statement is from the Mines Department, 14 Feb., 1899.  
showing the accommodation they want in detail.
122. What are you going to make the wall of your strong-rooms of? Brick in cement.
123. How thick? They vary, according to the height from the ground.
124. Suppose the rest of the building were to fall, would that part stand as a tower? Yes; I think it would.
125. *Mr. Watson.*] Why should it do so? Because, owing to the peculiar shape of the site, an oval-shaped staircase is necessary, and this necessitates considerable buttressing in the walls themselves, so that the two angles of the building are extremely strong. They are more than usually strong.
126. Are they bound crosswise by girders, between the two sets of rooms? Yes; the girders cross in all directions.
127. *Dr. Garran.*] Is the strong-room tied? It is tied with fireproof floors.
128. Are there no girders? Yes; there are steel girders.
129. If there happened to be a fire, would the staircase fall, or would it affect the working of the lift—they are pretty close together? Well, it would; but the staircase contains no inflammable material. No smoke could arise from the staircase, except what might come from elsewhere.
130. And the same with the lift? Yes.
131. There is nothing inflammable? Nothing at all.
132. Except the wooden cage itself? Yes; and that need not be inflammable.
133. You say that you are going to have a locked door between the two Departments in case of fire? Yes.
134. Could it be unlocked in a hurry, suppose the lift and the staircase in the Mines Department were both unusable? I should put a safety lock on that could be opened by a strong push from the shoulder.
135. If both the lift and the staircase in the Mines Department were not available, there would be no way down unless you could get into the other Department? Yes; but this would also act as a fire check.
136. Quite so, but it would be a glass door? No; I think I should make it of sheet-iron.
137. That would shut out the light? I can do without that.
138. Will those corridors be sufficiently lighted? Yes.
139. Are you trusting to the fanlights over the doors for part of the light? No; I am trusting to these very large windows, which strike in at the angles and at the end of the corridors. There is a light area there to.
140. You have light at the end of each corridor, and light at the angle opposite the staircase? That is so.
141. And some light from the fanlights? Yes.
142. You think that will be more light than is given at the Lands Office, for instance? It will be more than is given in the southern corridor—much more; but not so much as in the two side corridors.
143. But it will be a fairly well-lighted corridor? Oh, yes.
144. You will be able to see to read the name on each door? Yes; very easily.
145. What is your object in that southern light area shown on the plan; did you want it particularly there? Yes; I wanted it for two purposes—one to help the corridor and the other to get a through ventilation across the lavatories.
146. *Mr. Trickett.*] I should like to take you back to the basement again. What would be the height of the museum? Twenty feet; but I can get a greater height, if it is wanted, in the centre portion under the area.
147. So that you will have ample height? Yes.
148. The open air-space will be covered over in the museum? That is so.
149. So that, in addition to the light from the surrounding windows—which you seem to be rather doubtful about—you will also have a skylight in the middle? That is so. The museum windows are as large as the design would possibly admit. They are lofty; they go on an iron grill in front right down to the pavement, and have an uninterrupted light, besides being on the light side of the building.
150. But the light on the eastern side would appear to be a little doubtful, would it not? There is no doubt it is blocked to some extent.
151. What is the floor space to be occupied by the museum? It will cover 14,442 superficial feet. The building itself has a frontage of 178 feet to Bridge-street. The thickness of the walls taken out of that would probably reduce the length of the museum to 170 feet, while the average width would be about 104 feet.
152. Is there any room with which you could compare it? It is a great width; I do not know of any other room of the same size. The Town Hall, I think is about 100 feet wide, but of course a great deal longer.
153. This will be a very large room? Yes; a very fine room indeed; it takes the whole area of the site.
154. You laid great stress on the point that, although called a basement, this is really hardly a basement? I contend that it is not a basement.
155. It is really a ground floor? Yes.
156. It will not suffer from want of light; and I suppose, by reason of its being below the ground on the Phillip-street side, there will be no dampness, or anything likely to injure the exhibits? We should have to take precautions with regard to the eastern wall. The area will help one portion of it, but in regard to the portions which will come against the excavation we must provide some protection by means of false walls or hollow spaces, and by using asphalt.
157. That part of a building is rather an unusual position for a museum, is it not? Not altogether. The Jermyn-street School of Mines is on the ground-floor. It has galleries certainly, but it covers the whole of the ground-floor.
158. You are quite satisfied that this room will be suitable in every way for the purpose? I feel confident about it.
159. Will you give us the dimensions of the strong-rooms you propose to erect for the Mines Department? There are six strong-rooms 120 feet each—averaging 12 by 10 feet.
160. Judging by what we gathered from Mr. McLachlan the other day, and also by personal observation in the Mines Department, it would seem that a strong-room somewhat similar to that at the Lands Office



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would be more suitable at the Mines Department—do you not think so? The Mines Department do not keep such valuable records as do the Lands Department. The records in the Lands Department relating to monetary transactions must be kept with perfect security, while the records of the Mines Department chiefly consist of papers dealing with subjects which perhaps are forgotten in six months. The mineral leases probably would require a strong-room, but the ordinary papers of the Mines and Agriculture Department would not require more security than would be given by a fire-proof building. There should be discrimination of course as to what should be put in the strong-room, and what should be put in a fire-proof office. Of course, I should get evidence on that point from the Under Secretary.

161. But it occurred to me that in a new building of this kind where one strong-room is to be above the other, the strong-room might be made something of the complete character of that in the Lands Office, although, perhaps not so capacious, communication being given by a winding stairs right up? It could only be done at such a sacrifice of space that we would not find room for the accommodation of the officials.

162. It would not be necessary to have a strong-room anything like as large as that at the Lands Office; The size in the plan is 12 x 10. Suppose it were a room 15 feet square with a spiral staircase, my idea is that it could be concentrated and approached from floor to floor by a series of little platforms, by means of which the officials on each floor could reach the strong-room and have access to the records? It is quite possible to do it, and it is only a question of shifting the enclosing walls further out in each case; and that really depends on the requirements of the Departments when one comes to work the details out. The principle of the thing is there; it can be increased or decreased.

163. If the Under Secretary were to say that that would be a desirable state of things, you could easily arrange it? Easily; there is nothing at all arbitrary in the position of these walls.

164. Would that be a very extensive item;—suppose you made a kind of circular vault? It would practically make no difference, because the provision is already made for strong-rooms and for strong-room doors and floors.

165. It would not be any more expensive? No.

166. In regard to the chemical branch of the Mines Department, are there not many places for the treatment and analysis of ores and minerals in various parts of the city, and also up the line? At Clyde they have an establishment. Those in the city are all supposed to be brought to this building.

167. What is the distinction between what is done in Sydney and what is done at these larger places? There is a geological branch, which consists of the Government Geologist, the curator, assistant curator, draftsmen, clerk, palæontologist, four geological surveyors, and a librarian.

168. Are they all to be accommodated in these new buildings? They are to be accommodated on the top floor. Then there is the helio printing; that will also be on the top floor. Then there are rooms in connection with the museum for a carpenter, lapidary cutter, curator, palæontologist and assistant, and a number of officials of that character. These would be accommodated on the top floor, and have their workshops there. Then there is a pathologist, who is at present in the Colonial Secretary's office, and his three artists. These are all to be accommodated on the top floor; also the entomologist and a chemist, Mr. Guthrie, with his clerk and his laboratory. Then there is the *Agricultural Gazette*, whose staff might very well be placed on the top floor. Then the charting staff will go up there, comprising twenty draftsmen and one chief draftsman.

169. That will be on the fourth floor? It might be on the fifth. It is really to be left to the Department to decide the matter itself.

170. Therefore, with the exception of the Clyde establishment, which is for the treatment of ore in bulk, all the scientific branches of the Mines and Agriculture Department will be located in this building? That is so.

171. When we were at the Lands Office the other day, we saw that, though the system of building large rooms had been adopted by the construction of one or two very fine rooms, yet these had been subdivided by cedar partitions—was that your idea? No. We certainly put the partitions up at the request of the Lands Department and the Mines Department.

172. In your opinion, has not this practice of partitioning the rooms interfered with the original intention of having a large air-space, to be of advantage to the clerks generally? Certainly. I am constantly drawing attention, when matters of that kind come in, to the desirability of leaving the rooms alone.

173. Must not anyone visiting these places be also struck with the quantity of wooden partitions and wooden furniture—pigeon-holes and so on—which must be a great peril in case of fire? Certainly. I think it is not only a case of peril from fire, but I think the multiplication of pigeon-holes increases the delays in carrying on the Government work. I think it is a great cause of delay in dealing with papers—pigeon-holes. People put their papers in the pigeon-holes, and think they are done with.

174. In the conferences which took place between the leading officials as to these new buildings, did the question arise as to whether a museum for the purposes of the Lands and the Mines and Agriculture Departments could not be included in one large room? No; that question never cropped up. I think at that time the Forests must have been with the Mines.

175. Do you know whether the Lands Department requires a museum as well as the Mines and Agriculture Department? I do not know, but it is very desirable that there should be some means of displaying the woods of the Colony in connection with the Forestry Department.

176. Would there be space enough in this building to have timber exhibits in the basement? Yes; because we propose to bring the timber exhibits down from the Technological Museum in the Domain.

177. Does it not occur to you, not merely as an architect, but as a member of the Board, that the exhibits of the Mines and Agriculture Department and of the Lands Department, being very much similar in character, it would be desirable that they should be put together? It would be a very good thing indeed.

178. And you think there would be ample space for the two in this building? Yes.

179. There would be a saving in administration, as only one caretaker or attendant would be required instead of two? That is so. The Government Geologist, who was a member of the Board, urged as a special plea for the bringing of the Museum into the main building, that he should be placed in close touch with the office generally, and so every effort was made to get it there.

180. A museum of this kind would not only be of local advantage, but people from other countries desiring information as to our woods and minerals and other products would not only be able to get the information

information from the Department, but would be able to go to the museum and see the very articles they W. L. Vernon. contemplated buying? Yes, that is the idea.

181. In the inquiry that was held were the Board thoroughly satisfied that the best arrangement which could be suggested was the amalgamation of the two Departments in one building—the Mines and Agriculture Department and the Education Department—having regard to all the necessities of the case? We found, after exhausting the subject, that these two Departments would best fit into a building on this site, and as both of them were looking for a new home, it was thought better to throw the smaller Departments over, and deal with these two only.

182. There is a list of the Departments which it was contemplated originally to put into the building, but it was found that a building to accommodate all those Departments would be too cumbersome and too large? That is so.

183. I have looked through the administrative arrangements of the various departments, and there seem to be a great many Departments which are housed outside the Government buildings, or are separated one from the other; there is the Aborigines Protection Board;—is that on your list? No.

184. The Government Statistician? Yes.

185. Registrar of Friendly Societies? Yes.

186. Fisheries Commission? Yes.

187. Trustees of National Park? No.

188. State Children's Relief Department? No, unless it comes under Charitable Institutions.

189. Electoral Office? That is in the list.

190. The Navigation Acts? No; that is in the Customs.

191. Payment of Imperial pensions and allowances, and payment of Colonial pensions and allowances? That is in the Treasury.

192. Coroner's Office—that is a building by itself in Macquarie-street? Yes.

193. Gaols and Penal Establishments—that is under the control of the Attorney-General? Yes.

194. I have quoted these instances with a view to ask whether in the course of your inquiry you took this into consideration, that when you are going to clear out the officers from the Public Instruction Department, which is a building of considerable size, instead of pulling down a building which has had a great deal of money spent upon it, and which recently has been somewhat modernised—whether all these other smaller Departments which you found too numerous to be accommodated in one building, could not be put into the building now occupied by the Public Instruction Department? There is no doubt they could be placed there to some extent; but the scheme so far as it was discussed, had in view the placing of some of those officers in the Lands Office and the removal altogether of the old Education building.

195. That would be very well if the Lands Office could accommodate them all. But now that we are dealing with these questions largely from an economic point of view, it would seem a mistake to pull the Education building down, and go on renting premises, when that building is quite as convenient, and more convenient than the offices for which we are paying rent? I do not think it would be necessary to pay any rental except in the case of the Post Office, and possibly in the Justice Department for a short time. As regards the Departments interested in this scheme, I think every rental will cease.

196. I did not gather from the *precis* which was read that all the Departments not provided for in the new building, but which will be partly provided for in the Lands Office, would be sufficiently housed without keeping on the rented buildings? I think you may take it as a fact that they can be.

197. After building this new building you could pull down the Education building, and then house every Government Department without the necessity of paying any rent? That would be the result. The total rental paid by the Government, so far as I can ascertain from the different Departments in Sydney, amounts to £7,043 per annum. But a great deal of that is paid by the Post and Telegraph Department; they pay upwards of £4,754.

198. That is for suburban post offices, and premises of that kind? Yes.

199. That would be apart from this question? Yes.

200. That would reduce the rentals paid by the Government in Sydney proper to something under £2,000 a year? The Public Instruction now pay something like £400, and the Mines and Agriculture Department, £539 10s.

201. The Mines Department now occupy a considerable space in the old Commissariat Stores;—what will become of those buildings? I am afraid they will become so unsafe that they will have to be taken down. The white ant is eating the floors right out; they are not safe.

202. They are only makeshift buildings at the present time, and must gradually grow out of use by old age and decay? That is so.

203. In designing this building and its arrangements, have you had regard to the most economical system in building, in view of stability and convenience? I hope so. I have adopted, certainly, the most economical form of plans, and that is the key always to the question of economy or extravagance in building. The remainder is simply a matter of taste as to how far a building should be treated architecturally. The plan is the key to the building, and I am certain this is the most economical plan you could produce.

204. Is there any other public building in Sydney with which this could be compared, with regard to size and cost? There are two insurance offices in the City—the Equitable, and the Mutual Life—but neither of them compare with this in size. The nearest approach, I think, is the Lands Office, which is larger.

205. Do you know what the Lands Office cost? About £275,000.

206. Do you know what the Equitable Insurance Office cost? I have heard it cost about £80,000.

207. Is it two-thirds as large as this building? There is no comparison as to size.

208. That building is largely composed of trachyte, which is expensive? Yes.

209. You think the estimated cost of this building is a reasonable one? Yes; you cannot get away from the cost when you take the bulk.

210. I think the estimate is £97,000? Yes.

211. The light space shown on the plan appears to be rather extensive, as compared with that in many other of the City buildings;—what is the area of that space? It is about 56 by 50 feet.

212. Is not that a very large space to take up for air? Not with a building of that height. It must be recollected that it is not on the sunny side of the building; it is on the southern side, and no sun will get into it except from the top.

W.L. Vernon. 213. In going through the building occupied by the Works Department, one is struck with the smallness of the air space;—are you profiting by the experience of this building, in enlarging the air space as shown on the plan? Decidedly so. Besides, the more the air space is decreased, the less lighting space there is for rooms. It makes the site less useful. The smaller you make this area, the less will be the light for the rooms.

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214. In most large buildings the rooms are lit only on one side by windows, and by fanlights over doors, and in walking through the public buildings, one finds that the corridors generally are very dark;—is there no way of avoiding that? If a corridor be placed between sets of rooms you must get light wherever you possibly can, as long as you do not sacrifice too much space; but where the corridor is contiguous to a single room depth only, then it is a perfectly easy thing to light it. At the Treasury at the present moment, where we are erecting a new wing, with one room deep and a corridor, the corridor is as light as possible. I am having prepared, in connection with the other scheme before the Committee, a comparative plan of the corridor of the building, and of the main corridor of the Colonial Secretary's Office, and I am showing on that the amount of light each corridor has, compared with the extent of floor.

215. In designing this building, you have a site surrounded on all sides by light; you have no buildings up against your building in any way, but you have a clear space right round? We have made it—yes.

216. Would it not be possible to have some plan like that adopted in the Equitable building in Sydney, with a light space right in the middle, and a corridor running round? It would be quite possible to do that; but the Equitable building is only one room deep all round. In the case of this building, to make a central hall would mean a great sacrifice of floor-space. It would be quite possible to cover in such space the same way that the "Australia Hotel" is covered in.

217. But where you want to have a number of rooms divided by long corridors, it is impossible to get that central space? It is rather difficult, because the inner room has to be lighted entirely by the light you borrow from the skylight.

218. The light space you have given, as shown on the plan, would be of great assistance in lighting the corridors—more so than in the other buildings? Well, it helps it at either end.

219. How do you estimate the carrying power of the light in a room—is there any rule? Rules are laid down, but they are never followed. They vary according to circumstances and climate.

220. *Mr. Watson.*] This is an easy climate for lighting? Yes.

221. *Mr. Trickett.*] Could you point out on the first and second floors where you will get all your light from for the corridors—suppose you begin at the top? I obtain light at the south-east end by a light well-hole about 140 feet superficial, about 12 feet square, and by a side light from the area. Then I do not depend upon any more light at all, until I go to the staircase on the north-east corner, and then I get the direct rays from three large windows. The next lighting is on the north-west corner, with a similar light from three windows. The remainder of the corridor is lit from the south-west corner by direct light from the outside windows.

222. What is the length of the two long corridors? About 100 feet.

223. The longest corridor, which is about 100 feet, will also be assisted as regards light by the fan-lights over the doors? Yes; but we consider that we can do without any fictitious aid of that kind.

224. Do you think that there will be ample light? Yes.

225. How will it compare with the light in the corridors of the old part of the building in which we are now assembled;—will it be better than that? I can show you by the plan now produced. It shows the ground floor of the Colonial Secretary's Office running from the central staircase to the extreme one down by the Works Department. The other portion of the plan represents one of the corridors of the proposed building in Hunter-street. I have shown by a blue tint where the direct light is thrown in. In the Colonial Secretary's Office it comes in from the side windows through the central staircase. The comparison gives the following result:—The Colonial Secretary's Office has a light area of 282 feet, with a corridor floor space to light of 2,460 feet. It gives a proportion of 8 feet superficial floor space of corridor to 1 foot superficial window. I have also calculated that the furthest distance of any portion of the corridor from the nearest window is 62 feet. That may be considered a sufficiently lighted building for public purposes. In the proposed building in Hunter-street, the comparison of light, area and floor space gives only 5 feet floor space to 1 foot of window, a decided advantage in favour of the new building. Then the distance from the furthest portion of the corridor to the nearest window is only 50 feet instead of 62. I could carry out a similar comparison in the case of the building now under consideration. I could show that the longest distance from light does not exceed that just quoted—that the distance is, in fact, shorter.

226. So that you have no doubt that these corridors will be amply lighted? I am confident of it. There is another thing. In these new buildings it is not contemplated to complicate the corridors by a series of arches and swing doors, such as are now used in the Colonial Secretary's office. There being one floor for one Department there is no occasion to use these arteries and spring doors.

227. They will be done away with? Yes.

228. Is the system of ventilation proposed in this building similar to that in the Hunter-street building? Yes.

229. By special air-shafts? There is a special air-shaft at each angle of the building—a special mechanical appliance for sucking the air out of the rooms.

230. These air-shafts were commented upon the other day by a city architect as being unscientific in shape and size—that they generally have them circular and of smaller space, so as to get a more rapid outlet for the bad air? That is perfectly true. But this plan does not show the mechanism; the whole thing is done by tubes. The plan only shows a shaft.

231. Although the shaft is shown to be of irregular size, the tunnel or tube will be concentrated? Certainly; and there will be a series of hand-irons the whole height of the hall for the caretaker, so that the caretaker or the man in charge can constantly examine them.

232. What is the object of making the air-space that shape? The site being an irregular one it enables me to square up the rooms and the corridors.

WEDNESDAY, 15 FEBRUARY, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT,

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Walter Liberty Vernon, Government Architect, sworn, and further examined:—

233. *Mr. Watson.*] With regard to the southern side of this building, I see you have provided flying gangways from the eastern to the western side, leaving on the southern side, at one point at any rate, merely a connecting wall, without rooms? That is so. W.L. Vernon.  
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234. I should like to ascertain whether it would not be possible to utilise that southern wall in some way by a reduction of the area allowed as a light space or court-yard, and the construction of rooms along the southern wall; it seems rather waste of wall space under present conditions;—at present you have a wall running along the southern side, connecting the two wings or ends, which serves no purpose at all? In preparing this plan I did attempt to get a line of rooms across in connection with the corridor, or even to do away with the corridor, and make the entrance to the rooms at either end, but I found it made such a serious diminution of the air space and light space into the area shown, and was such a loss to the building, that I had to give up the idea.

235. You think it is necessary to retain the whole of that light area, 56 feet by 50 feet, inside? I feel confident it is necessary. It is a great height from the top of the building to the bottom, or rather to the ceiling of the basement, and there are a large number of rooms and windows to accommodate.

236. Is this building to be any higher, materially, than the Lands Office? Yes. The Lands Office is only three floors high besides the basement. This is six floors high besides the basement.

237. But the light and area space reserved in a similar way in the Lands Office is very much smaller than that proposed here? I have tried to avoid the errors that were made in the Lands Office, and also in the building in which we now are. If the Committee will recollect, the centre of the area in the Lands Office is taken up by a strong-room, and, unfortunately, by very lofty nests of lavatories and closets. The consequence is that, the inside rooms in the Lands Office, both on the north and south sides are perfectly useless for clerical purposes. I think some of the officers pointed that out to the Committee the other day.

238. *Mr. Levien.*] You had nothing to do with the building of this place? I built it on plans that were prepared. The area in the Works Office again is far too narrow. That could not be avoided owing to the size of the ground.

239. *Mr. Watson.*] It is very much smaller than the area you propose to allow in this new building? It is not smaller as regards length.

240. What is the size of it, approximately? I should think about 16 feet by about 60 feet.

241. In the case of the new building, you have an area 56 feet by 50 feet? Yes. Then I get the great advantage of having a square area instead of a long narrow one, and I get the additional advantage of keeping these openings in the screen wall.

242. What is the width of the outer series of rooms? About 20 feet 3 inches.

243. If you reduced the light area along the southern wall, by, say, 20 feet, that would still leave you 36 feet by 50? I would not like to try it.

244. You do not think that would be sufficient? No. The attempt in this plan is to make the lower rooms on the ground-floor equally as light and good as those on the top, so that they will be of equal value, and in fact of more value on account of their position.

245. You do not think that could be accomplished if you made any reduction in the light area? I am very much afraid not.

246. Have you any idea of the amount of floor-space occupied at present by the Railway Commissioners in the Works building? I could not tell you at the present moment.

247. It is a considerable area? Yes.

248. And I presume, in the event of the City railway being brought about—either to Hyde Park or to some other point—the Railway Commissioners would vacate the offices they at present occupy? That is the intention I believe. They would build offices of their own.

249. In order to have the administrative head near the executive offices? Yes.

250. And in that case, the accommodation now occupied by them would become available for other public Departments? Yes.

251. Are you prepared to give an opinion as to the probable increase of the branches already in the Works buildings, apart from the Railway Commissioners—as to whether they might require that space, or whether it would be available for other Departments or branches now located outside the Works buildings? I think the Colonial Secretary's Department is occasionally rather pressed for room, and would be glad of more room, but to what extent I cannot say. They have in that office a good deal of occasional work—accidental work that may occur from some special State reasons, and for which they require room; and I know they are always put to great trouble to find room on those occasions. Then again as regards the Works Department, there is constantly something required in the way of accommodation. It has been found a mistake to fit a Department too closely into its buildings. So long as you do not allow any extravagance, there should be a certain amount of elasticity.

252. Do you think there would be any large amount of space available, taking into consideration the possible requirements of the Works Department and the Colonial Secretary's Department, in the event of the Railway Commissioners leaving the building? At present the Railway Commissioners occupy rooms in the building about equal to one floor.

253. Then there would be a large floor-space available? Yes.

254. Reverting to the plan, it struck me that the space left in each corner for stairs seemed very large? It is only sufficient to admit of the staircase rising from floor to floor. The floors are 14 ft. 6 in. from floor

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- floor to floor, from which has to be deducted the thickness of the one floor. But it is necessary to provide sufficient spread in the staircase to comfortably get up that height. Therefore I cannot do with less.
255. Is that area greater or less than the similar area in the large building in which we are at present? It is about the same. The staircase is 6 feet wide. The tread is about 6 feet long, and I am obliged to put at intervals landings, half-landings, and quarter-spaces, so that the stairs should not be too fatiguing, on account of the great height of the building. There is not an inch of room in the staircase more than I wanted.
256. A suggestion was made as to making the strong-rooms a little larger, and providing an iron staircase from top to bottom? I think that is a very good idea.
257. Do you think that, in the event of a fire breaking out in the lower series of strong-rooms, that might act as a flue to conduct the fire right up to the top? It might do so, unless you provided breaks. There should be floors, and there should be means of shutting off those floors one from the other.
258. Inside the staircase? Yes.
259. Is there any particular advantage to be gained by having a staircase inside? Only in cases where there would be a set of documents belonging to the next floor. We have an instance of that in the office of the Registrar of Births, Marriages, and Deaths. It is a rented building, certainly; but the strong-room has two distinct floors, one over the other, and they are connected by an internal staircase, altogether distinct from the building outside; so that by the closing of one door you close the whole of the strong-rooms, too. In the case of the present buildings, the height would be too great to enable that to be done in one undivided line. In the case of the Mines Department, if it can spare any room that space can very well be thrown into the strong-room; but that is a point for adjustment with the Department itself when we go into closer particulars as to how they will apportion the rooms.
260. It was mentioned in evidence, in connection with the other proposal for public buildings, that sandstone was more likely to fret if rubbed smooth; do you agree with that? I think sandstone that has been dressed with a fine face is more liable to fret than what we call rock-faced or pitch-faced—that is, with a sort of natural rough appearance left on the stone. I certainly think so for this very good reason, that all the Ashlar face has to be punched with a chisel, and it presses under the surface and disturbs the stone to some extent; while with the pitch or rock face the stone is left rough, and no tool is used on it to destroy the texture.
261. To some extent that is what has been done in the basement of the Treasury Buildings? Yes.
262. And the appearance of that is very good? I think it is very good indeed; but you cannot use it over the whole of the building—you would get no architectural detail.
263. You could not go in for columns and cornices, and things like that—not with any effect? No.
264. So that you would not advise the use of that facing for a complete building? I think it would look too heavy in the mass.
265. It could be relieved by a series of arches? Then they must be dressed.
266. You must dress your arches? You must dress some portions; but I am afraid a building of that sort in pitched face would be very heavy.
267. Do you think the liability to fretting in a building such as this will be very great? It will take its chance with the remainder of the sandstone in Sydney.
268. What does that chance amount to;—does it mean that within ten, fifteen, or twenty years it will require to have another dressing of the hard face? No; but I think that in 100 years it will begin, to some extent, to show signs of wear and tear, unless it is treated with a composition—a coating which is used now as a preservative for many of these stone buildings, and which, no doubt, checks all that action. It does not stop the action, but it checks it.
269. It has been suggested to me that the stone buildings in and around Sydney—the Government buildings—would be preserved much better if they were occasionally washed with a hose? There is a good deal of divided opinion as to whether it is advisable to do that or not. Some experts say that by washing stone you take away from it a sort of natural cement, which has formed on the face, and you let the air into it, and by that means disintegration sets in more quickly. Other experts say, on the other hand, that by the removal of this outside dirt, which contains a considerable amount of salt and soot, carbon, you take away all the destroying agents from the stone. It is quite a moot question.
270. On the Australian Museum building there is to be seen a great deal of moss as well as bird excreta;—do you think that would be liable to affect the stone at all? Moss should never be allowed to grow upon the stone; there must be some defect in the construction.
271. Do you know whether the pigeon droppings would have any effect? I do not think so—only so far as appearance goes.
272. I am informed that there are at least two qualities of sandstone in Sydney to be obtained, one from what is called the Purgatory Quarry at Pymont, and the other the ordinary sandstone? There are a good many kinds of sandstone in Sydney. The Purgatory stone is very hard, and then there is the Waverley stone, which is also exceedingly good stone. It has less colour than the Pymont and Randwick stones. Then there is the stone at Rockdale, and all down the coast, which is a whiter stone. There is the North Shore stone, which is very white and coarse. Then there are the stones around Annandale and the Glebe which contain a large amount of iron, which I do not think are very suitable.
273. Which of these do you prefer to use, in view of the cost of each? It is quite immaterial which you use; that is, if you take the better of the two kinds—the Pymont and the Waverley. In the case of the Lands Office one half is built in Pymont stone and one half in Waverley stone, and no one can detect the difference.
274. You do not think there is any difference as regards the lasting property of the stone? I do not think so.
275. But there is a considerable difference in the cost of the Pymont stone as regards working as compared with the other stone, is there not,—or some difference? Yes; there would be. But the Purgatory stone is not much used. We are using stone at the present moment from Pymont, because we bought it cheaper than we could buy stone any where else.
276. What stone are you using in the Post Office? Pymont stone. That is the result of competition—public tender.
277. Is the Pymont stone supposed to be a hard description of stone, or harder than the ordinary sandstone around Sydney? It is one of the best qualities of stone. Pymont has always a name for being the best stone, although the Waverley runs it very close.

278. You say it is being used at the Post Office, and you got it as the result of competition at a comparatively low price? The lowest price. There were some other circumstances in connection with it.
279. Does it cost any more to work? No.
280. I mean does it take a man longer to work a similar number of cubic feet? No.
281. Notwithstanding its being hard? I do not think it does. There is only a very slight difference in the degree of hardness. Contractors are perfectly indifferent as to which they use, unless the contractor happens to own a quarry himself, and then, of course, he wants his own stone. Otherwise, they are perfectly indifferent which they use.
282. During the visit of inspection paid by the Committee the other day to some of the public offices, I think you pointed out the undesirableness of having in the offices wooden racks and other clumsy furniture liable to take fire quickly? That is so.
283. I think you also mentioned, in reply to the Chairman, something about the manner in which the furniture was arranged—the sort of furniture that some of these Departments had? I did make some remark.
284. Is your Department likely to be consulted as to the arrangement and fitting of furniture in this new building? No. If it is to be dealt with as furniture it will go to the Public Service Tender Board.
285. It does not come under your purview at all? No.
286. Would it not be possible to arrange in some way that the opinions or ideas of those with a knowledge of the economical fitting of offices and safe fitting of offices should be taken into consideration? I think it is very desirable. I have men in my Department who, from long experience, have become experts in those matters, and I am quite certain there would be an advantage in making use of their experience. We do it in many cases now. In the Treasury, for instance, which has just been fitted with a strong-room, the arrangement of the desks was entirely a mutual arrangement between my expert and the officers of the Treasury. We find what they want, and we take care to place it in the most economical form.
287. That is as to desk space and the arrangement of documents and books, and so on? Everything of that kind.
288. Does that also apply to the arrangement of the spaces in the strong-rooms—the plan racks;—there are a great number of those used in all the offices where they have draftsmen at work? As a matter of fact we have had nothing to do with those. They are put up by their own branch in the Works Department. We fitted up the Lands Office with steel racks, and we have done the same at the Treasury.
289. And you would recommend those for use in other Departments? Decidedly.
290. But at present you are not necessarily consulted with regard to the arrangement of furniture and fittings in new offices? No, not necessarily.
291. It is only done when the ministerial head sees fit? That is the practice generally.
292. It has been suggested by the Departmental Board, whose minutes you read to the Committee yesterday, that the building now occupied by the Education Department should be pulled down;—has the building become so dilapidated that it should be pulled down, or are the Board under the impression that it will not be required? There are two reasons—one for the sake of the improvement of the surrounding buildings, and the other that the old building is so antiquated that it will not be worth putting another Department into it when vacated by the Public Instruction Department.
293. When you say antiquated, do you mean antiquated in the arrangement of the rooms, or that the walls and other parts of the building are unfit for occupation? I could not go so far as to say the latter, but I should say that the accommodation is not suitable to administer the Department well. It has been built at various times. A great deal of it is makeshift. It is just one of those buildings that a community like this should move out of sight altogether. There is no historic interest connected with it to require its maintenance.
294. There is no actual reason why it should be pulled down? No; it may only be a sentimental reason. There is no reason on account of its want of safety, or on account of its insanitary condition, for although it is not very good in that respect, still it is good enough. There are no reasons of that kind.
295. Is it not a fact that in recent years some additions have been made there? A great deal of money has been spent on it, and money always must be spent to keep it going.
296. Do you mean, to keep pace with the growing of the Department? No; to keep the place in repair, to keep its sanitary condition right. The sanitary fittings are all getting antiquated and out of date. These really want remodelling and rebuilding.
297. What would the maintenance of the building cost—I mean as regards sanitary matters and general repairs? I should say that the building would cost about £200 a year to keep in proper repair.
298. So that it would be just as profitable to pull it down, and pay £200 for another building if it were necessary to house a small Department? Yes; I think so. In speaking of the Education Department, perhaps I might be allowed to make a correction of a statement I made yesterday regarding the floor-space which that Department now occupies. It seems that by some mistake the rented and outside premises were not included. The consequence was, that I reported the Department now occupy some 9,000 feet, and they really occupy 13,608 feet.
299. *Chairman.*] That includes outside places? Yes. When the Department was asked to send in a return of what they required, they asked for 24,956 feet. The space ultimately fixed upon was—minimum 19,776, and maximum 22,786.
300. With regard to the internal walls shown on the plan—I do not mean the walls dividing the rooms as arranged, but the walls in the corridors—can you tell the Committee what the thickness is;—they seem very thin; they have a number of piers arranged along apparently, and very thin walls connecting the piers? The piers in the basement are 3 feet thick.
301. They run right up to the top? Yes; they are 6 ft. x 3 ft. solid brickwork in cement. They diminish in thickness, but they go from top to bottom. They are the constructive supports to the building, and we carry a series of steel girders over the work supporting the floors, so as to be as independent of partitions as possible.
302. And between these piers and the internal corridor walls,—what is there? I propose to put terracotta lumber in with steel frames, about 6 to 9 inches in thickness.
303. That would be nothing constructive, but merely dividing-work? That is all, and as light as possible.
304. You would have a considerable number of girders, then; there would be girders longitudinally and transversely? Yes; to some extent, but the girders will nearly all be transverse.

- W. L. Vernon. 305. You will have longitudinal girders also connecting? To some extent, but not to any great extent. The partitions will rest on the construction of the floors, particularly if the Monier system is used. The weight of the partition is on the floor only. It does not take the partition from top to bottom, increasing the weight as you go down, but each is treated independently, and the weight is thrown across on the main walls.
- 15 Feb., 1899. 306. And if you use the Monier system the floors will be sufficient to carry the partitions? Yes; the building is supposed to be so constructed that the whole of this internal work can be cleared out if necessary. The roof in all cases is carried on the main walls, and not upon the internal walls. These internal walls are provided simply for the floors.
307. Having so many girders is there any probability, in the event of fire, of the bursting of the building through the expansion of the iron or steel? I do not think so. Steel girders, when used in fire appliances now, are entirely protected from any contact with fire. It has been found by experiment, and also by experience, that so long as that is the case the girder can be depended upon. In the early days, when a fire-engine was playing upon girders, and particularly upon the old cast girders, which were first used, a stream of water would do damage at once. But now, so long as they are protected—and that has been found the best way to keep them—there need not be any fear.
308. Protected with cement? Cement or lumber—any non-conductor of heat.
309. Does the coating of lumber check the expansion and contraction, or merely keep the heat and water from the iron? It keeps the heat away. I do not think it can prevent expansion altogether.
310. It might minimise it? Yes; I have seen experiments made which have shown marvellous results in the way of protection. The lumber seems to defy all assaults by heat.
311. Is there less expansion in the steel girder than in the wrought or cast-iron girder, or would it be the same—leaving out any question of protection? I think it is about the same, except that, of course, in steel we use smaller sections, which would mean less expansion. But foot per foot, and inch per inch, not speaking as an engineer, I should say the expansion and contraction are the same.
312. So that what you rely upon, irrespective of the reduction in size, is the protection with lumber or cement? Yes.
313. In any case, I presume, if you have this building reasonably protected by the Monier system of flooring and ceiling, there is little probability of a fire sufficiently extensive to cause damage? In such rooms as those in which you saw large numbers of papers and records, I should recommend the use of a fire sprinkler as an additional caution. In that case no fire need be feared.
314. That would not mean a great deal of extra expense? No, nothing very serious; it would not affect the estimate.
315. And it would be better to arrange for that before you start building, I presume? Yes.
316. *Mr. Shepherd.*] With regard to the strong-room, would the papers contained in it not be liable to be damaged in case of fire—scorched or singed in any way—supposing there was a very heavy fire in the building? I do not think a fire could occur in the strong-room. If one did occur locally it would be very much minimised by the fact that the papers are all placed in steel receptacles.
317. Is there any vacuum outside the walls? No.
318. Do you not think that a vacuum or a second wall with a space between would still further protect the strong-room? Not necessarily so, while it would be a great harbour for vermin.
319. With regard to the subdivision of the long room on the plan, I noticed the other day, when we were going through the large public offices that, where the rooms were subdivided, the passages were inside;—there seemed to be no provision for entering from the corridors. In this plan is there any provision for that in the event of subdivision? You refer to the large room at the southern end of the Lands Office in which the staircase lands in the large room itself, which has necessitated the partitioning off of the room itself, to obtain access to the staircase from all parts of the building; but in this plan, the staircase goes up in the well-hole and not in the room.
320. Seeing that these long rooms are on each floor, is it not likely that smaller rooms would be desirable very often? To some extent.
321. Do you not think it would save space to provide for the entry from the corridor instead of having passages along inside? Certainly. A provision could be made for opening doorways direct from the corridor at frequent intervals.
322. I noticed the other day also, that there did not appear to be any provision against the sun on the west of the building, and the heat in some of the rooms was almost intolerable. Would it not be desirable to make some provision of the kind, even by means of a French shade, such as is fixed to the windows of this room? That is so. I could not afford the space to recess the rooms into a balcony. There is not sufficient ground to spare to do that on the western side, and the windows, no doubt, must depend upon any adventitious aid from outside shutters.
323. It is proposed to build the whole of this building in stone, I believe? Yes, except the internal walls.
324. It is proposed, I believe, to use the same kind of stone in the whole building, foundations and all? Yes.
325. Would it not be desirable to use some other stone for the basement, such, for instance, as Bowral trachyte, if not too expensive? It would be very suitable.
326. Would it not be likely to add to the appearance of the building? I think it would.
327. And it would be quite as durable? More so.
328. Would that add much to the cost? It would mean a difference of about 3s. 6d. or 4s. per cube foot on the lower floor.
329. That would mean something considerable in a building of this kind? It would mean a great deal. It is for that reason I hardly ventured to use it in this design. I might point out that the Sydney stone, curiously enough, frets at the pavement level. This is noticeable in the Lands Office, and also the Colonial Secretary's Office. Just above the pavement level there is a fretting of the stone, which would not occur in the case of trachyte.

THURSDAY, 16 FEBRUARY, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Walter Liberty Vernon, Government Architect, sworn, and further examined:—

330. *Mr. Levien.*] Did you build the new additions to the Treasury in Macquarie-street? Yes. W. L. Vernon.
331. The flooring there is laid in wooden blocks, is it not? Yes. 16 Feb., 1899.
332. Do you propose to wood-block any of the floors in this building? I have not gone so much into detail as that; but probably it would be a good plan to block the corridors.
333. Would you sooner block them than tile them? Blocking them would be better than tiling them. Tiling is noisy, and it wears, and very often the key underneath breaks, and the tiles come up,—except marble tiling.
334. The same as that at the Supreme Court? Yes, that might be used.
335. You think that is a good floor? Yes, a very good floor.
336. Have not the wooden blocks laid in the floor at the Treasury buildings contracted? They have shrunk to some extent.
337. It would be necessary to lift them and relay them? I am not certain. We are watching them to see. I might explain that we are endeavouring to use the Colonial hardwood for these floors, and the experience we gained in that building in regard to blocking showed that it was necessary to put the Colonial hardwoods through some other process besides simple seasoning by the weather. The consequence is that in subsequent works—the Art Gallery, for instance, and the Kenmore Asylum—we have had kilns built, and the wood has been steamed in these kilns for from four to six weeks before use. We find it absolutely necessary to do something of that kind with the Colonial hardwood. It is mahogany at the Treasury buildings.
338. Was that steamed? No.
339. Have the blocks that underwent steaming which were used in the Art Gallery contracted at all? Yes, slightly. I am afraid we must abandon the use of hardwood for floors. We have tried everything we could think of.
340. Both for boarding and blocking? Yes.
341. I suppose the use of the blocks at the Treasury building was a mere experiment? It was more than an experiment; it was specially provided in the specification.
342. Do you think it is a failure or a success? It is a success, so far as the construction of the floor is concerned. It has enabled us to use a fire-proof floor.
343. It would be more fire-proof than boarding? Yes; because there is no space for any draught or fire to get between the blocks and the concrete. But it has been a failure, so far as the wood we have used is concerned—a partial failure.
344. Do you know if there are any of the Colonial woods that would make more perfect blocking—Colonial beech for instance? That is very good wood. One of the floors in the Art Gallery is covered with beech, but it has gone the same there, and has left large spaces. It is very hard to keep such a floor clean.
345. All the sweepings drop in between the blocks? Of course there are degrees of shrinkage; in some floors the shrinkage would be less than in others.
346. No matter how small the shrinkage, would not the dust accumulate between the blocks? It would to some extent.
347. And do you think that is a desirable thing? Not if I could help it.
348. But even if you could not help it, do you think it is a desirable thing so far as health is concerned—say, where there are thirty or forty clerks in a limited space—do you think it a good thing that the dust should accumulate in these shrinkages? No. It is pretty universal though.
349. How do you mean universal? One can hardly find a wooden floor anywhere which is not open in the joints.
350. But the floor can be scrubbed? Yes; then the joints get filled up with dirt and dust.
351. Do you think you could wash a blocked floor with the same facility as you could a boarded floor? Yes.
352. In this building you do not propose to have any of this wooden blocking, do you? I have not written the specification for this building, but it would be quite an open question whether the corridors should be woodblocked or paved with marble.
353. What do you propose to build the basement of the museum with? Continuous asphalt. But even in that case I should consult the curator of the museum. I should recommend him to use continuous asphalt, because it is impervious to damp.
354. What do you propose to do with regard to flooring as regards the whole building? I have not written the specification. This is a matter of detail which does not affect the accommodation, or the construction of the building.
355. But it is an important element, is it not? The rooms themselves, or course, would be floored with boarding.
356. Going back to the Treasury building, that is a room and that is all blocked? It is a strong room, really.
357. Are both those rooms in the lower floor strong rooms? There is only one room, there is a gallery in it. It is one large strong room, a fire-proof room.
358. Have you ever had any report to the effect that heat is very intense there? We have had one or two suggestions that it is warm; but then we get those from all directions.
359. I mean from that particular building;—have you had any complaints from any of the officers there that the heat is very intense? No.



- W. L. Vernon. 360. Or that it is extremely hot? No; it is the most comfortable room in Sydney.
- 16 Feb., 1899. 361. Did you ask any of the officers? Yes; when we built it. Before the officers entered the building at all, in discussing it with the heads of the branches, we all thought it was desirable to adopt some mechanical appliance for sucking the air out of the room in addition to the windows.
362. You have a mechanical appliance there? Yes.
363. Is that sufficient for the purpose? Yes; considering that there are windows on all four sides of the room as well.
364. But in regard to those windows there is no opening for air at the bottom of the window? The window is hung on a pivot.
365. Worked by machinery? Yes.
366. Do you not think it necessary to have some air space below;—the air would come in, and it would ascend, would it not? But the air circulates throughout the whole of that floor. It has plenty of inlets besides windows—doors.
367. Are not those doors always closed? No.
368. Are they glass doors? There are two iron doors, I think; and there will be more when the new building is up. There will be two large archways.
369. What is there now? There is the front door, and, I think, two side doors.
370. Do you not think it advisable to allow the windows to be run up from the bottom, so that a current of air should come in? We took special pains with those windows.
371. They are set in iron, are they not? They are all iron themselves.
372. Is not the latest scientific and mechanical idea that the windows should be lifted from the bottom so as to allow the air to come in both at the top and bottom, and have a current of air in and out? Undoubtedly, the more the circulation of air the better; but there is ample in that room.
373. No complaint has been made to you? If you listened to all the fads of some of the Civil servants, you would never satisfy them at all. No complaints have reached my office that have not been attended to.
374. Do you not think there ought to be an inlet at the bottom of the window as well as at the top, to allow a free current of air? The window opens into places now—it works on a pivot, and it is opened on the top and the two sides to some extent.
375. In regard to all the windows facing the north, there is only an opening in the centre from the pivot? The window is formed of two sashes—upper and lower.
376. The lower sash does not open at all? No.
377. Would you think it advisable to have a current of air from the lower space? Not necessarily in a room of that construction. I might explain to the Committee that that window was specially designed to accord with a system of iron shutters which was to have been adopted for the purpose of extra security—the shutters to be worked by hydraulic power; but when the Treasury Department took possession of the rooms, they considered it was not necessary to go to that expense, and as they took the responsibility upon themselves—and it is so stated clearly in the papers—of any risk of incendiarism, or any damage from fire or from the approach of thieves, the shutters were all left out. The sash bars of the windows are all in metal, and it would be impossible to work a metal sash in the way you suggest.
378. So far as the books and papers are concerned, what good would they be to any thieves? I understand they have about £15,000,000 worth of accounts, there. They have the accounts for all the conditional leases and conditional purchases in the Colony there, and the debit and credit account of every leaseholder and freeholder in the Colony.
379. But are not those locked up during the night? No; the room itself is locked up.
380. The room itself would not be fire-proof? Yes, it is. All those officers are working in a strong-room.
381. But suppose a fire broke out in an adjoining building, would it burst those glass windows open? The Treasury have taken that risk upon themselves against my advice.
382. What did you advise? I advised a system of automatic, iron shutters. After the work was over of an afternoon, by moving one lever the whole of the shutters could be closed. It would cost £2,000. The money was provided, but the Treasury Department thought they could do without the expense, and I think there is a good deal to be said on that side. It is worth the risk almost. In suggesting the iron shutters I was afraid of incendiarism. I thought it possible that the window might be smashed by some evilly-disposed person who might throw a bottle of petroleum, or something of that kind, through the window, and do considerable damage. It is just one of those things which could be done. My first instructions were to build a fire-proof and thief-proof room; and without those iron shutters I do not consider I have done so.
383. It is not thief-proof now, as a man could cut through the glass, could he not? The windows all have iron frames and iron bars.
384. But they could cut through glass? Yes; it is not altogether secure.
385. It would not take a thief long to cut through the bars, would it? No. The mechanism of those windows was specially designed so that the frames or sashes should in no way interfere with the shutters.
386. As they come down they are sealed? Yes.
387. It would be a greater protection if the iron shutters were outside? As a matter of fact, the shutters would be inside.
388. That would have been a greater protection still? Yes; I think so.
389. *Chairman.*] It would have been absolutely proof then? Yes; the doors leading into the place are Chubb's strong-room doors. That shows that precautions were taken, wherever they could be taken, but the windows were left in their present state.
390. That would not be the case here;—you do not suggest any of these iron shutters for this building? No.
391. *Mr. Shepherd.*] Have the heads of the two Departments—Mines and Public Instruction—been consulted as to the arrangement and disposition of the rooms in this building? In the first place, the amount of accommodation required was obtained from them, and the detailed disposition of the rooms will be left very much to the heads of the Departments, in case the building is erected. So long as general lines are laid down, and suitable accommodation is provided, it is far better to let the heads of the Departments apportion the rooms. I may say that they have been supplied with copies of these plans, in order that they might know what is being proposed before the Committee.

392. I notice that the different floors are apportioned partly to the Department of Mines and Agriculture, and partly to the Public Instruction? That is so. W. L. Vernon.

393. Do you not think it would be a better arrangement that each portion should be apportioned to its particular Department, instead of having the Departments mixed up in this way;—what advantage is to be gained by dividing them in the manner proposed? There is the advantage to both Departments that certain of their officers who deal more closely with the public can, in both cases, be on the ground floor, and the Minister and others concerned in the administration of the Department can be placed on the first floor. The other floors do not so much matter—that is, for the accountant's work, and records work, and branches of that kind. But it seems to me essential that each Department should have a ground floor and a first floor, and consequently, it is better to divide the building perpendicularly than horizontally. 16 Feb., 1899.

394. It is proposed, I suppose, to keep them entirely distinct—that is on the ground-floor and the first floor;—each Department will have its offices divided in a regular way, one above the other, so as to keep them together as much as possible? Yes. So far as four of the floors are concerned, it is two separate buildings. It would be very difficult, if the main floors were dealt with horizontally, to satisfy the two Departments, because they would both want a ground-floor, and both want a first floor, and very naturally.

395. Is it expected that there will be much expansion in the case of either of these Departments;—they both seem to me to be growing Departments;—I see there is not a great deal of expansion provided for over and above what is immediately required? In regard to the Education Department, as the system now covers the whole of the Colony, its limits are almost ascertained in one sense. It was considered advisable, while reducing the accommodation they required to a minimum, to allow some elasticity to provide for an increase that must take place, though not to a very large extent. But the Mines Department is one which is constantly having new branches added to it for one purpose and another. One does not know what branch may be added to it, or even taken away from it. Therefore, there must be some elasticity in the accommodation provided.

396. In regard to ventilation, I suppose a thoroughly efficient system is provided for ventilating the whole of the building? It is done by means of openings in every room in the building, communicating by shafting with the upper upcast shaft in the building. Then, in order to make certain that a current is set up, we provide fans to draw the air out.

397. In the Works Department, the ventilation of the building does not seem to be as perfect as it might be? There is no attempt at ventilation in the rooms of that building. This is a new departure. In regard to the possible growth of these Departments I may say that the Mines Department in 1880 had sixty-nine officers, and in 1899 it has 164, showing that there must be a constant increase.

398. With regard to the division of the rooms, could not something better than wood be provided, because in case of fire that would be a great danger? I think it very desirable that no inflammable material at all should be used, and if that were insisted upon, the small divisions one sees constantly in these buildings would disappear altogether, and I think much to the advantage of the work in the offices. If terra-cotta partitions were insisted upon, the rooms would then be divided into reasonable sizes. But with wooden partitions they can be cut up into little boxes, 6, 7, or 8 feet square.

399. *Mr. Watson.*] You are not consulted with reference to the erection of these wooden partitions as a rule? Not as a rule. We sometimes put them up when we are instructed to do so.

400. *Dr. Garran.*] Who controls the quantity of furniture in a room? Now that a Public Service Tender Board has been appointed, I imagine that they will control it, so far as new work is concerned.

401. One of the rooms we visited the other day looked more like a second-hand furniture shop than an office? Yes. I counted one day in one of the old Lands Office rooms forty-five pieces of furniture. It was the greatest puzzle how the officers could find their way amongst the furniture to their seats.

402. Has each officer the right to order his own furniture? I think it has gone on from year to year, with constant additions, without any special plan or system.

403. It wants revising altogether? Altogether.

404. With regard to the rooms in this building, who will control the quantity of furniture to be bought;—will they cart in all the furniture from the existing rooms? I hope not; but that matter will be beyond my control, or even suggestion. I should say that the Under Secretaries of the Departments would themselves see that their furniture was rearranged and simplified.

405. Has there ever been a report as to the quantity of desk room and table room required by each officer in a room? An inquiry was made in connection with the building of the Treasury as to the desk room. Nothing definite could be obtained from other Departments, but we did fix the matter as regards the Treasury. We were able to do that by their books. It was a very simple matter, as they had so many ledgers for which we had to find so much room. That room was really built to fit the ledgers, and not the ledgers made to fit the room.

406. And you do not know what will happen to these nice new rooms you are going to build—whether they will be lumbered up as soon as they are opened? No; I do not know at all.

407. *Chairman.*] Regarding the size of the room required for different officers, in our inspection the other day we found Mr. McKinney located in a room 15 feet by 21 feet. He has a number of officers consulting him, I suppose, every day, and he says he has ample accommodation there. In the proposal we have before us, what is the size of the smallest room you have provided? Twenty-one feet is the length of the smallest room, and the width will be according to requirements. It is not set out in the plan, because it is rather difficult to ascertain what each officer will require.

408. Then you are virtually providing a skeleton building? Yes.

409. Does your estimate of £97,000 provide for a complete building, subdivided according to the requirements of the officers, or simply for the skeleton building shown on those plans? It includes a reasonable number of permanent partitions.

410. So that the estimate is not likely to be exceeded? No; it should not be.

411. We visited a room in which there were three draftsmen employed, its dimensions being 16 feet by 14 feet, which gives 75 feet of floor space each, and they were not overcrowded? That is too little for draftsmen. It is not the space that the draftsman himself takes, but the space his plans take.

412. But if the draftsman is a tidy man, and when he has dealt with one set of plans puts them away before dealing with another set, I suppose he would take less space than if he had his plans scattered all over the place? He must have plans out; it cannot be helped.

- W. L. Vernon. 413. But it all depends, I suppose, upon the habits of the chief of the room as to whether he can make 75 feet do or 200 feet? There is no doubt a great deal depends upon the head of the room, but there is a limit to the suitable area for a draftsman. I should not put it so low as that.
- 16 Feb., 1899. 414. There was another long room 46 feet by 19 feet, in which there were nine officers employed. That gives 97 feet of floor space for each officer. They appeared to have plenty of room there? I think for clerical officers who deal with papers and not so much with plans, 100 feet is a very fair allowance, and I think that is what you will find they now get in all the better-arranged Government offices. The average is brought up by the larger rooms for single officers.
415. In no case during our inspection did we find a room giving a greater floor space for each individual than 104 feet, so that I suppose we can accept that as being the maximum requirement, and 100 square feet for a draftsman. We found cases where the floor space per officer was 96 feet, 71 feet, 75 feet, and 97 feet; but in no case was it over 100 feet? I would fix the space for a clerical official at 100 feet, and for a draftsman, at from 130 to 140 feet.
416. We visited a room occupied by the Railway Department, the dimensions of which were 14 feet by 16 feet, and it was occupied by nine clerks, the floor space for each being 71 feet, and they did not appear overcrowded? That space is little enough—too little, especially where they have papers accumulating.
417. We found twelve men in another room with only 46 feet per man, and they did not appear so crowded as some of the others who had the 71 feet—so that it is all a matter of arrangement, is it not? To some extent it is.
418. And if a better type of furniture were used, we should be within the mark in saying that 75 feet would be sufficient for a man doing ordinary clerical work—taking into consideration the fact that in one room the space per man was 46 feet, in another 56 feet, in another 72 feet, and in another 62 feet? No; I think it is under the mark, even with the best-arranged room. In the case of a clerical room in an office, from the nature of things the officer sits there from 9 o'clock in the morning until half-past 4 o'clock at night. He has no business to take him outside, as many of the professional officers have, and if he is in that atmosphere the whole of a hot summer's day, 100 feet is only a fair thing to allow him, with his books and his papers. Generally speaking, the sides of the rooms are lined with pigeon holes for record purposes, in addition to his own papers on his table, and these are always accumulating.
419. *Mr. Watson.*] 100 feet is recognised as the standard for health purposes? It should be so.
420. *Chairman.*] Could you give the Committee any idea of the amount of space allotted to clerks in commercial houses? I could only do so after special investigation; but I am prepared to say that in the banking chambers in Sydney there is considerably more than that space for each officer; but then, of course, the public come in, and in some of these public offices the public come in.
421. But not to so great an extent as they do in the case of a bank? If an investigation were made of any one bank, I would undertake to say it would be found that all the officers in the separate rooms outside the banking chamber have considerably more than 100 feet each. That only allows 10 feet by 10 feet.
422. I suppose you were informed by the Department how many clerks would require to be housed in this building? Yes.
423. How many square feet per man did you allow? I think the Under Secretaries who supplied the information were guided very much by the special kind of work at which the groups of clerks were to be engaged, and on their own judgment they would give me to some extent the size of the rooms they required for them. In no case in the returns did they give the superficial floor-space per officer; but they give very often the size of the room in which they would put so many clerks. In the case of the Education Department, the figures given were these:—The Minister, 526 feet; Minister's ante-room, 200 feet; Under Secretary, 320 feet; and his waiting-room, 150 feet; Chief clerk, 320 feet; correspondence clerk, 160 feet; Teachers' Branch—4 officers, 440 feet—that is, one room; Correspondence, 17 officers, 1,840 feet; Records—11 officers, 1,778 feet. There is an instance where there is a difference in the space given per man, it being greater in the case of the Records Branch for the reason that the records take up room as well as the officers. Accounts—14 officers, 1,934 feet. In that case there is probably a space required for the public, and that upsets the calculation again. Cashier—6 officers, 1,008 feet; there is a requirement for the public again. Clerks of works and draftsmen—7 officers, 1,626 feet. Library and Board-room, 840 feet. Then comes a chief inspector, a deputy chief inspector, messenger-in-waiting, five metropolitan inspectors, and the country inspectors. The number of the officers is not given; they take a total of 2,000 feet. Store-rooms, 1,770 feet. These, I think, are for the school literature and educational appliances. The cadets have 320 feet for three officers; workshop, 399 feet. Six officers in the Labour and Industry Branch, 840 feet. That is a case in which the public want a considerable amount of room, as well as the officers. Then there is provision for expansion. That comprises the accommodation required for the Education Department.
424. Did the Mines Department requisition for the whole basement in the new building for a museum? That was one of the conditions under which they were prepared to come into the building.
425. That they should have a large museum? That their museum should be in connection with the Department, and under the same roof.
426. Have you been in the museum in the Domain? Yes.
427. You have noticed the exhibits there? I have not been there within the last two months; but I have been there in connection with this particular scheme.
428. Have you been in the Australian Museum? Yes.
429. Are not some of the exhibits there similar to those in the building in the Domain? Probably some of the exhibits are the same; but they are there for different purposes.
430. Have you been to the Technical College, at Ultimo? Yes.
431. Have you been in the museum there? Yes; but I forget the details. I have been in country museums. I have been in the museum at Newcastle and the one at Bathurst.
432. Did you notice whether there were any mineral exhibits? Yes; they all have a complete set of minerals, and within a small compass.
433. Do you think it is necessary in the interests of the public that there should be museums attached to every Department? I am afraid that is a question I should not like to answer. I can only speak as to the buildings.
434. You have a general knowledge as to what the public would require;—as one of the public, do you think

- think museums are required in about half a dozen different parts of the town? I really could not answer that. I am not prepared to say. I might have a private opinion, but not an official opinion.
435. You say that the Mines Department is now occupying part of the Works building; what do you propose to do with that portion of the building when the Mines Department leave it? I should prefer to keep it vacant—for purposes of safety. That is why I prefer that it should not be used for storage purposes. I refer to the dome.
436. We have it in evidence that there will be 10,000 feet of space vacant in the Lands Department when the Mines Department leave that building;—has there been any communication with you with reference to the question as to who would occupy that space? None as to who would occupy it.
437. In drawing out these plans, was that considered? It was considered that those rooms could be used, because the occupants of the four houses in Young-street, and the terrace that would be taken down, must be housed somewhere; and in regard to Richmond Terrace, in the Domain, which must sooner or latter be condemned to make room for public buildings there, those occupying that terrace of houses must also have room found for them. So that it was considered that the Lands Office would be able to provide pretty well all the accommodation required.
438. After this new building was put up? Yes.
439. Where would you propose to house these people in Young-street while the building was going up? Rooms would have to be hired for them.
440. They could not go into the Lands Office? No. You must rent some premises, I am afraid.
441. The Lands Office object, I think, to having their museum in the building you propose to erect? I could not say. I do not know what arrangement the Forestry Branch has made.
442. You had no communication with them at all? No; but I should think it would be very desirable to still keep the Forestry exhibition with the Mineral exhibition—I mean for the sake of the public.
443. Could you give the Committee the amount of floor space now occupied by the Mines Department in the Lands Office? As far as my recollection goes, the space occupied by the Mines Department, spread over the different buildings, is about 13,000 feet.
444. Will you give the Committee particulars as to the space the Mines Department ask for, and which you are providing for them in the new building? For the Minister, 2 rooms, and the Under Secretary, 2 rooms, we are giving 1,560 feet. In the Geological Branch there are 11 officers and a library; we are giving them 2,070 feet. The Charting Branch, 21 officers, 2,799 feet; the Clerical Branch, consisting of 30 officers, 3,890 feet; 8 lease clerks, 990 feet; lease officer and legal adviser, 2 officers, 300 feet. Inspectors of diamond drills, 4 officers, with occasional inspectors in addition, 1,080 feet. In the Accounts Branch, 12 officers, 1,578 feet; stores, 2 officers, 250 feet; plan-mounter, helio printing, and helio printer, 990 feet; board-room, 480 feet; museum, 1,440 feet; clerical Branch, 3 officers, 1,080 feet; this includes a director—I do not know what he is—which will make four officers. The Department asked for 1,200 feet, and we have given them 1,080. Public Watering-places, 6 officers, 990 feet; Stock Branch, 11 officers and 2 store-rooms, 1,780 feet; Export Board, 3 officers, 600 feet; that includes a board-room. Pathologist and artists, 4 officers, 1,140 feet; that is a case in which there must be plenty of room. Entomologist and library, 2 officers, 860 feet; Viticulture, 1 officer and a laboratory, and the chemist, 3 officers and a laboratory, 2,663 feet. Editor of the *Gazette* and a library, 2 officers, 714 feet. With the exception of the messengers, that is about the whole of the accommodation.
445. *Mr. Dick.*] I noticed that in the case of nearly all the large public buildings that have been erected for some time past additions have been prepared in the way of mansard roofs;—have you made provision for the possibility of such an addition here? They could be added; but I should hope they never will be.
446. It would interfere with the architectural harmony of the building? Very much.
447. With respect to the museum, you feel certain it would be adequately lighted? I am quite certain about it.
448. Could any further light be put in at the north-east corner? The front door takes up that position, and it would not be possible.
449. Or on either side of the window shown on the plan? It might be done; but I do not think it would be advisable to touch the structure of the building just there. I do not think there is any need for it.
450. I suppose throughout this building you have complied with the conditions of the City Building Act? Yes.
451. According to the schedule handed into the Committee there are a number of Departments still unprovided for? That is so.
452. Does the general scheme, of which this is a part, embrace a proposed building in which to house these small Departments? No, we have not gone beyond this scheme at present; but there is no doubt that would have to be considered.
453. Do you think this building is larger than necessary for the two Departments to be housed there? Not if a certain amount of allowance is made for natural increase. It is only just the size, and just suitable for the two Departments.
454. I think you stated there is not much prospect of any expansion of the Education Department? I would rather leave that point to be dealt with by Mr. Maynard, who would know better than I. But I judge by the returns as to the number of officers in one year and the number in another year, and also by the fact that the education system is pretty well established throughout the country.
455. Do you think a number of these smaller Departments could be housed in the Lands Office when the Mines Department vacate the floor they have there? I think there should be a rearrangement of the Lands Office to the extent of removing to the first floor some of the officers occupying the ground floor, and then using the ground floor and the basement for a number of these smaller Departments. For instance, the Charities—they should have a ground floor, and they should have a court-yard. Both those could be provided in the Lands Office with great advantage.
456. Do you think the greater number of these smaller offices could be housed there? I think it would take the greater number of them.
457. The Statistician, for instance? I assume the Statistician will go with the Public Service Board.
458. That is in Hunter-street? Yes.
459. And the Fisheries? That would be one; and the Friendly Societies, the Charities, the Electoral Office, the Medical Board and the Pharmacy Board. The requirements of these smaller Departments in regard to space would be represented by 11,000 feet.

W. L. Vernon.  
16 Feb., 1899.

- W. L. Vernon. 460. Very nearly that amount of space would be available in the Lands Office? I think there is very nearly 13,000 feet.
- 16 Feb., 1899. 461. Do you think you will have five rooms to spare for the Statistician's Department in the building in Hunter-street? I think, with a little management, the two Departments themselves could find room on that floor. I take it that so long as a member of the Public Service Board is Statistician he will not require two separate rooms.
462. Some evidence was given a few weeks ago to the effect that the underneath part of the cornices of these buildings, the throating, is more likely to fret than even the more exposed portions of the building;—has that been your experience? That is the experience with Sydney sandstone.
463. In this building, would the cornices be very heavily throated underneath? They must be throated, otherwise the rain would run down the cornices and down the walls. They are bound to be throated. We know as a fact that they do fret; it is a characteristic of the stone, that is all.
464. I noticed from the plans of public building sites in Sydney that a considerable extent of space was outlined for the Australian Museum;—in view of that fact, do you think it necessary to provide a large museum in this new building? I cannot answer that. It is a fact that plans are now being prepared for an enlargement of the Museum itself.
465. It is a question of administration you do not care to deal with? Yes; it is a matter I know nothing at all about.
466. With respect to the staircases, it struck me that a very large amount of space was devoted to the staircase; is that unavoidable in a building of this kind? The staircases are none too large. They are 6 feet wide, and the treads are only just sufficient to rise the height. But owing to the irregular angles of the site, it is an economical plan to take just as much of that site as is required, in order to square the rooms in the corners. It is necessary to take that area for the stairs. Whether I take it in one form or another is immaterial; but I take it in the way shown, because it enables me to square these rooms.
467. How much higher is the building at one end than at the other? Between 11 and 12 feet.
468. Judging from the plan, it must be necessary at the Young-street entrance to provide steps? There are four steps down from the doorway there into the museum, and at the other entrance, there are several steps up to the ground-floor.
469. By dividing the floor-space required by the number of officers to be provided for, a very wide variation is found in the amount of space per officer allotted in the different Departments;—leaving out the Mines Department, on account of the libraries and other special circumstances, I find these variations—280, 150, 187, 231, 220? In the Education Department there are some considerable libraries and stores in which there are no officers. In the Education Department there are 1770 feet without an officer.
470. The special circumstances of each Department will modify any rule as to space? It must necessarily do so.
471. *Dr. Garran.*] As you described the building to Mr. Watson yesterday, it is inside substantially a skeleton building? That is so.
472. And the partitions between the rooms are mere screens, having no structural value? The partitions have no structural value; the piers have.
473. Then you could alter or re-arrange the rooms at any time hereafter? Yes.
474. Without interfering with any walls which carry weight? It is designed purposely for that—for the shifting of partitions, irrespective of construction.
475. Would it cost much to take a wall down? Very little.
476. Would the kind of wall you speak of be as dear as lath and plaster? About the same.
477. It would cost no more to take down than a lath and plaster wall? It would cost no more and would be much cleaner.
478. You could shift these walls backwards and forwards? You could do that. We have gained experience from the Works Office. We have been constantly shifting structural walls in that building, which is a great mistake.
479. So that if these Departments should give up the building, and some other Department required quite a different arrangement of the rooms, you could adapt these screen walls to the new requirements? Quite so.
480. Could you move these walls bodily, without knocking them to pieces? No; a difficulty would occur with regard to the floor.
481. Could you use the same material over again? Yes.
482. It would be a comparatively economical thing to alter the size of the rooms? Yes. It would require no girders, and no cutting or making good.
483. It would not interfere with the safety of the building in any shape? In no shape whatever. And the floor is equally strong in any position to carry the weight that this partition would throw upon it.
484. *Mr. Watson.*] In reference to stone, is there any particular description that you intend asking for? No. We never specify the quarry from which the stone is to be obtained, because that is not an advisable thing. But we should take the best sample offered to us. I do not care whether it came from Pymont, Waverley, or elsewhere. As long as we are satisfied as to the quality of the stone, the quarry is of no matter.
485. Since questioning you yesterday on the subject, I have been informed that the cost of cutting or working the Purgatory stone is something like 5d. per cubic foot more than the cost in the case of the ordinary block stone from Pymont or Waverley? I should not be at all surprised. There is very little Purgatory stone used now.
486. There is some Purgatory stone being used at the Post Office at the present time, and the cost of the working I am informed runs into an additional 5d. extra? I should think that would very likely be the case.
487. So that in comparing the cost of the work under the day-labour system at the Post Office with the cost in the case of any other building, it would be proper, if that is so, to take that fact into consideration? If the whole were built of Purgatory stone it would.
488. To the extent that Purgatory stone is used it would be proper to take that into consideration? Yes, undoubtedly.
489. In this case, you do not think it will be necessary to ask for Purgatory stone? I do not think so. Purgatory stone should be used more for pavements where much wear and tear is expected, and for basements and walls and so-on. It is not at all necessary to use that particular kind of stone for the faces of buildings.
- 490.

490. If it were used for cornices and so on, do you think it would be less liable to fret than the softer stone? I do not think it would—they are both of the same composition.
491. The mere initial hardness of the stone would not render it less liable to the action of the weather? I should be inclined to say it would not. But there are really no means of accurately judging. Purgatory stone is only a modern stone. We cannot tell the effect of years upon it.
492. Being at a lower level, it has only been quarried recently? That is so.
493. Do you know the cost of the recent additions to the General Post Office per foot—that is, as far as the stone is concerned? I made a return a short time since to the Minister, and I think it was 3s. 6d.
494. And that was less than the cost of the work carried out at the Art Gallery? Yes, we calculated one against the other, and we found it was rather less.
495. Is the work at the Post Office done by day labour? Yes; but the return was not sent with the view of comparing the two systems as regards day labour. It is only fair to explain that the character of the work was somewhat different. At the Post Office, there is a considerable amount of plain Ashlar stonework; although against that there is the great height and rise of the building. The Art Gallery on the other hand is all finished work at a moderate height from the ground, and I think that, if anything, the advantage should be with the Post Office.
496. Notwithstanding that they are carrying out alterations instead of erecting a new building? I think so, because there is such a great bulk of plain stonework, and we had the advantage of good cranes.
497. Do you think that the advantage would be to the extent of a difference in cost of 7d. per foot? No; I do not think so much as that.
498. Not nearly that amount? No; I do not think all of it. I am only saying that in comparing the two you must not simply take the figures; you must take other things into consideration, if it is possible to get a comparison. We are quite satisfied with the result of the Post Office.
499. Do you think it would be impossible to get efficient supervision for the construction of this new building by day-labour, or sufficiently efficient? It is not impossible, of course, but there is a limit to the efficient supervision that can be given to any building. A contractor, no matter how large his firm is, will only take work up to a certain extent. Directly the work becomes unlimited or beyond his powers, then he is going to lose money at once. I take it that day-work by the Government should be treated in exactly the same way. When it has reached the limit of fair and close supervision it should remain at that.
500. But I should imagine that the limit would practically depend upon the possibility of getting subordinate officers whom you could entrust with the work. For instance, the Railway Commissioners manage a very big business, and they only manage it by getting subordinate officers upon whom they can absolutely depend. Would it be impossible to get a subordinate officer to superintend the erection of a building like this; I mean, would it be practicable? There is no comparison between railway work and building operations.
501. Are not railway deviations somewhat of the same character? No. In the case of deviation works you cannot have more than three or four items of labour. One item would be excavating in soil, another in rock, and the carting and the levelling. Probably those would be the whole of the items in connection with an expenditure of about £10,000. In the erection of a building you have hundreds of items, and hundreds of different kinds of material, and unless they are bought well, and worked well, and efficiently supervised in every respect, you are going to have a loss at once. That is the difference between the two—one is much more complicated than the other.
502. There is a difference in degree? Yes.
503. You are of opinion that you could not easily get the services of a man competent to superintend this work on whom you could rely? I will not say that for a moment, because I believe there are plenty of people fully competent to carry it out, and thoroughly conscientious, and who would work to the best advantage of the Government; but, after all, the responsibility rests upon those directly responsible to the Minister.
504. That applies to our vast Public Works Department generally? Yes; take my own instance. If I had day work all around me I should feel my position was not worth holding. I could not do it, there would be too much responsibility.
505. But I should imagine that increased responsibility would be recognised in the usual way? Yes, in the usual way.
506. However, you do not feel inclined to recommend the construction of this building by day labour? No. Where there are alterations in buildings, and where there is displacement of officers, which must be specially treated, I think that is a good opportunity. The Minister the other day approved of adding two storeys to the Custom-house by day labour, and that was a case in which the system could be tried to advantage.
507. I understand that the difference in cost in the first instance of which I spoke amounted to something like 7d. per cubic foot. Assuming that it only amounted to 3d. per cubic foot, in a large building such as this, if it were possible to effect the same saving by day labour, would it not be worth while to incur the extra expense if necessary to get another officer to take charge of the work? The fear is that I might drop the 3d. per foot on something else. That is the difficulty. There are so many items—hundreds of thousands of items.
508. Do you know whether any attempt has been made to test the quality of the stone at Cockatoo Island and Glebe Island, on properties owned by the Government. I understand some of the Glebe Island stone has been used on the Parramatta Road, and at various other places, and that the dock at Cockatoo Island was made with the stone there. Do you know whether either of these stones is equal to Waverley? Not for building purposes. At Cockatoo Island there is no doubt the stone is very suitable for dock purposes, where it could be used in large blocks, and where the appearance did not matter; and my experience of Glebe Island stone is that it contains too much iron, and the stone becomes of a very dark colour, and I think decay sets in very quickly. That is my impression of Glebe Island stone for building purposes; but for large sea-wall purposes, I should say it was suitable, where there is no great strain on it.
509. You would not care to recommend it for building? No, not without very great judgment.

John Charles Maynard, Under Secretary, Department of Public Instruction, sworn, and examined:—

J. C.  
Maynard.  
16 Feb., 1899.

510. *Chairman.*] You have been in communication with the Government Architect with reference to the proposed building? I was a member of the Board appointed to consider the propriety of putting up this building, but we did not initiate the scheme. Some years ago an application was made from our Department for more accommodation, but that lapsed in some way, and we heard nothing about it until lately. When it was proposed to erect this building, we were invited to confer with the other Departments concerned.
511. With the view of giving you better accommodation? Yes; of course, our former application was with them.
512. Your present accommodation is not sufficient? It is too small; there is no doubt about that.
513. *Mr. Levien.*] When did the Departmental Board, of which you were a member, sit? Just before Christmas—about four or five months ago.
514. Was that the first occasion on which you were consulted in reference to the matter? Yes.
515. How long have you been in the Service? Thirty years.
516. And as an Under Secretary? Nearly five years. The application for the enlargement of our accommodation was made, I think, some five or six years ago.
517. Did you make that application? No; I had nothing to do with that.
518. How many clerks are now employed in your Department? Clerks and inspectors, and all other officers? Eighty-five.
519. Where are those eighty-five employed? All in the main building, except the cashier's branch, and the clerks of works and inspectors.
520. How many are employed in the main building? Sixty-two.
521. How many rooms are there in the main building? Twenty-four, including stores.
522. Do you find the building much too small? Yes; it is much too small.
523. What is the largest number of clerks employed in one room? Fourteen in the Account Branch.
524. What is the size of the room? It is divided into three, with a total area of 1,200 feet.
525. Have you seen the plans of this new building? Only the plans now before the Committee.
526. Has the Minister seen them? I think not.
527. So that there has been no conference or consultation with the Minister so far as these plans are concerned? No.
528. Are your offices convenient or inconvenient? They are not very inconvenient, except that they are overcrowded. They are very compact, and that is a great advantage.
529. It is an advantage to have them under your direct supervision? Yes; all close together.
530. In regard to the Minister's room—is that sufficient? It is a pretty good room, it contains 408 feet.
531. Do you think that is sufficient for the purpose? I think so. It is not as large as Ministers generally have.
532. Do you think it is sufficient? No; if I were building I should build a bigger one than that.
533. The Minister has had to receive large deputations—has he found no inconvenience owing to the size of the room? It is a pretty good room; I should find no fault with it.
534. The Minister has never made any complaint as to the size of the room, or any want of accommodation, so far as he is concerned? Not that I know of.
535. Apart from the present Minister, have any of the other Ministers complained? Some two years ago, I think, an ante-room was added to the Minister's room. Before that there was complaint that the Minister had no place to wash his hands.
536. Is the ante-room sufficient? Yes.
537. So that there is plenty of accommodation so far as the Minister's room and his ante-room are concerned? Yes.
538. Are you reasonably well provided for? Fairly well.
539. What is the size of your room? 221 feet; that is about 18 by 12 feet.
540. Do you ever have to receive deputations? Only individuals—one or two.
541. And teachers? Yes, one or two at a time.
542. And you find the room quite sufficient for all purposes? I should like it to be a little larger; but I should never grumble about it.
543. Who is the next in command? Suppose we take the clerical staff—the chief clerk, Mr. Gibson.
544. What is the size of his room? 310 feet; that is about half as large again as mine.
545. Do you think that is quite sufficient? Yes.
546. Who is the next? The chief corresponding clerk—he has 189 feet.
547. Is that sufficient for him? I think so.
548. Referring to the room which the Account Branch occupies—what is the size of that? 1,218 feet.
549. Is that sufficient for all purposes? It is very insufficient. That is the worst room in the building, the most overcrowded.
550. What space do you think is wanted for that staff? About 2,000 feet.
551. Do the clerks suffer or complain as to want of air space? Yes; each clerk has a big desk, and when you have fourteen of these desks in a room, they take up a great deal of space.
552. Do you not think that in all these offices there is too much space taken up by furniture and desks? It is not the case in our Department. These desks are all round the walls; the clerks cannot do without them.
553. So that you think there is little enough office furniture for the requirement of the room? Yes.
554. And it is economically arranged? Yes; we have not a bit of spare furniture of any kind.
555. I suppose the great drawback is the want of air-space? Want of space generally. I suppose you might call it air-space.
556. It is a very old-fashioned building, is it not—both the building and the rooms? It is a very old building. I suppose it is the oldest Government building in the city.
557. There are no modern arrangements for ventilation or anything of that kind? No; the ceilings right through the building are very low.
558. Are there any rooms for the security of valuable documents? Only the iron safes. That is one great defect about the building—we have no strong-room.
559. What is the next largest room in the building? I think the Chief Inspector's.
560. How many use that room? Only one.

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561. What is the size of it? 435 feet.
562. That is a much larger room than yours? Yes.
563. And I suppose he is frequently away from his office? Not very frequently.
564. I suppose he wants a large room because he has a great deal of correspondence and interviewing? Yes.
565. Do you think that room is sufficient? Quite sufficient.
566. How about the ventilation of the room? The ventilation is very bad; there is no proper ventilation. There is none in any of the rooms.
567. So that you want more modern appliances, a more modern style of room as regards air-space, and more modern sanitary arrangements? Yes; and we want store-rooms and strong-rooms.
568. How many are there in the Record Room? Eleven clerks.
569. What is the size of that room? There are two rooms, with an aggregate space of 1,130 feet.
570. What do you say as regards the convenience of that room? It is not nearly sufficient. There is no room to store away the records.
571. And as to the air-space for health purposes? There is no proper ventilation at all.
572. In your opinion, are those two rooms overcrowded? Yes, both of them. There is no more room to store the records.
573. And not sufficient room for the necessary desks, tables, and other appliances necessary to carry on the work of the office? No. What we proposed was to double the size of the room.
574. Are there any more rooms which ought to be enlarged and the air-space increased? The air-space or the ventilation ought to be increased all over the place.
575. Is Mr. Sircom employed in the main building? No, in a rented building. The cashier, the clerks of works, and the inspectors, with the exception of the chief inspector and deputy chief inspector, are all in rented buildings.
576. Are the principal rooms to which you have referred—those occupied by the chief clerk, the correspondence clerks, the account branch, the chief inspectors, and the records—are these all in the main building? Yes. Then there are four rooms, one containing five clerks, and the other three containing four clerks each, and they are all too small.
577. You think they want more modern appliances for ventilation? Better shaped rooms altogether, and a different style of room.
578. I suppose you have a great many interviews with teachers and others who come down in holiday time;—what do you do with these—where do they have to stand? They have to stand about in the passages and in the messengers' rooms.
579. There is no other accommodation for them? None at all.
580. Do you not think it is necessary to have a room into which these persons could go when they come to the office? Yes; we propose that.
581. There is no such room available in the present building? No.
582. In fact, these visitors have to stand about the corridors and passages, and in the messengers' rooms, and wherever they can get? Yes; there is no other accommodation.
583. And I suppose the number asking for interviews during the holidays is very great? Yes; very great.
584. Is there anything further you would like to say with reference to the building, and the increased accommodation necessary? I do not think you could improve the rooms, because that would mean taking the building down, and taking the roof off.
585. What rent do you pay for the rooms occupied by your Department in Young-street? There are two places, for which we pay £200 a year each.
586. How many rooms? One is occupied by the inspectors and the cadet officers. Five inspectors and three cadet officers occupy three rooms. Three doors above that building, in the same street, we rent another place, occupied by the cashier and the clerks of works, for which we also pay £200 a year. In the cashier's office there are six clerks in one room, and in the other room there are nine including the Chief Clerk of Works. There are only two main rooms in that building.
587. There are fifteen persons in those two rooms? Yes.
588. And for those two rooms you pay £200 a year? Yes. The rooms were originally divided by wooden partitions.
589. Are these clerks of works under the Government Architect, or under the Architect for Public Instruction? Under the Architect for Public Instruction.
590. You have a separate architect for your Department? Yes.
591. Are the clerks of works always in these rooms? Yes; they are draftsmen and clerks.
592. They are permanently engaged in the place? Yes, the draftsmen and clerks.
593. What is done with regard to the clerks of works who come from the country;—do they have to go there too? Yes; there is no other place.
594. You have to find room for them when they come? They simply go into the same room—the big room.
595. Do you think there is sufficient accommodation for them? Certainly not; it is most insufficient.
596. What about the light for drafting work? It is very bad.
597. And what about ventilation? There is no ventilation, except by means of the window.
598. Have you had any complaint from the inspectors or clerks in either of these rooms complaining about the air space and ventilation? Not from the inspectors, but the cashier and the clerks of works are always grumbling about it; and not without good reason, for there is no doubt they are very much overcrowded in those two rooms.
599. And I suppose great inconvenience is caused by having to send records to and from the main building? There is not much in that.
600. Do you not think it would be much more convenient for all purposes to have the whole of the officers under one roof? Certainly. Still it does not make any great difference, they are so close to us. It is only just across the road. But it would be better to have them under the same roof.
601. I suppose no interviews take place in those rooms? The officers have to see contractors and people tendering.
602. Do you not think a room is required for the accommodation of contractors and other visitors requiring information? We suggest that in the new buildings.
603. There is no such accommodation at present? No.
604. The Department of Labour is under your control, is it not? Yes; that is in the main building.
605. How many clerks are there in that branch? Six, including the Chief Clerk, a lady inspector, two inspectors, and a clerk.



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606. How many rooms have they? Four little rooms.  
607. Is that accommodation sufficient? No.  
608. They want a room also for employers and employees who come to the Department? Yes.  
609. And also for the general public, who have to interview the Chief Clerk with reference to prosecutions in connection with different trades? Yes; we propose such accommodation in the new scheme. We propose five rooms.  
610. Apart from the Labour Branch, of what number does the staff of your Department consist? Seventy-nine.  
611. How many of these are in the main building? Fifty-six, and twenty-three in the rented buildings.  
612. How many rooms did you propose in the new building for the general staff of the Education Department, apart from the Labour Branch? I have here a proposal that was laid before the Board, but it was thought that a building could not be constructed large enough to give the accommodation asked for, and so it was reduced, according to the following figures:—Minister's room, 26 by 20 feet, with an ante-room 15 by 20; Under Secretary, 20 by 20, with an ante-room 15 by 15; Chief Clerk, 20 by 20; Correspondence Clerk, 15 by 15; four clerks in the Correspondence Branch, one room, 30 by 20. That would be 600 feet instead of 627. Practically, we want less room there. Records, two large rooms, 56 by 20, making 1,120; Cashier, two rooms, 28 by 20, or one room 56 by 20; messengers' and waiting room; we want three rooms altogether for them; Clerk of Works, two rooms, 28 by 20 and 20 by 20, and a room for contractors 16 by 16. At present we have no strong-room, and nothing except iron safes standing about the passages. We propose to build two strong-rooms, 20 by 20, for the storage of all our records and valuable papers. At present we have no library or Board-room. It is proposed that we should have a room in the new building 30 by 20. The Chief Inspector is to have a room 20 by 20, which is somewhat smaller than the present room; Deputy-Chief Inspector the same, and a messengers' room and waiting-room 20 by 20. That waiting-room is intended for visitors to the Chief Inspector—the teachers who come to the office. The five inspectors and one country inspector now occupying the rented building we propose to put into two rooms 15 by 15 each. At present we have no store-rooms or dry cellars. We propose to build a large one 30 by 20. This is for stationery, records, and materials to be sent out to teachers. We propose one room 24 by 20 for the Cadet Office, with a military store and workshop. With regard to the Department of Labour and Industry, I have already given the figures. Then we allow three more rooms for further expansion. Our present accommodation is 12,608 feet.

FRIDAY, 17 FEBRUARY, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

John Charles Maynard, Under Secretary, Department of Public Instruction, sworn, and further examined:—

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613. *Mr. Shepherd.*] I think you said yesterday that there were twenty-four rooms in the main building occupied by your Department, accommodating sixty-two officers? Yes.  
614. Are all the rooms occupied by officers? Yes.  
615. Do you think that by some rearrangement you could manage to prevent the overcrowding that seems to take place in some of the rooms;—for instance, the Chief Inspector has a room of 435 feet, and there is another room of 367 feet, in which there are four clerks;—in that case one officer has a great deal more than four officers? The Chief Inspector must have a room for himself. He cannot share a room with any other person, because so many people come to see him on confidential business; and there is no other room in which he could be put. He could not very well change his room with that occupied by the four clerks.  
616. Is there no method by which you could rearrange these offices? I do not think so; it has been tried over and over again.  
617. Is there sufficient space on which to put up an additional room or two? Yes; I think that could be done. But the space is pretty well covered. The space is chiefly in front where the fig-trees are. We have never contemplated building on that.  
618. What additional space do you think would be required on the site in order to accommodate the whole of your officers? The space at present covered by the rooms is about 14,000 feet, and in the proposed new building we ask for 21,000 feet, so that an additional space of 7,000 or 8,000 feet would be required.  
619. You say you have an architect in connection with your Department? We call him the Chief Clerk of Works; it is the same thing.  
620. Have you ever consulted him in reference to providing additional space? Yes.  
621. What is his opinion? He cannot do anything. Of course we could put up new buildings on the same ground; there would be no difficulty about that; but there is not very much space.  
622. And I think you spoke of the ventilation being very defective? It is very bad.  
623. Have you ever heard of any illness occurring from that cause? No.  
624. Have you ever consulted the architect with regard to providing improved ventilation? No.  
625. Considering that in any case it will be a considerable time before the new buildings are ready for occupation, do you not think it would be wise to do so? Yes; that might be done. Some ventilating-tubes might be put in, or something of that sort.  
626. Are you likely to have any addition to your staff in the near future? No great addition, I think.  
627. In the event of Federation being brought about, I do not suppose it would interfere with your Department? That I could not say.  
628. *Mr. Watson.*] I understand that yesterday you agreed with a suggestion that you might be able to point out to the Committee to-day the proposed arrangement of the rooms on the various floors you are to occupy in the new building, if erected? Yes. I went through the plans this morning with the Chief Draftsman, and we allotted rooms to the different members of the staff. It is understood that this is not final,

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final, but it will show the way in which the rooms could be allotted. Beginning with the ground-floor plan, it is proposed to place near the entrance the officers who have most business transactions with the public, and who are in the habit of receiving visits from teachers and others. I may explain, that when we came to look at this plan, we found that the rooms have a width of 20 to 25 feet. In the arrangement of our space we had provided for rooms 15 by 15. The room near the entrance, fronting Bridge-street, on the ground-floor, we have given to the Chief Inspector. It is 23 by 16. Opposite the Chief Inspector, on the other side of the corridor, where the rooms have a width of 20 feet, we have put the Deputy Chief Inspector, the size of his room being 16 by 20. Next to the Deputy Chief Inspector there is a waiting-room for the accommodation of persons who come to see the Inspectors, the Accountant, and the Cashier. The other part of the ground-floor on the Bridge-street frontage we propose to give to the cashier, the size being 44 by 24. This would be occupied by six officers including the Cashier.

629. The Cashier would require a great deal of desk space;—I suppose that accounts for the large room allotted to him and his staff? Yes. Then, still on the same floor, we propose to give the northern end of the Phillip-street frontage to the Accountant. We propose to give the Accountant and his staff three rooms, his own room being 12 feet by 23 feet.

630. You think it advisable that he should be isolated from his subordinate officers? Yes; a great many people come to see the Accountant on official business, and they would not care to conduct their conversation in the presence of clerks. We propose also to give a large room, forming part of the inner section of the Phillip-street frontage, to the Accountant, its dimensions being 53 by 20. We give to the Accountant a space of 700 superficial feet on the Phillip-street frontage, and 1,060 feet in the inner section of rooms along the Phillip-street frontage. This makes a total of 1,760 feet for fourteen officers. The next room—65 by 23—in the Phillip-street frontage, we propose to give to the Labour and Industry Branch, representing 1,495 superficial feet of space. This will accommodate six officers.

631. That practically disposes of the ground-floor, so far as your Department is concerned? Yes.

632. Do you think it would be possible to arrange, so that a small waiting-room would be provided for the Labour and Industry Branch out of the space you have allotted to them? I think so.

633. On the first floor, what is the allotment of space? That is where we propose to put the Minister and the Correspondence Branch. On the western end of the Bridge-street frontage, we propose to give the Minister a room, 23 by 25, and further east an ante-room, 20 by 11, and the Under Secretary will occupy a room on the eastern extremity of the Bridge-street frontage with a superficial area of 550 feet. In the Phillip-street frontage, facing the light area, we have the Ministerial waiting-room, 20 by 18, or 360 superficial feet. To the east of that we have the Under Secretary's ante-room, the area of which is 20 by 11. In the Phillip-street frontage, we start at the northern end with an office, 21 x 18. The correspondence clerks, twenty-one in number, will occupy a room facing Phillip-street, 82 x 23, and a room, 42 by 20, facing the light area on the Phillip-street frontage, and then there is a small room for the First Clerk of 20 by 11, which also faces the light area on the Phillip-street frontage. That disposes of the first floor. On the second floor the whole of the Bridge-street frontage will be taken up by two record rooms, one facing the street, and the other facing the light area. These would be occupied by eleven clerks. The records themselves will take up a great quantity of the room. The room at the northern end of the Phillip-street frontage, on the second floor, we propose to give to the inspectors, of whom there are six. The room is 40 by 20, and we propose to subdivide it; and there is another room, 33 by 24, facing the light area on the Phillip-street frontage.

634. Do you think the whole of the space in these two rooms would be required for the use of the inspectors? I think so. The room facing Phillip-street, further south, is to be for the use of the Clerk of Works and draftsmen, the superficial area being 1,486 feet; and facing the light area on the Phillip-street frontage there is a small contractors' room, 20 by 12. I now come to the third floor. On the western end of the Bridge-street frontage, we propose to allot to the Cadet Office, with three officers, a room 22 by 15, with a superficial area of 330 feet. Facing the light area on the Bridge-street frontage there is a room 30 by 20, with an area of 600 superficial feet, which is proposed to be used as a store-room and workshop for the cadets. On the northern end of the Bridge-street frontage there is a library and Board-room with a superficial area of 1080 feet. That disposes of the Bridge-street frontage. On the Phillip-street frontage we come to a part of the building we really do not want. The room at the northern end of the Phillip-street frontage, with an area of 550 superficial feet, might be given up to type-writing and extra correspondence. That is only a small portion of the Phillip-street frontage on the third floor. The balance we have no special need for. On the Phillip-street frontage facing the light area there is a large room of 1,040 superficial feet, which we shall require for stores.

635. *Dr. Garran.*] What stores have you? All the material for the schools, such as forms, and all the stationery.

636. Does not the contractor keep these? No; we have a separate contractor for the books, &c.; but we keep our own forms and stationery.

637. *Mr. Watson.*] Could you give the Committee an idea of the amount of floor-space which you would not require on the third floor? About 1,400 feet.

638. Do you anticipate any great expansion of the Department within the next few years; I mean the administrative part? No.

639. You have skeleton machinery, administrative machinery, all over the Colony, pretty well? Yes.

640. And there might be a material increase in the number of schools without any corresponding increase in the administration of the Department? Yes. The only direction in which there might be a little increase would be in the Accounts Branch and the Architect's branch.

641. Has your Department considered the propriety of transferring the Architect's Branch to the control of the Government Architect? That has frequently been considered. It could not be done. It would be too expensive for us, and it would take too long a time.

642. Is it not a fact that you have practically decided on your various types of buildings, and, therefore, there is comparatively little architect's work involved in the erection of new buildings? Very little.

643. Practically you only require clerks of works? And draftsmen.

644. All your types are practically decided upon? Yes.

645. So that you do not require original plans? No; unless in the case of a peculiar site.

646. And then the plans have to be altered to fit it? Yes.

647. You are quite assured that it is not convenient or economical to remain in your present premises? I think it is economical, because the rent we pay is very small—£400 a year for branch offices.

648. Do you know what is laid out annually on your main building? I could not say; it has been patched up at different times.

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649. I mean the amount expended in repairs? I could not say.
650. Does it take much money to keep it going? Very little. It is very soundly built; the walls are very thick.
651. Did you concur in the recommendation or suggestion of the Departmental Board to the effect that that building be pulled down when vacated by your Department? I do not think we recommended anything about that building.
652. I understood there was a suggestion from the Departmental Board to that effect? I do not recollect it.
653. At any rate you have not, so far, concurred in that suggestion? I do not think we considered that at all.
654. If it is economical to continue in occupation of your present building, do you think the Department can be worked with sufficient expedition;—can you get through your work as expeditiously when you have some of your offices a little distance away? I do not think that makes any difference. The distance is so short, it is only across the road.
655. With your knowledge of the conditions under which you are working, do you think it is a proper thing for the State to expend a large amount of money in putting up new buildings? That is a matter of policy I could not express any opinion about.
656. Do you think it is necessary for the proper working of your Department that you should have larger offices than you occupy? It would be much more comfortable. But if you mean, could we go on as we are going for a considerable period, I should certainly say, yes.
657. Without serious inconvenience to the officers or to the State? Some inconvenience to the officers, but not more inconvenience than we have experienced in the past; and what we have done for several years we could continue to do for several years.
658. Do you think, as the result of your remaining, that there would be any serious inconvenience to the public in respect of getting the work done? No; certainly not.
659. And as far as the inconvenience to the officers is concerned, do you think that could be obviated by a better system of ventilation? To some extent, I daresay; but that would not enlarge the rooms.
660. It would make the conditions a little healthier? Yes.
661. I gather, then, from your evidence, that as far as your Department is concerned, there is no urgent necessity for the construction of a building of this character? I should not say there was any great necessity. In fact, we never moved in this matter at all. We have not raised any question about the building; but if you are going to build we should like to have things comfortable.
662. *Dr. Garran.*] You are to have rooms on four separate floors? Yes.
663. If you had your own choice, would you rather have two complete flats or have half of four separate floors? Half of four floors.
664. It would suit you better? Yes.
665. Your Department subdivides itself pretty conveniently. Yes.
666. How often are your country inspectors in town? Never, except on holidays.
667. Then you do not provide rooms for them? No.
668. Do they require desks on which to do any writing when they are in town? No; they never come to Sydney except on holidays.
669. They do all their writing in the country and forward it? Yes.
670. Do the metropolitan and suburban inspectors write up their reports in the office? Yes.
671. Are they out during school hours? Yes; nearly every day.
672. Then they are not much at the office in the middle of the day? You may say that they are at the office every Saturday, and generally one day in the week; and they come to the office every morning to get their correspondence.
673. Each inspector would require a separate desk or table? Yes.
674. But they would not require separate rooms? Well, I think they ought to have separate rooms. A great many teachers visit them on school business.
675. That would be after hours? No; on Saturdays.
676. That is the time when the teachers visit the inspectors? A great many teachers visit them on Saturday morning.
677. And you want to give every metropolitan inspector a separate room? I should not like to put more than two in a room. They work together in pairs. Two will take one part of the town.
678. And the conversation is partly confidential? Partly confidential between the teachers, the inspectors and the public.
679. You say that your plans for schools are all pretty well finished;—but is it nobody's business to keep you up to date, and to see that you are not missing any improvements introduced in England, America, or Germany? I think we all see those sort of things; we get every kind of report from all parts of the world.
680. But you have not all time to read up these architectural matters? I think we have; we do, as a matter of fact.
681. You keep your eye going as to the lighting of schools, desks and seats, and matters of that kind? Yes, every kind of seat that is invented; and we generally try them in practice.
682. You have settled down to what you think is best? Yes.
683. And your inspectors, in their visits to other colonies, see what progress is made in these matters? The officials in the Architect's Branch are very careful indeed to acquaint themselves with all these various matters.
684. You were talking of putting typewriters on the top floor if necessary;—but if a Minister or Under Secretary wanted to dictate to a typewriter, he would want that typewriter close to his elbow? Yes.
685. The typewriter ought to occupy a little room off the Under-Secretary's room, if it could be managed, instead of being in the top of the building? The typewriter, as a rule, is brought down. If a deputation waits upon the Minister, the typewriter comes into the Minister's room.
686. Does he work the machine while the deputation is going on? He does not work with a machine, but in shorthand.
687. But I am speaking of typewriting;—do you use a typewriter yourself? No.
688. I thought, perhaps, the Minister might want to dictate correspondence or other matter to a typewriter? No; we have no cases of that kind.
689. You dictate to a shorthand-writer always? Yes.
690. Do you use typewriters in the Department at all? Only two. But several of the clerks can type-write if we want anything extra.
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691. You think it would not be inconvenient to put all that work at the top of the building? I do not think so.
692. If your Department grows, as it will grow with the population, the number of your inspectors will increase a little? Yes; but that would be chiefly in the country.
693. Only a little in the suburbs? That is all.
694. Could your metropolitan inspectors do an additional number of schools now? They could not do an additional number, but the population in the city could not increase very much.
695. But in the suburbs? The suburbs are all provided for. They come into the country inspectorships. The city we count up as far as Burwood.
696. But your staff is big enough now for an additional number of schools without any increase? Yes, in the country.
697. *Mr. Dick.*] Does the collection of fees and the registration of documents take up much time in your Department? Yes, a good deal.
698. How many officers in the Department are occupied solely with that work? No one is occupied solely. The work is spread over different branches. Some of it is done in the Accountant's Branch, and some in the Cashier's Branch.
699. It involves a great deal of work? A great deal of work.
700. In view of the fact that it is more than likely that education will be made not only compulsory but free, do you think the Department is likely to require nearly as much space as that allotted to it in this building? I do not think that would make any difference.
701. It would not necessitate any material reduction in the number of officers? No.
702. You spoke yesterday of the necessity for strong-rooms;—have you any valuable documents which require to be housed in strong-rooms? We have the whole of the teachers' insurance policies, and thousands of cheques, towards the end of the month, besides certificates. There is a great deal of valuable property in that way which we require to place in a strong room. There are also the records of the teachers—papers with the history of every teacher.
703. How are these documents secured now? In iron safes.
704. And it is absolutely necessary that you should have proper strong-room accommodation? It is very necessary.
705. What are the store-rooms for? The whole of the stationery is stored there. The whole of the correspondence, which is more than two years old, is stored there, and old records going back twenty or thirty years, which we dare not destroy, are stored there. There is a great quantity of matter of that kind we dare not destroy, and must have room for.
706. Then the accommodation is more for old records than for stores? Yes.
707. You allotted certain space for a library;—what sort of a library is it? We have not one at present, but it was always thought that we should have one. Sir John Robertson was very anxious that we should establish a library, and authorised the expenditure of £100 a year for the purpose. We never expended anything, because we had no place to put any books, and so we thought that in this new building it would be just as well to establish a library. It could be used also as a board-room.
708. Would the library consist mainly of works on the art of teaching and allied subjects? Everything connected with education.
709. You have no library in the Department now? No; except individually. There are a good number of books in my office, and a good number in the Minister's office. They are scattered about, and there is no proper provision for them.
710. We had some evidence yesterday from Mr. Vernon, concerning the necessity for a museum in the new building. As an expert in education, do you think it is wise to expend money in the multiplication of museums close to one another? No, I do not.
711. With regard to the arrangement of the furniture, in view of the probability of this building being erected, have you made any inquiries as to any improved method of arranging the furniture for the clerks? No, I have never thought of the furniture at all.
712. Do you propose to remove the antiquated furniture you have at present to the new building if it is erected? We should remove everything, I suppose—everything that is fit for use.
713. Do you not find the present furniture somewhat inconvenient? No; our rooms are so small that we are obliged to put up with very little furniture. We are not extravagant in that respect.
714. In going through the list of rooms, I did not hear you mention any accommodation for the technical branch of your Department? That is already provided for in the Technical College at Ultimo.
715. There is a somewhat growing manifestation in your Department in the way of athletic sports;—is there any provision in that respect? The teachers manage that themselves in connection with their schools.
716. There is no necessity to afford them any accommodation in this building? None at all.
717. In the country districts, is it not usual for the local inspectors to superintend the building of schools to a large extent? The small ones—the small wooden buildings.
718. And in the case of larger buildings, you send your clerks of works? Yes.
719. Do you think you could get accommodation in the Government Stores Branch for the stores you at present keep in your building? I do not know the Government Stores Branch; I do not know anything about the accommodation there.
720. Is there much space used in your present building for that purpose? There is a big cellar underneath the building, into which all the stores are crowded.
721. That cellar would not be suitable for clerical work? No.
722. What officers constitute the Cadet Branch? The Superintendent, Colonel Paul, and the drill sergeant.
723. What work is done in the workshop? The repairing of the weapons.
724. *Mr. Trickett.*] When you went through the plans with Mr. Watson just now, you seemed to have a little difficulty in filling up the space; there was ample space for all your requirements; looking at the minutes of the proceedings of the Board of which you were a member, I see that the resolution come to was:—"That the Public Instruction Department should be provided with 19,676 feet, which would appear to embrace all reasonably-expected increase consequent on further development," and the Board reported accordingly; now we find in the plans placed before us a space of 22,786 feet; that is 3,100 feet more than the Board said was necessary;—does not that seem rather a reckless way of building? According to my allotment of the rooms the space for my Department comes to about 19,000 feet, which is the quantity we wanted.
725. So that in the plan submitted to the Committee for consideration there is a space of 3,786 feet, which

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which you will have to find means of filling up or else leave vacant? The space of 22,786 includes the strong-rooms.

726. It was quite evident when you were going through the plan that more room was provided than was absolutely required? Yes; because we allowed something like 2,000 feet for expansion.

727. There are four strong-rooms provided, one on each floor; will they be necessary? I think so.

728. During the discussions of the Board, you stated that a great many visitors attended your Department, and that you would not like to be placed higher than the second floor;—is that still your opinion? Yes.

729. That is for the officers of the Department who come in contact with the public? Yes.

730. But the floors above, I suppose, would be occupied by officers whose position there would not cause any inconvenience to the public? Yes; that was our idea.

731. Are you still of opinion that the accommodation now occupied by the Mines Department in the Lands Office would not be suitable for your Department? It would not be suitable for us. It is too rambling; it is all over the place.

732. So that if new buildings were erected and the Mines Department vacated their present offices in the Lands building, you could not conscientiously say that they would be suitable for the Education Department? I would rather retain our present buildings than take those offices in the Lands Department.

733. They are not desirable? Not desirable for us.

734. Is your Department interested in the museum that would be attached to the Mines Department? No, we have nothing to do with that.

735. Would it be of any advantage to the teachers or students connected with your Department to have a mining museum so close to you? No; it does not concern us in any way.

736. I notice that in the conference of Under Secretaries you said that your Department had the worst accommodation of any of the public offices;—is that still your opinion? There is no doubt about that.

737. You are not pressing for a change, you can get along as you are, but your offices are not suitable or sufficient? That is so.

738. I find this entry in the minutes of the Board:—

Mr. Maynard was of opinion that the outer branch, Labour and Industry branch of his Department, might very well be left out altogether.

Will you explain what that means? That does not refer to the Labour and Industry Branch proper, of which Mr. Clegg is chief clerk. It refers to Mr. Creer's relief branch at Redfern, where 200 or 300 men roll up every morning. I thought they might be left out.

739. You did not wish to make permanent provision for anything of that kind? No.

740. Then again I find this entry—

Mr. Maynard explained that if his Department were to get one complete floor, so far as the actual amount of accommodation was concerned, there would then be no difficulty, but he could not say that his Department would be prepared to accept it. He had thought it might be possible for the Mines Department to remain in its present position. That Department had included a museum in the accommodation asked for. It seemed to him to be open to argument whether it was desirable to have a museum in conjunction with public offices, for the offices were more for the accommodation of the administrative and clerical staffs rather than the working staff and students, whom he understood Mr. Pittman wished to be in touch with.

Are you still of that opinion? Yes.

741. Having that opinion, do you think it would be objectionable to have the Mines Museum on the basement of this new building? I do not think that was the objection. The objection was this:—The idea was that the Mines Department and the Education Department, and some other big Departments—I think the Statistician and the Auditor-General—should all be put in this one building. It was the opinion of the Committee, which opinion I shared, that we might do that, provided the Mines Department did not insist on the museum. But they did insist on the museum, and that drove us to the necessity of recommending this building for the two Departments, and some other building for the other Departments. At first we thought that we could put them all into the one building, until the Mines Department pressed for the museum—they said they could not do without the museum, and so we were obliged to take the course mentioned. That was the reason of the objection to the museum.

742. Further on I find this—

Mr. Maynard thought that the key to the whole position was the museum for the Mines Department. It was evident the Mines Department would have to come out of the Lands building if that provision were to be made.

As the Mines Department insisted upon a large space for the museum, that was the lever, so to speak, which necessitated this new building, in a great measure? The building in connection with the Police and Prisons, and including the Statistician and the Auditor-General.

743. Had it not been for the Mines Department insisting on this museum, then the Public Instruction Department, the Mines Department, the Auditor-General, Public Service Board, and the Statistician would all have been included in one building? We did not work it out, but we thought they might. But when the Mines Department stuck out for the museum we did not attempt it.

744. Although you do not appear to have been closely consulted by the Government Architect as to the details of the accommodation in the proposed building for your Department, do you think, now that you have gone through the plans with the chief draftsman, that the arrangement is all that could be desired for the accommodation of your Department, including the Labour branch? Yes; I think it is more than sufficient, really; but you could not make it less by taking off a storey, because then it would not be sufficient.

745. It is naturally difficult to fit a Department exactly into a given space, and it is better to leave a little room for expansion? Certainly.

746. Do you think you have been a little excessive in your demand for space? I do not think so.

747. You have not spread the Department out unnecessarily? No.

748. I suppose, as far as one can see, the Education Department, including the Labour branch, is not likely to increase very largely as regards its clerical work? I do not think so.

749. The Department of Public Instruction has not increased for many years? No.

750. Therefore, if you got fitted into a building of this kind, it would possibly be all that was necessary for a great many years to come? Yes.

751. If the early closing law came into operation, do you think that would involve a large clerical staff and a staff of inspectors? It might require a few more inspectors, but not a very large clerical staff.

It

It would be like establishing schools. The work would be done at Goulburn, Newcastle, and places like that, and not in Sydney.

752. Although there might be a few more clerks, the work of inspection would be done by the Police? I do not know that. I do not think the staff in Sydney would want to be increased very much. Extra branches might be established in the country.

753. *Chairman.*] In answer to Mr. Watson you gave the Committee particulars of the rooms in the proposed buildings to be allotted to your Department, with the area of the rooms, and the names of the officials who were to occupy them;—could you give the Committee particulars of the area occupied by the officials in the building they at present occupy, so that the information could be used for the purpose of comparison? Yes. They are as follows:—

## PRESENT accommodation in vested and rented buildings.

Designation.	No. of Officers.	No. of rooms.	Area in square ft.	Designation.	No. of Officers.	No. of rooms.	Area in square ft.
Minister .....	1	{ 1 room, 408 ft. 1 ante-room, 308 ft. }	716	Clerk of Works.....	9	1 (rented)	623
Under Secretary.....	1	{ 1 room, 221 ft. 1 ante-room, 170 ft. }	391	Chief Inspector.....	1	1	435
Chief Clerk .....	1	1	310	Deputy Chief Inspector	1	1	308
First Clerk .....	1	1	189	Inspectors and Cadets...	8	4 (rented)	1,230
Correspondence .....	21	5	2,062	Store-rooms (cellars) ...	.....	.....	1,791
Records .....	11	1	1,130	Cadet work-shop .....	.....	.....	176
Accountant .....	14	3	1,218	Labour and Industry ...	6	4	841
Cashier .....	6	1 (rented)	935	Messengers' rooms .....	3	3	407

754. In other public buildings, are waiting-rooms provided? I could not say; I know very little about the other public buildings.

755. Have you ever been in the Lands Office? I have not, except in the part occupied by the Mines Department.

756. Seeing that there are long corridors in the new buildings, do you not think that if seats were placed in those corridors that would answer all the purposes of waiting-rooms? It would not answer very well in our Department, because two-thirds of the visitors are lady teachers.

757. In the minutes of the initial meeting of the Departmental Board, of which you were a member, I find this statement:—

Steps had at that time been taken to ascertain the exact amount of floor space required by the Department, the outcome being that the sum of £18,000 was placed on the Estimates, and voted for the erection of permanent offices for the Mines and Agriculture Department on the vacant block of resumed land facing Phillip, Bridge, and Young Streets. At the same time a provision of £14,000 was also made for the erection of new offices for the Inspector-General of Police and the Comptroller-General of Prisons on the site of the present offices of the Inspector-General of Police.

The sums mentioned there for the two buildings are respectively £18,000 and £14,000;—could you give the Committee any information as to what led to the very great increase since proposed? I do not know anything about that. We were simply invited to attend this meeting to state what we thought would be the best thing to do to provide offices for the Education Department and some other Departments. Anything connected with the money side of the question I know nothing about.

758. Although one proposal grew from £18,000 to £97,000, and the other from £14,000 to £44,810, you do not know how this increase occurred? I know nothing about that.

759. In the minutes of the Board it is stated:—

In considering one like the Department of Public Instruction an increase of requirements must be looked forward to; the total floor-space at present occupied by that Department was about 13,000 feet.

That is the space you now occupy, including the main building and the rented building? Yes; the actual space is 13,608 feet.

760. *Mr. Watson.*] That does not include the cellar or store-room? Yes.

761. You utilise it, and in the new building you will have a corresponding amount of room at least? Yes.

762. *Chairman.*] At the same meeting of the Board the minutes say:—

It was agreed that all the Departments enumerated in the papers be asked to furnish a statement giving the following information:—(a) the number of officers to be accommodated, and their several occupations; (b) the number of rooms required; (c) the same information relative to their present accommodation.

Was that information supplied to the Board? It was supplied by our Department, and I suppose by the other Departments also. That is the information I am working on now.

763. *Mr. Pittman,* Government Geologist, seemed to be very strong on the question of the museum in connection with his Department;—have you any objection to give the arguments he used in favour of his proposal? I do not recollect exactly, but he seemed to think it was not worth while going on with any change at all, unless the Mines Department had the museum.

764. So that it was the want of a museum that led him to recommend the proposed buildings? I think so.

765. And it was thought that if he did not get the museum in connection with his particular offices there would be no necessity to remove the Department. Except as regards the museum, he did not at any time complain of want of space in his present offices? He did not.

766. Is the Technical College under your administration? Yes.

767. What exhibits are there in that museum in connection with mining? Scarcely any, I think.

768. Have you room for any there? No; the room is nearly full.

769. There are mineral exhibits there, are there not? Yes; specimens, but not many.

770. Would not this new museum be for specimens too? I do not know what they propose to put in that museum. I think it is to be largely in connection with agriculture.

771. It is proposed to remove to the basement in the new building the exhibits at present in the museum located in the Domain;—do you know whether it would be possible to find room for exhibits of that sort at the Technical College? I do not think so.

772. Is the ground there all built upon? No; but there would not be any accommodation for that purpose in the existing building.

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773. You think anything of that sort ought to be concentrated in one building in Sydney? I always thought that.
774. *Mr. Watson.*] It would be more convenient for students? Yes.
775. *Chairman.*] Did the question of students come up in this connection? Not in this connection, I think.
776. Do you recollect what Mr. Pittman said with reference to that? No.
777. Did he ever contemplate having students with him in connection with this museum? That I do not know.
778. It will be required, I suppose, for other exhibits besides minerals? I do not know what they propose to do.
779. The result of the deliberations of the Board was that it recommended that a building be erected at the corner of Hunter and Phillip Streets, and another at the corner of Phillip and Bridge Streets, the latter to accommodate only the Mines Department and the Public Instruction Department? That is so.
780. Having gone more fully into the matter, do you still adhere to that opinion? We did not recommend that those buildings should be put up. We simply said that if they were to be put up, if new offices were to be provided, that was the way we should recommend it to be done. But we did not recommend that those buildings should be erected. That was no part of our business.
781. I suppose the proposal came about in this shape: There were two valuable blocks of land lying idle, and it was proposed to utilise them, and your Department was asked what portion you would require? It was put to us in this way: "If new offices are provided for you, what accommodation will you require."
782. The only objection you have to your present premises, you say, is on account of the height of the rooms, which are too low? The rooms are very low. The ceilings in the main rooms are only 10 feet high, or less, and the ventilation is very bad. The accommodation is not sufficient—not large enough. There is no fire-proof accommodation.
783. Is there any space attached to your present buildings which you could utilise by building strong-rooms for valuable documents? Very little. To do anything of that kind we should have to raise the roof.
784. *Mr. Trickett.*] In reference to the construction of the strong-rooms to be used by your Department, would it be any advantage to you to have a continuous strong-room extending from floor to floor, with a spiral staircase from the top to the bottom, or would it be more convenient to have a separate strong-room for each floor? I think it would be more convenient to have separate strong-rooms.
785. In your Department you are not likely to have very bulky records, nor would communication with the strong-room be necessary from floor to floor? No.
786. Separate strong-rooms would suit you better? I think the arrangement proposed for the strong-rooms is a very good one.

TUESDAY, 21 FEBRUARY, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.

The Hon. WILLIAM JOSEPH TRICKETT.  
WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Thomas Bailey Clegg, Clerk-in-charge, Department of Labour and Industry, sworn, and examined:—

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787. *Chairman.*] It is proposed to locate you in the proposed new building? I understand that is so.
788. Have you seen the plans of the proposed building? Yes. Yesterday I saw the plan of the portion of the building which it is intended to allot to our Department.
789. Is it suitable for your requirements? That is rather a difficult question for me to answer. Our Department, of course, is not a fixed Department, such as the Public Instruction Department; but will, I trust, develop as time goes on, so that by the time the offices are erected the accommodation we shall require may be considerably greater than what we require at present.
790. Where are you housed at present? In the Public Instruction offices.
791. At the rear? No; the portion fronting on the space in front of the Metropole.
792. Have you sufficient room there for your present requirements? Barely. It is not sufficient to comfortably dispose of our records, and so on. I may mention that for years we have been collecting information, official and general, on labour and industrial subjects, and I have had to house that information in the Minister's bedroom. As a matter of fact, I had no room in my Department for it. Necessarily, little matters of that kind are a cause of discomfort to us.
793. Have you any idea of the amount of floor space which you now occupy? At present we occupy four rooms. They were originally two rooms, but by means of partitions they have been converted into four. The front office is 24 feet by 18 feet. My own room is 18 feet square. The room of the lady inspector of factories is 18 feet by 15 feet. Then there is a room occupied by two male inspectors of factories, 18 feet x 12 feet.
794. What amount of space is it proposed to allot you in the new building? Roughly speaking, about 70 ft. x 25 ft.
795. That is office room? Yes; that would cut up into five rooms of 25 feet by 14 feet. Of course 14 feet is a very narrow width, and is almost a disproportionate space to the 25 feet.
796. *Mr. Shepherd.*] Which floor are you to occupy? The ground-floor.
797. Do you think the space proposed to be allotted to you there will be ample? Yes, for present requirements. There is a great deal of industrial legislation which may come into force in the course of a few years.
798. Do you think your Department will increase to any extent shortly? Yes; even on its present basis it would have to increase.
799. At present you are cramped for room? Yes.

800.

800. What is the position you are expected to occupy in the proposed new building? It is on the ground-floor, fronting Phillip-street. We shall occupy from the southern end of the building to within about 40 feet of the northern end. T. B. Clegg.  
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801. Is that the whole of the space which you will occupy? Yes.
802. Do you expect to have that space subdivided? Yes.
803. Into how many compartments? Possibly into five, which would give 25 feet by 14 feet for each room.
804. How many officers will occupy the various offices? There are six officers at present.
805. Then they would almost have a room each? Yes; one room would be for the use of the public. At present we have a large room containing a counter at which we give out certificates, forms, and so forth to the public, who are constantly coming in and out of the place.
806. Do you receive deputations? They are usually received by the Minister, but occasionally a small deputation waits upon me in regard to some minor matter.
807. And the room you would take for yourself would be the same as the others? Yes.
808. In the event of your Department enlarging, do you think you will have room for any additional offices? I am afraid the space allotted to us, in view of the future, is rather limited.
809. Have you estimated the number of cubic feet you will have in each of the offices? No, I have not taken the cubic feet into account, but I have taken into account the superficial area of each room.
810. *Mr. Watson.*] Have you any waiting-room at present? No; the people at present wait in the passage.
811. Is there any probability of factory hands occasionally waiting upon some of your inspectors? That happens very frequently.
812. Would it not be advisable for them to be accommodated somewhere with a waiting-room? Yes; it is a very unpleasant thing to have a string of people leaning up against the wall of the office waiting to come in.
813. I presume a number of them do not care to be too particularly noticed by the public? No; many people send their children to the Department.
814. Then it would be a convenience to you to have a waiting-room? Undoubtedly; certainly for the women.
815. You do not think you will be able to provide that out of the space which has been tentatively allotted to you? No. The light is only to be obtained from the Phillip-street side, and if we attempted to cut up the space and go back from the Phillip-street frontage we should have no light. We might cut up the space into two sections, and make some smaller rooms, but there would be no light.
816. You are compelled, then, to have the rooms 24 feet one way? Yes. If we have five rooms we shall only have a breadth of 14 feet each, which is not much more than the breadth of a passage.
817. I understand that out of the space nominally set aside for the Department of Public Instruction there will be something to spare on the top floor;—would it be possible to re-arrange the disposition of the various branches to allow you to have more room on the floor you are supposed to occupy? I think it is desirable that a Department such as ours, where we have so many strangers coming in and out, should be as easy of access as possible. For people to climb staircases and lose themselves in corridors would be a disadvantage.
818. If, on the floor to be occupied by the Public Instruction Department, there is a large space to spare, would it not be possible to re-arrange the room on the floor you are to occupy with a view to giving you more accommodation? I should think so. I do not know what the Public Instruction Department may think about it. They might be inconvenienced by doing that, but personally I think it might be arranged.
819. In any case, you think it would be a great advantage to the public for them to have waiting-rooms provided? I think so. Our Department is peculiarly in touch with the public. Many people who are not accustomed to public offices come to us.
820. And they desire to be as private as possible? Yes. The accommodation should be as easy of access and as private as possible.
821. In the event of the Early Closing Bill being passed, do you think it will increase the number of officers in your branch? I do not know. I can say nothing about that. In some of the Colonies legislation of that kind is administered through the police, and in others partly through the police and partly through the factory inspectors. Possibly, in this Colony, it would be administered partly by the factory inspectors in regard to some matters, and partly by the police in regard to other matters.
822. If the police have the enforcement of the provisions of such an Act, would it not take a lot of work off your Department? Yes; but there are certain other matters to be considered. For instance, a shop may close its shutters and yet continue work, and a policeman would have no power to enter, but would, ordinarily, be a trespasser if he did so. Work may be going on behind closed shutters, and I think a factory inspector should be given power, not given to a policeman, to go behind those shutters. Under the circumstances, I think the factory inspectors would have to exercise some partial control. Of course they could not patrol the streets to see that every shop put its shutters up.
823. Do you anticipate that the enforcement of the provisions of the Act would mean an increase in the number of your officers? Undoubtedly.
824. Sufficient to necessitate your having more accommodation than is provided in the plan? Yes.
825. *Mr. Trickett.*] Will you tell us what functions your Department exercise? The Department have control of the Government Labour Bureau, the administration of the Factories and Shops Act, the carrying out of works at the West Bogan in connection with the unemployed—that has partially to do with the Lands Department—and the control of the Government Labour Farm at Pitt Town, the old co-operative settlement, which has been turned into a farm for the unemployed.
826. You have stated that you expect that the Department will considerably develop;—will you tell us in what particular line you think it will develop? There were two measures before Parliament last Session which, if passed into law, would, probably, have increased the duties of the Department. One of these was the Conciliation and Arbitration Bill. Although the Bill was introduced by the Premier, I think the carrying out of its provisions would have come under our Department. Then the administration of the Early Closing Act would, in some degree, come under our Department.
827. The administration of the Early Closing Act would not entail much extra clerical work, but would necessitate an inspectorial staff? Yes, an inspectorial staff. Of course, incidentally, it would add to the



- T. B. Clegg.  
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- the clerical work. Then there are other matters which are contemplated, and which have been mentioned from time to time. One is the registration of the registry offices of the city. That would also entail additional inspection. Then there is the Land Boilers Act, which has been contemplated for many years, and which would also increase the staff considerably.
828. I believe that in New Zealand there is a Trades Disputes and Conciliation Act? Yes.
829. Do you know whether that has involved the employment of a large staff? Yes; but not directly. The duties away from the central office are undertaken by officers who have other duties in connection with the Government. It increases the duties of certain officers in certain districts. It does not mean the creation of a new staff.
830. So that, in view of many of the measures which have been already considered, you think that extra space will be required? You will see from what I say that the matter is very much *in nubibus*. The Department may be a large one, or it may continue in its present proportions. Still there ought to be room left for expansion.
831. Looking at the space proposed to be allotted to you, do you think there is sufficient room to accommodate the Department likely to come under your control? Assuming the measures referred to were passed, I do not think there would be anything like sufficient space.
832. Supposing you got the block on the south-east corner, would that about accommodate you? Yes; that would add to our accommodation.
833. Does your Department come much in contact with the public? Yes; very much. A great number of boys and girls and men and women wait upon us. Men who appeal from the decisions of the Labour Bureau also come to us.
834. So that it is desirable that you should be on the ground, or first, floor—the ground floor for choice? Yes.
835. Are you in touch with the Labour Bureau by telephone? Yes.
836. Is it desirable that the Labour Bureau should be away from the central office? It is altogether desirable.
837. The Labour Bureau, I suppose, requires a considerable space of ground? Yes.
838. The inquiry office for the purposes of employment, and so on, is not in the head office? No; that is at the Bureau. Situated, as we are, we have a great number of inquiries of various kinds. People come into the offices to make inquiries, and, of course, we refer them to the various Departments.
839. I suppose all the people who come under the designation of unemployed are referred from your office to the Bureau? Yes.
840. And that will continue? Yes. If they happen to be in town they may come to the office, and we should telephone to the Bureau for any information they might require; but for the purpose of finding employment and for registration they are sent to the Bureau itself.
841. Do you contemplate that the inspectorial duty will be carried out by special inspectors or by the police—I am referring to early closing? Of course, it would take an army of inspectors to patrol the streets and see that the shops were closed. That part of the duty would, I think, have to be done by the police.
842. Otherwise the expense would be largely augmented? No doubt. On the other hand, I should think shopkeepers would resent policemen entering their premises simply because they saw a light in their windows after the shutters up, whereas an inspector in private clothes might very well enter under special authority.
843. What is the practice in New Zealand? They have a peculiar arrangement there. They frequently, I understand, appoint officers holding other appointments, such as sergeants of police, to be inspectors of factories in the country districts, and so work the two together.
844. In large towns and cities that could not very well be done? No. In Victoria, although the early-closing clauses are part and parcel of the Factories Act, they are administered by the police. The police report breaches of the Act to the Factories Department, and the Department then takes action and calls the police as witnesses.
845. Does that work satisfactorily? I think so.
846. Of course, if there were a large army of inspectors their housing in your Department would not be possible? It would not be possible.
847. You do not anticipate having a large army of inspectors to house? No. Of course we should have to increase the staff. I think that even now it ought to be increased. My own opinion is that to carry out factory legislation properly we want night as well as day inspectors.
848. *Mr. Dick.*] Is not your Department, in many respects, a Police Department? Yes; if you mean in the sense of inspection and control.
849. Do you think it would be advisable to house you in the same building as the Inspector-General of Police? It depends very much on what the Inspector-General of Police thinks. I daresay he imagines that the police are already burdened with too many duties.
850. Do you think it would be advisable to house your Department in the proposed building at the corner of Hunter and Phillip Streets? I do not think it would be advisable. In many respects we run into the Public Instruction Department. For instance, our inspectors, on visiting the various factories, find children at work who are under the Public Instruction age, and we thereupon report the cases to the Public Instruction Department, and they make inquiries. Each Department helps the other in that respect very considerably.
851. Then you do not think that with the extended operations which new legislation will force upon you, you could work your Department more economically in immediate conjunction with the police? I do not know. As far as present factory legislation is concerned, I should say no. Of course, under the Early Closing Bill, we should come more in touch with the police, but so far we have not come in touch with them.
852. Do you think, under the legislation you have indicated as being likely to be passed soon, any economy could be brought about in your Department by placing it close to the Police Department? Assuming that the Early Closing Bill were to be universal—to extend to the whole of the Colony—it might be economical to adopt the New Zealand principle of getting the sergeants of police to act as local officers. They, of course, would supervise the early closing clauses so far as seeing that the shops put up their shutters.
853. You said it would be necessary to cut up the open space allotted to you into five different rooms? If we are to have five rooms, they could only be 14 feet wide each.

854. Do you think it will be necessary to cut up the space proposed to be allotted into five rooms? Yes.
855. Would that enable you to exercise efficient control over the whole of your offices? I think so. We must have space for a general office. There must also be a room for the lady inspector to interview women. I require a separate office myself. Then there must be one office at least for the inspectors. That consumes four offices, and a fifth is required for the purposes of the storage of records and so on. That leaves no provision for a waiting-room.
856. Did you point out to the Under-Secretary the desirability of having a waiting-room for your Department? No.
857. Do you think accommodation can be obtained in your suite of offices for a waiting-room by a re-arrangement of space? I think so. I think if we had the whole of the space from north to south facing Phillip-street, it ought to provide us with sufficient accommodation. At present it is only proposed to give us two-thirds of it.
858. *Dr. Garran.*] Who will occupy the space you would like to get? The Accounts Branch, I think.
859. If that branch could be cleared out, you think you could usefully occupy the whole of the frontage? Yes.
860. What you want is a room for yourself, a room for the lady inspector, a room for the other inspectors, a general room for the public to come in and a waiting-room? Yes.
861. And the whole of those rooms are not at present provided for you? No.
862. I take it that if your Department grows, it will probably be in the number of inspectors? The increase of inspectors will necessarily involve an increase of the clerical staff.
863. You will want another clerk? Yes; for example, in connection with the Factories and Shops Act there is a good deal of clerical work. The work is carried on under a system which economises clerical work, and which enables us to keep a record of every visit paid to every factory, and the instructions given in connection with that particular visit. For boiler inspection we should require a record of that kind.
864. How many clerks proper have you now? One.
865. And he practically has a room to himself at present? We have also a typewriter, who combines the office of messenger as well.
866. Do you make use of the typewriter yourself? I usually scribble my letters on paper and send them to the typewriter. I do not dictate by word of mouth.
867. When you went to your present offices, did you turn out any of the Education staff? Yes.
868. What became of them? The room they had occupied was a large barn-like apartment which was cut up into smaller rooms, with a passage, for us. Then they migrated to offices near the Métropole.
869. If you have taken five rooms out of that Department, you must have squeezed some one out? Yes; the Clerk of Works, and, I think, the cashier.
870. Are they occupying rented buildings? They are occupying premises near the Métropole; I believe they are rented.
871. And your going into the office has been the means of causing rented premises to be occupied? I am not sure that they were newly rented. Still, we squeezed them out.
872. And not to their convenience, I suppose? Necessarily not. They are not housed under the same roof.
873. Have you to be in frequent communication with the Minister? Yes.
874. Would it be inconvenient for you to be away from him? Very.
875. Does your Department have any other analogy with the Education Department than the one you have already mentioned? I cannot say that it has.
876. There is nothing which specifically attaches it to Education beyond that? No. Our officers fulfil the duties of Truant inspectors to a certain extent. If they find boys in factories when they ought to be at school they report the matter.
877. Your evidence is to the effect that you are not overcomfortable where you are, and you could comfortably use the whole of the Phillip-street frontage on the ground-floor? Yes; that is assuming that contemplated legislation is passed into law.
878. *Mr. Shepherd.*] What duties are the inspectors called upon to perform? First of all every factory inspector has to register with us; then an inspector sets out methodically and goes from one to the other, and sees that the provisions of the Factories Act are complied with. If they are not complied with, he gives instructions that they shall be. If, on repeated occasions, he finds his instructions have not been carried out, he reports the matter, and it rests with the Department whether the owner of the factory shall be prosecuted for not adhering to the provisions of the Act. He takes district after district and street after street, until, in the course of the year, the whole of the factories are exhausted. If he gives instructions at any of the factories he has to call again to see that they are carried out. Then a quantity of industrial statistics are gathered from the employers. We have to send in certain returns, and at certain periods of the year the inspectors cease inspecting for a month or six weeks, and employ themselves wholly in dealing with these returns.
879. I suppose the inspectors visit the whole of our large manufacturing institutions? Yes; and the smaller ones too. Then there is the lady inspector who, to some extent, doubles on their work.
880. How many inspectors have you employed at present? Two male and one female inspectors.
881. Are they able to do the work efficiently? We do the work, I think, as efficiently as a staff of that number could do it; but I have no doubt that there are evasions of the Act which escape us.
882. How often are they supposed to visit these establishments? That depends on circumstances. If they go to an establishment, and find that the law has been complied with, and there is no reason to think there will be a violation, they may not call again for six months, but if they go to a place where they see systematic violation, they may drop in a week or a few days afterwards.
883. In fact, they like to take the establishments unawares. Yes. If we were to send notice beforehand, they would be prepared for it.

T. B. Clegg.  
21 Feb., 1899.

Duncan Clark McLachlan, Under Secretary, Department of Mines and Agriculture, sworn, and examined:—

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884. *Chairman.*] The part of the building which it is proposed to erect is, I believe, intended to accommodate the Department of which you are the Under Secretary? Quite so.

885. Before representing to the Government the necessity for this extra accommodation, were you very much inconvenienced in your Department? Very much indeed; in fact, it is so crowded and scattered that it is difficult to manage the business. We have a variety of branches, all representing very important interests, and we have a great deal to do with the general public. These branches, being scattered in different parts of the city, it is very difficult to manage the business expeditiously or satisfactorily. When the public come for information they have to be sent to Lower George-street, or some other part of the city instead of being able to get it in the building where, I think, they ought to get it.

886. You say your officers are scattered over various parts of the city;—do they occupy any rented premises? Yes. The Stock Branch occupies a house in Young-street, for which it pays £175 year.

887. How many clerks have you there? Twelve. Probably fifteen would have to be housed there, because very often stock inspectors come in from the country, and have to be found office accommodation.

888. Do you know what average space is occupied by the Stock Branch? About 1,300 square feet; that is including the store rooms.

889. What other private buildings do you occupy? We occupy the old Naval Stores in Lower George-street, for which we pay £150 to the Treasury. The Board of Exports have a room in Young-street. These houses it is proposed to demolish.

890. Are those stores the property of the Government? Yes.

891. And the Treasury charge you £150 a year for what you occupy there? Yes.

892. Do they charge anything for the offices you occupy in the Lands Buildings? No.

893. Do you know of any reason why they should charge for one lot of buildings, and not for another? I do not know, unless it is because of the commercial aspect of the case. The Government have a lot of houses which have been resumed at different times. They were placed in charge of an officer who is supposed to make them pay. He is supposed to get rent for all the Government buildings under his charge. He assessed the one we occupy at £150 a year.

894. Did the Government resume that? No; I think it was an Imperial building, which was transferred. For the house in Young-street we pay £32 a year. I suppose the Government wish to get the interest on the money they have spent on the building, therefore they charge rent to whoever occupies it. The only private outside office we have is the Stock Branch, for which we pay a private individual £175 a year.

895. You say you are so cramped for space in the present building that you have had to seek accommodation elsewhere? Yes.

896. Who are in the Commissariat Stores? The Agricultural Chemist, the Fruit Expert, the Dairy Expert, and the Entomologist.

897. Are they sub-Departments, in regard to which the Ministerial head has to be in anything like daily communication? No, but the public are in almost daily communication with one or other of these officers. Naturally they come to this building, as being the Agricultural Department, to make inquiries, and when they get there they find they have to go to Lower George-street, and, of course, some people complain.

898. But that would only occur once to that individual? It would only occur once to that individual. Of course, the dairying interest is a very large one, and a great number of people come to see the expert to obtain advice, and there is a great difficulty in finding him.

899. But there would be the same objection when the new buildings were erected;—they would have to inquire where you are? There would be an indicator, and a messenger to take them there at once. Again, some people come from the country and want to make half a dozen inquiries in the Agricultural Department. For instance, they may wish to make inquiries on the stock question, and they come to the Stock Branch; then they want to see the dairy expert, and they have to go somewhere else to find him. Very frequently the man has a mining commission to attend to as well, and he has to be sent all over the place, whereas there should be one building in which he could complete his inquiries.

900. So that this proposal is not altogether in the interests of the staff, but is a good deal in the interests of the public? Quite so. I may say that ours is an expanding Department, and will, I believe, grow at a much more rapid rate than any of the other Departments. We have extended a great deal during the last two or three years, and that extension will go on, and we shall want more of this outside accommodation.

901. Do you know the site of the proposed building? Yes.

902. The evidence we have is that the Government is in possession of certain lots of land which are very valuable. That is one of the reasons it set forth for erecting rather expensive buildings upon them. Having put up the buildings, you would have no difficulty in finding clerks to put into any of the rooms there are to spare? I do not say that because a man is a clerk he should be given a room. I believe in concentrating the work, and putting as many clerks as possible into a room. The Committee when they visited the Department no doubt observed that our rooms are crowded with clerks, and that there are very few instances where a man has a room to himself.

903. What is the average floor-space for your officials? As the building is designed, I understand there is allotted to our Department 51,932 square feet, but out of this there has to be deducted 23,980 square feet for rooms, which would be used for a museum, strong-rooms, a board-room, and so on. That leaves 27,952 square feet. That is equal to about 14 feet by 14 feet per man, that is with the present staff; but, as I say, I believe our Department is a rapidly-extending one, and the space per man will be correspondingly decreased. Thus, to allow 14 square feet per man at the present time, is not in any way extravagant.

904. I suppose you know that there is a proposal to give the whole of the basement to your Department for a museum? Yes.

905. What do you propose to put in it? We propose to make it principally a mining museum; also an agricultural museum. We have a Colony which boasts that one of our greatest productions is minerals; we invite people to come here to invest their money in minerals. A stranger coming here is staggered, because he cannot find any place where he can see them. There is no place in Sydney where you can see a display of the Colony's mining industry. I think that, even as an advertisement, it would be a very fine thing for the Colony to have a good museum. A stranger comes here, and wishes to invest in some  
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of our mining ventures—perhaps it is an outside metal, such as bismuth—and he wants to know where he can see some of it. The only place to which we can send him is the shed in the Domain. I think it is a disgrace to the Government, and to the Department to have that as a museum for the minerals of an important Colony like this. The effect on a man who wishes to see what we have in the mineral line is, I think, the opposite of satisfactory. Further than that, the minerals we have in the museum are very valuable. They are special minerals. They have taken years to collect. When the Garden Palace was burnt down, there was a fine collection of minerals—the best in the Colonies—but they were all destroyed, and the collection had to be started *de novo*. Some of the specimens can never be replaced. Therefore, we require a museum where they can be properly housed and protected.

906. What do you propose as regards agricultural exhibits? When the seasons are on, we propose to bring down typical specimens of what we can grow. We are just on the eve of being able to export wheat. We expect numbers of buyers from all parts of the world to see the wheats, and we would like to have typical samples from the different districts. We should also show wools, or anything else which we thought worthy of showing as the products of the Colony.

907. I think Mr. Pittman has stated that unless you got that museum you might as well be housed where you are? He was, I think, only speaking for himself.

908. I understood that he was representing your Department, not simply himself? If he said that, he must have had in his mind only his own particular branch, because he knows nothing of the inconvenience of having the scattered branches, because he has nothing to do with it.

909. *Mr. Watson.*] What number of officers have you? 143.

910. What space do you occupy inclusive of the rented buildings? The total space we now occupy, including the museum, is 43,455 feet.

911. What is the space, exclusive of the museum? About 36,000 square feet.

912. That leaves about 7,000 square feet at present occupied by the museum? Yes.

913. Then, it was proposed to increase the museum space by about double. Instead of occupying 7,000 feet in the Domain, you will get 14,000 feet in the basement of the new building? Yes. We should display much more in the Domain if the building were a suitable one. We shall have many more exhibits to display in the new building. At present we are not exhibiting anything at all in the agricultural line. We want to make a big display of timber and that sort of thing. Further than that, it is not safe to display the articles in the Domain building. We have had specimens of diamonds stolen out of the cases. We have valuable gold specimens, but we cannot show them; we have to lock them up in the Mint. The Domain building is a most insecure place. We have a watchman there, but it is a large rambling building, and he cannot watch every case that is there.

914. Is there in the Domain building an exhibit of timber now belonging to the Mines Department? Yes; but a very small one.

915. And you contemplate removing it to the new building and adding it to it? Yes.

916. The Lands Department seems to have the idea of putting up specimens of timber in a portion of the space now occupied by the Mines Department;—there seems to be a desire for an enormous number of these museums all over the place? I think it would be a mistake. I think there should be one museum where anyone can see all the products of the Colony, and as all the producing interests are centered in our Department, I think it is the most suitable place to show them.

917. Are there any other museums where exhibits of this character are to be seen;—are there any mineralogical specimens at the Australian Museum? I do not think so—of the kind suitable for the practical miner.

918. I suppose the main feature there are the curios, rather than a scientific explanation of the Colony's resources? Yes. In addition to that you want a curator in charge of the museum who will be able to explain the specimens.

919. I suppose each branch of the Australian Museum has an officer in charge who has a knowledge of that particular branch? I do not think so. Besides a man wants to be able to explain all the characteristics of the country surrounding the minerals which are displayed.

920. Practically, you want a mineralogist? Yes.

921. Are there any exhibits similar to yours in the Technical College? They have a museum there, but it is only for teaching purposes.

922. Has the Department considered the wisdom of concentrating all this museum so that the students might have a larger range in the one building? I have not considered that, but I do not think it would be a very practical idea, because a geologist requires his museum alongside him. To a geologist a museum is the same as a kit of tools to a carpenter, which must be alongside him. If a man comes to the Mines Department to make inquiries about minerals he must be at an advantage if there is a museum on the spot. If he has to go somewhere else, he perhaps does not bother. Anyhow, it is not so satisfactory to the Department or to the inquirer.

923. Have you seen the plan of the proposed new building, and of that portion to be allotted to your Department? Yes.

924. Do you think the space is sufficient? Yes.

925. Have you attempted to allot the positions to be occupied by the different branches? No. I may say that I am satisfied with the amount of accommodation proposed to be allotted. My main idea is to get all the Departments into one building.

926. You asked for 51,000 feet, and you have been allotted between 3,000 and 4,000 feet less than what you asked for? Yes.

927. In what way is the difference to be accounted for;—had some of the officers extravagant ideas? I presume so. The space at any rate was cut down.

928. Do you think that, with the reduced space, you will have satisfactory accommodation? I am certain of it.

929. In going through your Department, in common with other Departments, the Committee were struck by the immense quantity of furniture in some of the rooms, which took up a great deal of space;—would it be possible to rearrange the furniture,—that is, the desks and so on—on a more modern plan and so save room? The rooms seem to be crowded because there are pigeon-holes and that sort of thing, but if you take the pigeon-holes away, it will not give any more floor-space.

930. But in some of the rooms, it did not seem possible for the clerks to move about on account of the number of tables;—would it not be possible to provide long desks for some of the purely clerical staffs?

No;

- D. C. No; where the Committee saw they were crowded they were connected with records, and it is necessary  
 McLachlan. that they should have their papers beside them.
- 21 Feb., 1899. 931. Have you seen the new arrangement of desk room in the Treasury? No.
932. I understand there has been some re-arrangement there which has saved a good deal of room? I can understand that in the Treasury, because it is a bookkeeping department. If you have a miscellaneous department with thousands of papers, and several different branches, each man must have his papers about him, otherwise he loses time.
933. It seems that each Department has a plan of its own in respect to the accommodation of clerks;—do you think it would be possible to arrange for a Board to consult with the Government Architect with respect to the arrangement of the furniture of new buildings with a view to saving space? I think that in all later buildings that has been done. They have arranged a new system of furniture, but of course in the older Departments the furniture has grown with the Departments.
934. In your case it has been carted from one Department to another? It has been the cast-off from all the other Departments. Our Department has been growing very rapidly, and everything, whether suitable or not, has been sent to us—tables of all shapes and sizes. Of course it was economical to do that, because they were in the store. They were sent to us, and that is why the furniture seemed to be such a mixed lot.
935. There seems to be a danger from fire in respect of the wooden pigeon-holes—much greater than if the pigeon-holes were made of steel? That is so.
936. Do you think steel pigeon-holes would be preferable? I do. All public records ought to be in some strong room.
937. Have you noticed the strong-room accommodation in the proposed new building;—the area of it is 1,380 square feet;—do you think that would be sufficient for you? I think it would be ample for half a century ahead, and that ought to be provided for. We never destroy our records. In a strong room like that you can utilise all the space to the ceiling. You could have centre space also, which you could run up to the ceiling.
938. In that case, you could utilise the steel pigeon-holes? Yes.
939. A suggestion has been made as to the desirability of having a spiral staircase, instead of a strong room, with a view to giving access to each floor? I do not think it would be used. Any one wanting to go from a couple of floors below would get into the lift.
940. And you think that would be sufficient? Yes; and you would get up much quicker than you would if you went by a spiral staircase.
941. It is not proposed to light the strong rooms from the outside, but by means of electric lighting;—do you think there is any necessity for a window for lighting? I think an artificial light is sufficient.
942. You say that in your opinion the Department will probably increase in size? Yes.
943. Do you refer to an increase in the number of branches, or in the staff? In the staff.
944. Presuming the same number of branches were included in your Department, you anticipate there would be a large increase in the staff? Yes.
945. I take it that you think it is absolutely necessary that the alteration should be made so far as your Department is concerned? That is so.
946. The ventilation is bad? Yes. The space is too crowded for the officers who are there.
947. *Mr. Trickett.*] Mr. Pittman appears to have been the representative of your Department at the Board of Inquiry? Yes.
948. He made a great feature of the necessity for a museum? Yes.
949. Do I understand that is required, not merely as an ordinary museum for people to look at, but really for administration purposes? That is so.
950. To be an object lesson to assist applicants and others to see what they actually want? Quite so. In addition, it would help the officers to conduct their business in making reports. People send down specimens, and want to know what they are and how they are. Constantly geologists have to refer to specimens from different districts of the Colony, and they would be in the museum.
951. It would differ from an ordinary museum in that respect, and would be really part and parcel of the working of the Department? Quite so. It would be impossible to conduct the Mines Department without a museum and specimens.
952. Have you or Mr. Pittman been consulted as to whether this museum on the basement will be suitable? Mr. Pittman has. At first he had some doubt about it, but he has now been convinced that it will be suitable, and that there will be sufficient light in it.
953. And also that it will not have the disadvantage of an underground place in regard to damp? Yes. He has been satisfied on that point by Mr. Vernon.
954. It was also emphasised by the Board that the concentration of the whole of your Department was necessary for its economic working;—is that one of the main objects you have in asking for more accommodation? That is one of the main objects—that and the want of accommodation in the main building.
955. I believe the principal part of your Department was housed a little time ago in the Lincoln's Inn Chambers? Yes.
956. You have grown very much in your requirements for office accommodation? That is so; but that is a very much larger building inside than it appears to be outside. That particular building only housed the Mines Department. The Agricultural Department had a house in Macquarie-street. The Stock Branch was in Phillip-street, in another house. Then, you could scarcely say the Agricultural Department was in existence. It has grown since.
957. On the top of this building it is proposed to put your analytical and assaying staffs? Not the assaying staff—that is at Granville.
958. Seeing that you have works up the line, why do you want an extended assaying office in the main building? We want laboratories—an agricultural laboratory, for instance. There we test all the soil. If a farmer sends in any soil we test it. We also test the wheats for their value, the amount of gluten that is in them, bran, and so forth, in order to show which is the best bread-making wheat. Then we have to make experiments in connection with the diseases in fruit. We get all sorts of things of that kind sent in. Then we have a dairy expert, who has a laboratory and makes all kinds of experiments with milk. He tests the milk for tuberculosis. He also cultivates bacteria of all kinds. Those are the laboratories which we intend to put in the building. There is also the Stock Department. Of course, there

there are numbers of diseases which affect stock, and they would be sent to these laboratories to be examined.

959. Does your bacteriologist go in for incubating microbes, and that kind of thing? Yes. The dairy expert cultivates them.

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960. Will all that be done in the new building? Yes, on the top. He prepares now ferments for ripening cream. We give them to factories.

961. Is it usual to have manipulations of that kind in a main building such as this? No, excepting that that is his particular office, and people come to see him there. He can walk out of his office and demonstrate to the people what he has told them.

962. But I mean as regards locality;—do you think it would be suitable to have a large chemical establishment like that on the top of a fine building, such as this would be? I think so. There is nothing dangerous about it.

963. Will you have a mineral laboratory there as well? That will be at Granville, where the works are.

964. Will it be convenient to send all these small tests to Granville? Yes; that is where we send them now.

965. Do you and the Mint work together with regard to the analyses of minerals? No; they do nothing but mint the gold.

966. Do you see in the near future a probable extensive enlargement of the staff of your Department? I do, as the Colony gets populated, and the land is taken up. We ought to be a producing colony, and as all the producing interests are centred in our Department it must grow.

967. Have you had regard to that in considering the plans;—do you think that for the next ten years there would be sufficient accommodation for you? Yes; I think so. We have allowed a fair margin for growth.

968. What branches has your Department under it? There are the Mines Department proper, and the Agricultural Department. There are the Stock and Pastures Branch and the Country Towns Water Supplies and Artesian Boring.

969. Country Towns Water Supplies after construction? Before construction—the Water Conservation Branch. I refer to water supplies for mining townships, outside municipalities, and also to the water supplies on the stock routes of the Colony. Then there is artesian boring. We also have all the stock interests and the pastoral. Diseases in stock, of course, come under the Stock Branch. We have to deal with all fruit and vegetable diseases as well. We investigate all those. We make inquiries into cereal growths, and we make inquiries on all matters of that kind. We receive thousands of letters in a year, asking for advice of all kinds, and we have experts who supply it. There is also an Export Board.

970. Does that involve much work? In the busy season there is a fair amount of work, but not too much. We have also to deal with viticulture.

971. So that it is a very extensive branch of the Public Service? Yes, and a very varied one. It is full of expert business from top to bottom.

972. Is any branch of the Forestry Department left with you now? No; it has been entirely removed to the Lands Department.

973. Does not that appear to be an analogous branch which should be left with you? Yes; it seems to be more allied to our Department than to the Lands Department, excepting that most of the forest reserves are Crown Lands, and the Lands Department, having control of the lands, wanted to have control of the forests. Personally, I think a mistake was made in shifting it.

974. How long has that been done? About two years.

975. Was that done by statute? By the Public Service Board. They inquired into the matter, and recommended that the branch be placed under the Lands Department.

976. Did that relieve your Department to a considerable extent of clerks and work? Yes; to the extent of the Forest Branch. It relieved us of about five clerks.

977. Has that occurred since you have been in your present building? Yes. Immediately they moved out the Lands Department took charge of the room in which they were located, saying that they wanted it, and we had to give it up.

978. Do you and the Lands Department interchange much in your business? Yes, a great deal, particularly in connection with commons, also in connection with water conservation and water supplies, artesian boring, and mining reserves; in fact the business is interlaced a lot.

979. Does that involve papers having to go from one Department to the other, or correspondence only? Papers.

980. Will not that be somewhat inconvenient if you get moved to the new building? No. There would be one daily lot of papers to take to the Lands Department. There is no constant communication from one office to the other.

981. If anyone came to you and wanted to inquire about a particular matter, might you not want the papers at once from the Lands Office? Yes; that might happen, but it would not be a frequent occurrence. In nine cases out of ten it would not be necessary to go to the Lands Department for the papers, because there would be a record in our own Department, and from that record I should make out sufficient to make the matter understood. In occasional cases I might have to send to the Lands Department, but they would not be frequent.

982. Have you given consideration to the question whether you and the Lands Department could not get on conveniently in the building you now occupy? Yes; ever since we have been in the Department we have been trying to get more accommodation there. We assumed that the building was built for the Lands and Mines Departments, and that we should have as much of the building as they have, if we wanted it. One Minister after the other has consulted the Lands Minister. I have consulted the Under Secretary. We have gone round the building to see if we could squeeze anyone up to give us another room, and the reply has always been that it is impossible to give us a foot more space; in fact, instead of getting more room, we are constantly getting squeezed out. They contend that the building is theirs, and that we practically are there on sufferance, and that we must make way.

983. We noticed the other day, in going through your part of the building, that the corridors are impeded by large stacks of old-fashioned pigeon-holes, in which I understand there are valuable records;—is that a menace and danger to the Department? It is; a great public loss might occur by someone stealing the papers. They are covered with blinds and that sort of thing, but anyone who wanted to do so, could take papers away, and no one would be any wiser. It is the only place we have in which to put them. If they are taken away, nothing can replace them.

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984. I was struck with the splendid safe accommodation of the Lands Department—a series of floors extending in a circle from floor to ceiling. Do you not think, seeing that your records are very valuable, and apparently very bulky, that some arrangement of that kind would be well in the new building, instead of every floor having its separate strong-room, which has to be lit by gas or electricity. Do you not think that a modern strong-room, something like that at the Lands Department, only not so capacious, might be built with advantage? It would be better; but I have been thinking that it would take up a valuable lot of space in that building, whereas useless corners could be utilised for store space. I think that in that way the arrangement has been an economical one. Of course there would be extra rooms in the shape of strong-rooms, but there would be no clerks in them. If a man wanted to find a paper dated in 1870, of course he would know that the 1870 papers were at the top of the building. He would know the particular safe, and would run up and get it.

985. He would have to run about all over the building, perhaps, if he wanted something on the ground-floor? He would take the lift to go up. Of course, I take it that the older papers would be on the top. Papers three or four years old would be nearest the record room. As they got old they would, of course, be shifted higher up. Of course it would be better if you could have a continuous store-room. I think, however, that according to the plan there has been rather an economic use of space, and it will be just as safe for all practical purposes.

986. Have you considered the possibility of any fresh legislation which might occur, which would largely increase the necessities of your Department as regards office room? No; I do not think legislation would very much increase it. The development does not altogether depend on legislation, but on the seasons, the increase of population, and the discovery of minerals.

987. If this building is completed you will have every branch which comes under your jurisdiction, with the exception of the place at Granville, under one roof? Quite so, excepting the farms and colleges, and that sort of thing.

988. *Mr. Dick.*] I think you stated that the museum had to be used mainly in connection with the administration of your Department? With the practical working of the Department.

989. Can you illustrate your answer? We will presume that a man wants to know what is the character of the stone of the Berrima district. A member of the geological staff will go into the museum and find out and tell him. If we had not the museum connected with our office we could not afford the information.

990. How do you get on now? We have to send inquirers to the Domain.

991. Do you have many inquiries of that kind? Numbers of them.

992. You also desire to have a large exhibit of timber? Yes; we want to make a fair display of timber.

993. Will not the same argument hold with respect to that as with respect to the mineral exhibits? No; the timber is not required in connection with the administration or the men's work, whereas it is in connection with minerals.

994. What reason would you urge to having a timber exhibit there? Numbers of people come here wanting to purchase timber, and to see what kind of timber there is in the Colony.

995. Is it a common thing for men indulging in enterprises of that kind to call on your Department? Most of them come to the Department if they come from abroad. If a man comes from America the first place he calls at is the Agricultural Department to find out what sort of timbers we have, and whether we have any specimens.

996. And the number of inquiries of that kind has led you to the conclusion that you must have a museum to work those branches of your Department? Particularly the Mines Department. It would be a great advantage to the Colony to be able to show the people who come here good specimens.

997. Is it usual to attach schools of mines to the Department? No. Perhaps in other countries the Government is not run in the same way as here, but wherever you go for mining information you expect there to be able to see specimens of the minerals of the country.

998. Of course your experience in the office has led you to that conclusion? Yes. When a man comes from Germany, or somewhere else, I naturally would like to have something to show him of the Colony's mining products. But I am really ashamed to ask him to go to the place in the Domain to see what we have there. As I have said we are afraid to put good specimens in it.

999. Is it likely you will have any number of inquiries with respect to agricultural specimens;—would they not go to the ordinary produce market? I think they would in that case, but there are numbers of people who are interested in all kinds of growth, and if we get anything abnormal we let it be known to the press that at the Mines Department there can be seen a special exhibit, it might be sugar-beet; and there would be a man to explain what it meant, and where it was grown.

1000. What kind of work will be conducted in the laboratory at the top of the building? It will be principally in connection with agriculture—diseases of fruits and plants, analysing soils and analysing waters from the country water supplies, and from the bores. We analyse all the waters from the bores at different depths. They are full of all kinds of minerals and salts, and we have to keep a record of them. Again the dairying business is beginning to be a scientific one, and is full of experiments. The people who are going in for dairying expect us, as a Department, to give them information in regard to all these things. We have an expert who may go into a creamery. He discovers something in connection with the butter, brings the butter to Sydney, finds out in the laboratory what is the matter, and subsequently explains it to the person from whom he obtained it.

1001. I believe all these subjects are taught at the technical schools? I do not think dairying is.

1002. Are not the analyses, to which you have referred, conducted at the technical school? I think not in a practical way.

1003. *Dr. Garran.*] You will see by the plan that, including the basement and the space in the roof, your Department will be distributed over seven floors? Yes.

1004. Would you rather have all that up and down work, or three floors to yourself? I should prefer three floors to myself. But there are so many branches in my particular Department. I could put branches on special floors.

1005. Your Department lends itself to subdivision? Yes.

1006. Is it not desirable that Ministers should be on the first floor? It is, for the public convenience.

1007. Then both Ministers would want the first floor? I think so.

1008. That is one reason for making this perpendicular division? I think so.

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1009. You do not complain of it? No; but I think the other would be the better arrangement for many purposes.
1010. Is Mr. Pittman in charge of the museum? He is in charge of the geological staff, and the museum is under his Department. His speciality is geology.
1011. If a stranger goes to the much-despised shed in the Domain, who is there to answer questions? The curator, Mr. Card.
1012. Is he competent to explain? Yes; he is a Member of the London School of Mines—in fact, he was imported for that purpose. He is a mineralogist as well.
1013. Does he give information now? Yes; but the general public do not know where or how to get at him.
1014. Is it known that there is a competent man there? Most mining people in the Colony know it, but a stranger would not know it.
1015. If a man went there and said, "I want to see a specimen of Gympie gold," would he be the person to show it? Yes; and to tell him all about it.
1016. You will not have quite so much space in the basement of the proposed building as you have in the Domain? I think we shall have more.
1017. Is it your impression that the public would be more likely to come to the basement floor of the new building than to go to the Domain? Yes. If they came to the Department they would be attracted to the museum.
1018. Is Mr. Card on duty the whole of the day? Yes; from 9 a.m. to 4:30 p.m.
1019. So that anyone who comes to you and wants to know something is sent to him? Yes. Very often a man comes with a lump of stone in his pocket, and wants to know what minerals are in it.
1020. Does he or any other scientific man ever give simple short lectures on the articles in the museum? No. Some of the geologists do when they are out in the country.
1021. But there are no town lectures? No; excepting that Mr. Card teaches at the School of Arts at night.
1022. You do not utilise your museum as a teaching place? No; it is not adapted for it.
1023. Are not all the specimens of minerals you have got to be seen also in the general Museum? No.
1024. Their mineralogical show is different from yours? Yes.
1025. Yours is specially adapted for industrial purposes? Yes; we keep that altogether in mind.
1026. It is more practical than scientific? We only aim at the practical.
1027. You think, then, there is a special vocation to this museum different from that of a general museum and that of a technical school? Yes.
1028. You do not think we shall be multiplying museums unnecessarily in having this one? I do not.
1029. Your experience tells you this museum will be of special advantage to different people? Yes.
1030. You are quite with Mr. Pittman as to the expediency of having a museum in your Department? Yes.
1031. And you think there is no better place than the ground floor of the new building? No; I think it would be appreciated by the public, and would become a centre to which the mining people would be drawn. We should have samples showing, for instance, what the New England, Bathurst, and other districts could produce.
1032. So far as your staff is concerned, you are aware that you are inconveniencing the Lands staff to some extent, and yet you have not room for yourselves? That is so.
1033. You think the time has come when we must make better provision for each Department? I think so.
1034. Do you think the proposed building is an extravagant one? So far as the accommodation is concerned, I do not think it is.
1035. Having such a grand site in a main street, you think we ought to have a building which will be a credit to Sydney? I think so. It would be a mistake for the sake of a few thousand pounds to spoil the appearance of the building. It would be an ornament to the city.
1036. *Mr. Shepherd.*] I should imagine that a museum is intended to be educational? Largely educational and practical for the officers of the Department.
1037. Into how many departments do you propose to divide the museum? There will be a mineral section and an agricultural section.
1038. And you will have a competent person at the head of each department capable of giving instruction? Yes.
1039. I suppose you will include the fruit industry as well? Yes; in this way: a man may grow a particular apple, or other fruit, the name of which he does not know. We shall have models of all those fruits, and he can come into the museum and see what he is growing.
1040. Do you not think that it would be desirable to separate the agricultural from the horticultural or the fruit-growing department, because, an agriculturist, as a rule, is not supposed to know anything about fruit-growing? The agricultural section would, of course, be distinct from the horticultural. I think, however, we should have one man who would have sufficient knowledge of all these things to be able to give any information required.
1041. These officers would always be in attendance at the museum? Always.
1042. Do you not think it possible that, in the event of Federation being accomplished, there might be a sort of federation of these departments—that the head of the Department will be likely to be in the area in which the capital is placed? I do not think so. I think each Colony would run its own agricultural and mining Department; and apart from that they must be where the population is. The Federal centre would not have a large population, and the museum should be where the population is, and that is the principal city.
1043. Then, you think each colony will require to keep up quite as large a staff as it has at present? I think so, in these two particular Departments, and they would require their own museums.



WEDNESDAY, 22 FEBRUARY, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.The Hon. WILLIAM JOSEPH TRICKETT.  
WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Edward Fisher Pittman, A.R.S.M., Government Geologist and Chief Mining Surveyor, Department of Mines, sworn, and examined:—

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1044. *Chairman.*] I believe you were a member of the Board appointed to go into this matter when the proposition was first made? Yes.

1045. In considering the question of increased accommodation for the Service, you make a strong point of the necessity for a museum? Yes.

1046. Will you state your reasons for that? I may state that a museum is an absolutely necessary part of my equipment for the work I am called upon to perform. It is just as necessary for me to have a museum as it is to have a library, or instruments with which to carry out surveys; and it is extremely necessary that the museum should be in a place where I can refer to it without great loss of time, as is the case with the present accommodation in the Domain. In all countries in Europe and America where geological surveys are carried out, this is one of the points which is taken into consideration at the start. The first thing is to collect museum specimens for reference, and to have them stored in a place so that they can be referred to without trouble by the officers engaged in the work. I may mention that the present museum building is extremely hot; it is really not fit for anyone to work in, and yet we have a number of officers there who are obliged to work in it. In summer time it is quite unfit to work in by reason of the heat. It is an iron building, and is hot, dusty, and unsuitable for getting the best work out of a man. If the Committee would go and inspect it, I am sure it would be a great object lesson in connection with the inquiry; and if they could possibly come on a really hot day, they would get a better opinion of the disadvantages of the place. There is another reason—although it is not one in which I am directly concerned—why it would be an advantage to do away with the present structure, and that is, that it is a complete eyesore to the Domain. The Colonial Secretary and the Principal Under Secretary have moved in the matter several times, and we have had a direct request to take our collection away, utterly ignoring the fact that we have no place in which to put it.

1047. I think you have stated that unless you get a museum in the new building you would just as well stay where you are? In one sense. I should be no nearer my museum in the new building than where I am at present.

1048. You are not speaking then as representing the whole of the Department? No. The chief object of getting a new building, amongst other things, is to have a concentration of all the branches of the Department. If you leave out one of the important branches you do not carry the thing to finality. The object is not only to concentrate the branches, but also to provide better accommodation for them. We have a growing Department, and, as it is, we are exceedingly cramped. Frequently we have had to appoint new officers, and have had difficulty in finding where to put them. I believe the building was originally constructed for the Lands and Mines Department, but that fact has been ignored altogether by the Lands Department. They regard it as their establishment, and that we are there on sufferance, and we cannot get anything like an adequate share of the space.

1049. Who is in charge of the museum in the Domain? Mr. Card is the Curator.

1050. What are his duties? He has charge of the mineral collection there. He is really Mineralogist. He classifies the specimens, and arranges them so that anything new is exhibited to the public in an interesting form. Whenever I want anything in the museum I ask him for it.

1051. Do you find being so far away an inconvenience? Decidedly. If I want to look at a single specimen, by the time I get there and back it means a waste of nearly an hour.

1052. Will you explain the process under which a museum is used in connection with your Department? It is just as necessary a part of my equipment as a library. I have all my books around me where I sit, and I am continually referring to them, and I ought to be in a position to refer to my specimens just as easily. It is part of the work. In my work you cannot do without specimens any more than you can do without books.

1053. Do the public who deal with your Department also wish to have the real objects to look at in connection with applications they may make? Some of them undoubtedly do. For instance, the other day I had an interview with a man who wanted to know about platinum ores in New South Wales. He came out specially to go into platinum mines. He not only wanted to know all I could tell him about deposits, but he wanted to see the platinum.

1054. And I suppose you had to accompany him to the place in the Domain? Yes, or to send someone with him. If I had things properly arranged, as they have in London, I could step out of one room into another and show him the character of the specimen he wished to see, as well as the character of the rock in which it occurred, and so on, in a moment. In addition to that, our museum is largely used by students. We have special students' collections of fossils and minerals arranged so that University or Technical College students can come and see them, and within the limits of one or two cases get all the information they require.

1055. For that purpose, it would not matter much whether the building remained where it is or not? That is so, excepting that it is a very uncomfortable building.

1056. Do the exhibits suffer by reason of their being there? Undoubtedly the wall exhibits, such as photographs and geological maps, suffer—the heat affects them.

1057. Do you look upon this museum as useful only for administrative purposes and for students? It is eminently useful for historical purposes—for a record of the classes of ore found in certain districts and certain mines at certain times.

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1058. And it is a necessary adjunct to the Mines Department? Undoubtedly. The Geological Survey of England have their headquarters in Jermyn-street, in London. They have an extensive piece of ground there with valuable premises erected thereon. It is not a show museum, but it is regarded as a national necessity.

1059. What is your opinion of that portion of the building proposed to be allotted to the museum? The point I raised to Mr. Vernon in the first instance was that the museum would be absolutely useless unless it were well lighted. He assures me it will be well lighted.

1060. Are you willing to accept his assurance on that subject? I do not see how I could well object to it.

1061. Do you think the space the museum will occupy will be sufficient? I think so.

1062. It is proposed to give you 14,000 feet, which is a great deal more than you have at present? I think that includes the Agricultural museum. Of course I have nothing to do with the Agricultural museum.

1063. Do you think the space allotted will be sufficient? I do; it will allow for expansion for a considerable time.

1064. Would your own office require to be very close to the museum? Not necessarily.

1065. Will you be in charge of the laboratories in the building? No; they will come under the Agricultural Department.

1066. Who will have control of them? Mr. McLachlan is the Under Secretary, and Mr. Salwey is the Chief Clerk.

1067. Who is the scientist? Mr. Guthrie is the Chemist.

1068. Have you a testing-room in connection with your Department? Yes; a very large one.

1069. Will that be in the proposed new building? No; it will be at the Clyde Works.

1070. Then you will have nothing at all in the way of experimental works in your branch? To a slight extent, the Curator and Mineralogist answers inquiries as to minerals, and submits them to a simple test.

1071. Then there will be no smoke there from assaying furnaces? No.

1072. Do you find any inconvenience by reason of the works at Clyde being so far away? No; we have regular communication with them. A carrier takes specimens away in sealed boxes every morning, and the returns come back by post. All the assays go through under my supervision. When it was proposed to appoint a Government Metallurgist, the Assayer and his assistants were all on my staff, and Mr. Sydney Smith thought it would be more appropriate that they should be under the Government Metallurgist. He required a chemist to assist him, and I made a stipulation that if that were so, I should always have the right of supervising the assaying tests—that is to say, the correspondence from the country should all come to me. The information I gain in that way from different parts of the country, where new deposits are continually being found by prospectors, is of very great assistance to me in my work.

1073. When your offices were in Phillip-street, you rented a building in Macquarie-street with specimens and exhibits? Yes.

1074. So that, compared with your then position, you are now very much more inconveniently situated? Very much more. We had the museum close to my office door there.

1075. Did you find that an advantage? Yes.

1076. Although it was a building ill-suited for a museum, the advantage in other ways was great? Very.

1077. In your statements to the Board you urge concentration of all the branches of the mining and agricultural departments? Yes.

1078. Why? Supposing, for instance, the Minister requires certain information he tells the Under Secretary,—the Under Secretary finds it is necessary to refer, perhaps, to myself. Some time ago when I was in Macquarie-street, I had to come down to the head office. In the meantime, the Minister became engaged, and I lost three or four hours in that way waiting for him. Perhaps the Minister might want the Chemist from the Agricultural Branch, and his office is on the left hand side of Circular Quay. He told me not long ago that on one occasion the Minister rang him up on a Saturday morning, and he waited until a quarter past 12, after the office had closed, and even then never saw him. He simply wasted the whole of the morning.

1079. I suppose the premises at the old Queen's Wharf are utterly worn out and unsuitable? I think you will find that Mr. Guthrie will tell you he would sooner be there than anywhere.

1080. That is, of course, for his individual work? Yes. He has an immense area there. I should say that no chemist in the world has as big a room as he has in comparison with the size of his staff, and he is naturally loth to leave it. Of course the premises are isolated and inconveniently situated.

1081. Do you, or the Minister, or the Under Secretary, frequently want him? Very frequently the Under Secretary or the Minister requires to see him. He has told me that on many occasions he has been sent for, and has been inconvenienced in waiting.

1082. What is the number of your staff, and how many rooms have you? I have actually three rooms, at present—one occupied by myself, one by the field staff, and one by the Curator and his assistant.

1083. How many are there on the field staff? Three geological surveyors, two field assistants, a palæontologist, and a draftsman, all in one room.

1084. Is that room large enough? Yes.

1085. Would it be better to have some of these officers in separate rooms? I do not know that it would. The inconvenience is that there is absolutely no space available for the overflow of our library, which has assumed such large dimensions that we have not room for it.

1086. That is an increasing item? Yes; because we buy all the up-to-date books as they come out.

1087. Do you keep your own records? Yes.

1088. What provision have you for them? One clerk—he is also an assistant to the Librarian—and palæontologist.

1089. Do you require safe housing, or only ordinary housing? Anything which is extremely important I would send to the head office records.

1090. So that individually you have sufficient accommodation? Excepting in the matter of the library.

1091. Do you want a separate room for the library? No, I would sooner have it as it is at present; but I want better space for it.

1092. Is the Correspondence Branch conducted direct through yourself, or through the Under Secretary? Most of the correspondence is done by the head office staff.

1093. Is there a journal in connection with your Department? Yes; a number of publications are issued from the branch. We issue maps, and we have a series which we call, "Records of the Geological Survey," which

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which come out about four times a year. We also have memoirs. Then we have another series called "The Mineral Resources." These are all done entirely by my staff, and are printed at the Government Printing Office. I may mention that there is a large amount of correspondence, which is under the immediate control of Mr. Card, in reference to all the assays about which I have been speaking. Those are prepared by one of Mr. Card's assistants, and are brought to me for signature. They show the particulars of the assays, the character of the minerals, &c.

1094. Does Mr. Card keep a proper catalogue of all his exhibits? He has not issued a catalogue yet; but that will be done.

1095. I suppose his work is dwarfed a good deal, by reason of the poor accommodation? There is no doubt it is.

1096. A man with a place like that in the Domain, and a lot of valuable exhibits, is, I suppose, really disheartened in his efforts to make the display of any value? I suppose so.

1097. And the building does not really perform its intended functions? It is a most unsuitable place altogether. We were given to understand when we got it that it was only a makeshift.

1098. *Mr. Dick.*] I understand that the museum will combine two functions;—it will be, in one sense, a museum for public instruction; and also a national museum? Yes.

1099. Shall you be able to reconcile those two functions with ease in the arrangement of specimens, and housing, and so on? There is no difficulty about that.

1100. I suppose it is intended that the museum should be of value to intending investors in the Colony? Yes.

1101. Has your experience led you to the conclusion that it is necessary for such a purpose? I do not know that I could absolutely say that it is necessary for investors; but it is a great convenience to them.

1102. Do you get many callers of that kind now? A good many.

1103. I suppose you know it is also intended to have a considerable number of timber and other exhibits in the museum;—will there be sufficient room for large exhibits of agriculture, as well as of timber, and so on, in addition to your special exhibits? I should think so; but if, in the long run, tons and tons of these things were brought in, there would have to be some limit.

1104. I suppose the allotting of space for your special interests has been considered? I think so. We have submitted a certain area which we think will be necessary for the museum.

1105. *Dr. Garran.*] Is the Geological Survey under the Minister for Mines? Yes.

1106. And is it a general or a special geological survey under your care? A general geological survey.

1107. You have your own Departmental museum in the Domain? Yes.

1108. There is another one of minerals in College-street? Yes.

1109. And another at the Technical College, and another at the University? Yes.

1110. Do you think they are all necessary? I do; at least, I think mine is necessary.

1111. Do you think we should be better off by concentrating the museums, or would it be a wise thing to subdivide them where the pupils are? I do not feel altogether in a position to advise as to other people's business. I can only give you my opinion as regards my own museum. I feel confident that the existence of our museum is a necessity if the geological survey is a necessity. That question was gone into to a large extent by the Public Service Board when they first came into existence, and I think I can go so far as to say that they started with exactly the same ideas as those you have expressed, but I fancy they have modified them. At any rate, they have not wiped out my museum, and, as far as I know, they have no intention of doing so.

1112. I suppose you do not think that at present there is any waste of power? I do not. Ours is not only a public museum, but it is part of my equipment, without which I could not carry out the work the State expects me to do.

1113. I suppose the great object is not to give you your scientific convenience, but to give a museum to the public at which someone should be in attendance to explain to all the inquirers where to look for certain minerals, and to show under what conditions they could be found? I doubt if that is possible in any of the other museums. Our museum is the only one, I think, where that can be carried out as completely as possible.

1114. You think it takes the palm as a practical museum for working miners? I do.

1115. If a miner comes down and says, "I want to see tellurides," you can show him them at once? As a matter of fact, we have a case now of tellurides, and we have had a notice inserted in the newspapers drawing attention to the fact that it can be seen. In addition to that we have made two collections of tellurides and sent them round the country in charge of a warden, so that the miners can become familiar with their appearance.

1116. I suppose it would not be possible in this museum to give occasional lectures? I have no doubt it would be possible.

1117. Would there be room for them? They would have to be standing-up lectures. That, I take it, would, to a large extent, be an encroachment on the work done by the Technical College.

1118. Do you ever interchange specimens with other people? Yes.

1119. If a Technical College lecturer wanted specimens, would you let him have them? Certainly, if we could do so without endangering our collection in any way.

1120. Supposing some travelling lecturer were lecturing in the mining districts, would you allow him to take your specimens up with him? No; of course, if we had plenty of duplicates we could let him have them if he were a Government lecturer, but we never touch our registered collection, which is kept in glass cases.

1121. If you want any specimens analysed, do you analyse them in your own office, or do you send them to your Chemist? We send them to our Chemist.

1122. Will he be located hereafter in the proposed new building? No; he will be at the Clyde Works. I still retain the right to have all my analyses made by the Chemist at the Clyde Works.

1123. And if a miner sends something which he has discovered, you can send it to the Clyde Works and get a report upon it? Yes; we have had as many as 6,000 reports made in one year.

1124. Do you find any real curiosity on the part of the people to obtain information about minerals? A considerable amount.

1125. There is a healthy public curiosity? A fair amount indeed.

1126. And the Department is carrying out a useful function in supplying information? Certainly.

1127. You think the museum an essential part of your business? There is no doubt about it.
1128. Are you responsible for the classification of the specimens? Yes.
1129. *Mr. Shepherd.*] Are you in charge of the whole of the museum? Not the agricultural side.
1130. Have you been consulted as to the arrangements for a museum? Yes; I was a member of the Board, of which Mr. Vernon was chairman. We have put forward an estimate of the amount of space we require.
1131. What staff have you employed in the museum? There is Mr. Card, the Curator, who spends part of his time there and part at the office. Then there is a rock-cutter, a polisher, a carpenter, a fossil-collector, and an assistant. In addition there is the caretaker of the building.
1132. Is their time fully employed? Yes; we make up a large number of collections. We receive applications from Schools of Arts in various parts of the Colony, and also from different parts of the world, asking for collections of New South Wales minerals, which have all to be made up, labelled, and despatched. We get exchanges in that way. Of course, for those which are asked for from the country we get nothing in exchange.
1133. Do you carry out a regular system of exchange all over the world? Yes.
1134. Do you find any difficulty in securing the specimens in your present building? We have been robbed two or three times.
1135. Have you everything under lock and key? Yes; but they manage to force the cases all the same.
1136. Do you think the specimens would be more secure in the proposed building? Much more. We have had a lot of gold specimens and diamonds taken.

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George William Card, A.R.S.M., Curator and Mineralogist, Department of Mines, sworn, and examined:—

1137. *Chairman.*] It is proposed in the new building to make provision for a museum, and we have it in evidence that you will, most likely, be in charge of it;—Will you state your opinion as to the necessity for the whole of the space proposed to be allotted being taken up by a museum? Up to now I have not seen the plan, or any statement as to the space proposed to be given.
1138. Do you know the area you now occupy? About 8,000 square feet.
1139. Is the museum much used by the public? Yes, I am gratified at the attendance.
1140. Have you any idea of the average daily attendance? We have no means of making an accurate record. There is a visitors' book, which we ask people to sign, but it is not compulsory. As a matter of fact, a great many people have objections to signing, and they refuse to do so. I think I should be safe in saying that on an ordinary day there are from seventy to eighty visitors, and on a public holiday two or three times as many.
1141. Are they led there by curiosity? I do not think so. It is a very unattractive building, and not at all the place to which people would go from curiosity. I think I am safe in saying that 90 per cent., or more of those who attend do so because they know of the existence of the museum, and wish to see something in which they are particularly interested. That has been my personal experience.
1142. Do any go there for instruction? I think the larger part do that. They usually come for some specific information, and to see some specific set of exhibits.
1143. Have you ever lost any of the exhibits? Yes; but that was at a time when our staff was rather inadequate, and at a time when we were not able to have some one constantly on the premises. Since, however, we have been able to do that, we have not lost anything.
1144. I suppose the visitors to the museum are allowed to wander about as they please? Absolutely so.
1145. Is there anyone there to give them information as they require it? There has been until lately. Our staff has been slightly reduced, owing to an assistant being taken out into the field, and owing to sickness. But so far as I can possibly arrange it, there is always someone there. As a rule I am there myself for nearly half the day.
1146. Supposing someone came to the museum and wished to make a close inspection of tellurides, would there be anyone there to allow them to do so? Usually so; and if it happened that there was no one there, and the case was a special one, and they telephoned to me, I would send round, or go myself. As a matter of fact that happens not infrequently.
1147. *Dr. Garran.*] Do people also ask you to give them a personal explanation? Very frequently they ask for me by name.
1148. Are they mostly practical miners? They are either practical miners, or persons who have a direct interest in mining matters, and students.
1149. They really want to know something? Decidedly so.
1150. And there is never a week passes but you have some real inquirer there? There is hardly a day passes without one or more inquirers.
1151. And you can see from their questions whether they are really in search of information? Yes.
1152. Do you think that the museum, situated as it is, is doing good service even now? It is doing excellent service.
1153. You say that you are away from the museum half the day;—where are you during that time? Portion of my time is spent in the museum itself. Frequently I am engaged in office work, but still I am in the museum building, and the remainder of the day I am in my office at the Mines Department.
1154. Are you frequently sent for to go to that Department? No.
1155. You are not required there by Mr. Pittman or the Minister? It is not often I am called for personally.
1156. During the greater part of the day you are available to any person who really wants to see you? Not at the museum itself. I make it a rule always to go there the first thing in the morning to arrange for the men's work, and I stay there as long as I feel my office work will permit me. But the rule I always follow is to place myself, in the first instance, at the disposal of the public either directly or indirectly. If there happens to be half an hour in the day available, it may be employed in arranging collections, and so on.
1157. Is your museum, as it exists to-day, fairly representative of the known mineral districts of the Colony? Yes. I do not mean that there is not a great deal that I would like to improve; but as it is now, it is fairly representative.
1158. Could you show a stranger a specimen from every working gold-field in the country? I could.

G. W. Card,  
A.R.S.M.

22 Feb., 1899.

- G. W. Cárđ,  
A.R.S.M.  
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1159. Could you point out to him all the particular kinds of geological formation in which the specimens are found? Yes.
1160. *Mr. Shepherd.*] Have you had any practical experience in mining matters? I cannot say that I have, although I spend my annual leave in visiting mining places.
1161. Where have you studied? At the London School of Mines. I was there for six years.
1162. Have you been long engaged in the study of mineralogy? For the last fifteen years.
1163. Do you find that other institutions are ready to exchange specimens with you? They are glad to do so, as a rule.
1164. Do you find that more applications are made to you than you make to other institutions? If you include all our local Schools of Art and Public Schools, of course there are; but in the case of any foreign museum we make it an almost absolute rule to send specimens only on condition that they exchange.
1165. I suppose that, as a rule, you do all you can for our New South Wales institutions? No application which is based on educational grounds is ever refused.
1166. What is the general nature of the information which visitors seek at the museum? The number of questions which one can put on mining and geological matters is so varied that I could not attempt to classify them.
1167. *Mr. Watson.*] You have stated that you are not quite able to offer an opinion as to the suitability of the proposed building for your purposes, but at the present time you occupy about 8,000 superficial feet? I believe so.
1168. It is proposed in the basement of the new building to allot about 14,000 superficial feet for the purposes of a museum, to include, in addition to the exhibition of your specimens, provision for agricultural exhibits and timber;—what proportion of that 14,000 feet do you think would be necessary to properly—I will not say extravagantly—display your exhibits, allowing for reasonable expansion which must occur? I think an expansion of 25 per cent. will fairly meet all necessary requirements.
1169. That would bring it up to about 10,000 feet? Yes; if I am correct in stating that the present space is 8,000 feet. The 7,000 to 8,000 feet to which I have referred is merely the space devoted to the public exhibition. Besides that we have store-rooms, a carpenter's room, and a variety of workrooms. I am not sure whether these have been allowed for in that space.
1170. Do you think you would require these rooms necessarily on the floor upon which the museum would be? Decidedly; it would be a serious inconvenience if most of these were not there.
1171. What space would they occupy? At present they are occupying about half the space occupied by the museum itself.
1172. That is in addition? Yes.
1173. *Chairman.*] Have you ever made any representation to Mr. McLachlan as to the space you would require? I was asked some time ago to state the facts, and I did so, but I did not keep a copy of them. I think my figures were used in drawing up the estimates.
1174. In any case you are satisfied you must have your carpenter's room and store-rooms on the floor adjoining the exhibition? It would be a very inconvenient arrangement if the store-rooms and sorting-tables were not so.
1175. Is that on account of making up the cases for the country for exchange? Yes. All our surplus stock of every sort is stored over there, excepting the books and bulk material. We have no space in the head office.
1176. I suppose the new building would be more convenient to you than your present quarters, owing to the proximity to the Ministerial head and other Departmental heads? That would all depend upon the exact nature of the arrangements made.
1177. But presuming you are to be elegantly housed, as far as your officers are concerned, it would be better to be in the same building with the Departmental head? It would be better for official purposes.
1178. Have you any qualification to that statement? My personal opinion is that if the museum is to be a really successful and live institution it ought to be in a separate building by itself, but if that is not possible the proposed arrangement would be the next best. As the curator of a museum, I think I could construct a more useful institution, from a public point of view, if it were in a separate building.
1179. Do you think the public would be as likely to find their way to a museum in the basement of the proposed new building as they would be to a separate building, say, on the site of the present museum? I do not think I have any data upon which I could base a reply to that question. We are very fortunately situated so far as public holidays go, because so many people from the country find their way into the Domain, and come right past our doors. We find, as a matter of fact, on public holidays, especially when there has been an excursion from the country districts, that we get a great many country people into the building.
1180. Mr. Pittman has stated that it is necessary, for geological survey purposes, to have a museum for reference close to his office, and I presume that, of course, will be a matter apart from the public aspect of the question? Yes.
1181. Do you agree with that idea, or do you think that could be subordinated to the public convenience, as far as having a separate building is concerned? I am not prepared to offer an opinion.
1182. Have you given any consideration to the question of providing a museum other than the one in the Domain? We have always been hoping that the time would come when we should have a separate museum. Ever since the fire which destroyed the Garden Palace in 1883 we have been hoping for it.
1183. Has your experience led you to the conclusion that it is more in the interests of the public, as well as of the Department, that this museum should be in close touch with the Department generally? Yes.
1184. Have you an office in the Domain? A makeshift one, where I write my labels and do work of that kind, but everything which can possibly be done in my office in the Mines Department is done there.
1185. Then it would economise space and time if your office were close to the museum? I would economise time, if not space.
1186. Are you aware whether it would be more convenient to the public to have the basement of the new building as a museum? It would probably be in our favour if we could be sure of there being no interference from other officers. The museum is open on Saturday afternoons and public holidays. If it were found necessary that we should conform to the usual hours of admission to the public, from 11 a.m. to 3 p.m. on certain days, it would certainly be a very serious matter. The main question in connection with the basement is the one of lighting. I think it would be rather an awkward thing to illuminate a building

building like that. Specimens and show-cases require careful lighting. I think it ought to be possible to adequately arrange for proper lighting.

G. W. Card,  
A.R.S.M.

1187. *Mr. Trickett.*] I suppose you would have to make a fresh start in the new building, and would, for instance, want fresh show-cases? I should like fresh show-cases, but I do not think I should get them. Those we have are old, and have come to us by chance. They were made cheaply by contract for exhibitions. I have all sorts, shapes, and sizes, and they are badly made.

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1188. Do you find a great disadvantage now in working the place? It is very hot in summer and cold in winter, but excepting on an occasional day it does not prevent us from working. Of course, it is open all round, and smoke, dust, and smuts have free entrance. We have to be always cleaning up our show-cases.

1189. When people come to see exhibits, have they to be taken out of the show-cases? If I and the assistants were there we should not hesitate about unlocking cases, so that the exhibits might be examined in our presence. I may say I gave information on about 8,000 specimens last year, and also superintended the despatch of 3,000 or 4,000 letters relating to inquiries.

1190. I suppose that people who deal with you do so very often as a preliminary to further investigation at the Clyde works? Very often it is so. If a man wants to know how much silver or copper is in his ore, it has to be sent to the Clyde works.

1191. Were you in the Department when the museum was in the Macquarie-street building? Yes, but only for a few months.

1192. Whilst you were there did you find it an advantage to be so close to the other officials rather than to be so far separated from them as you are at the present time? It is inconvenient to have to run to and fro.

1193. And the other experiences you had show the advantage of having a museum close to the general Department? If one could have a museum as a sort of centre, with the offices attached to it, I think it would be the best arrangement possible.

1194. Do you think a building with double the floor space of your present building will suffice for many years to come? It should do so. The experience of all museums is that the material they have available exceeds their space; but they have to control that by making careful selections.

THURSDAY, 23 FEBRUARY, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD,  
The Hon. ANDREW GARRAN, LL.D.

The Hon. WILLIAM JOSEPH TRICKETT,  
WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Newton Morris, LL.D., Superintendent of Technical Education, Department of Public Instruction, sworn, and examined:—

1195. *Chairman.*] Have you a museum in connection with the Technical College? Yes.

1196. What is the nature of the exhibits? All kinds of technological exhibits from the economic side. There are animal, vegetable, and mineral products both raw, and, as far as possible, articles manufactured from the raw material.

N. Morris,  
LL.D.

23 Feb., 1899.

1197. Have you a good selection of mineral exhibits? Yes, from an economic point of view. We have nothing there in the shape of mere curiosities, unless they are of some value from a commercial or economic point of view, and also, of course, for teaching purposes.

1198. Is there an attendant always present to give information to casual visitors? Yes.

1199. Do you have many visitors? The total number of visitors to the museum last year was from 100,000 to 120,000. Last month the visitors numbered 12,000.

1200. *Dr. Garran.*] Is your museum pretty full at present? Yes; but by pressing things closely, we could find more room.

1201. Do you make an effort to keep down your objects for the specific purposes of your institution? Yes.

1202. It is strictly a technical college museum? I will not say there is nothing in it which might not come under that definition.

1203. As a scientific man, you would not advocate the unnecessary multiplication of museums in the city? No.

1204. Do you think we could do without any of those we have at present? Of course, they have separate purposes. They must have a mineralogical collection in connection with the Mines for reference purposes, and there must be a systematic collection in the Australian Museum. The University also could not do without their collection for teaching purposes.

1205. Yours and the University, are distinctly for teaching purposes? For the purpose of general instruction—teaching the public and our students.

1206. And they must be where the classes are? Yes.

1207. There is no avoiding that? It would be a great drawback if they were not within reach for that purpose.

1208. How far does your museum duplicate the one in the Domain? I have never been there, but I should say that the purposes of the two would be distinct, and I do not see very well how the Mines could do without a reference collection.

1209. The Government Geologist maintains that it is absolutely necessary for him to have a museum where he works? I should think he must have a reference museum.

1210. The museum we are considering at present is not merely for the purpose of the Geological Superintendent, but for the public—to show them specimens of what we do in agriculture and mines;—you do that as well? Yes. Of course a technological museum is supposed to cover everything of economic value.

1211. The Department of Mines wants to show the economic value of certain products as well, and we might have a sufficiency for the purpose of the Geological Branch without unnecessarily duplicating what you have got? I should think that would be possible.

1212. Is your museum sufficient for all your purposes? At present we have sufficient space. 1213.

- N. Morris,  
LL.D.  
23 Feb., 1899.
1213. Are the specimens sufficient for your purposes? Yes; of course we are adding from time to time. Specimens are continually sent from various parts of the country.
1214. Do any of your teachers give lectures, illustrative of the specimens in the museum? The teacher in geology and mineralogy uses the collection in teaching the students.
1215. Does he lecture to the general public? No.
1216. Do you invite the outside public to attend? Of course that could be done, but we have not done it so far.
1217. Have you facilities for doing it? Not in the museum. Of course, we have a small lecture hall in connection with the college, which would be large enough for those who would care to come.
1218. How many would the lecture hall hold? About 150. It is built for students. We have a fine collection of timber there.
1219. *Mr. Shepherd.*] I suppose your collection is strictly for educational purposes? Yes; to give the people who come there an idea of the nature of the products of the country, and how they can be used to the best advantage, and of course to instruct our own students. Public school children are brought there by teachers, and they get lessons in the museum as well.
1220. Would it be convenient to instruct classes in a museum such as that we have in the Domain in preference to the one at Ultimo? For our students it would be so inconvenient that I am afraid we should never use it.
1221. What space do you occupy in the museum? There are four floors in the basement. Each floor contains about 10,000 square feet, and a wall space of about half that.
1222. I suppose visitors are able to gain information from some officer-in-charge? Yes; there is always an officer-in-charge.
1223. *Mr. Watson.*] In your estimate of 120,000 visitors, do you include the students? No; I refer to the visitors to the museum only.
1224. You say you have a fairly complete exhibit of timber? Yes; between 5,000 and 6,000 specimens.
1225. In various stages of growth and preparation? Yes; we are getting descriptive matter attached to each exhibit describing its nature, quality, and uses, and as far as possible, where it comes from; but that cannot be given definitely. The Forestry Branch would tell that better than we could.
1226. The Forestry Branch has exhibits in the Domain building;—do you think they impinge upon your exhibit? It is difficult for me to say for what purpose they require them. We have a collection for the purposes of comparison. People continually come there to make inquiries about timber, and the botanist who has made himself an expert in such matters, gives all the information he can. The only point upon which he does not undertake to definitely instruct is as to the best locality to go to.
1227. Have many people made inquiries as to where they can get supplies of timber? Yes; we often have inquiries from London, America, and various parts of the world. We have sent numerous collections to various places.
1228. Do you think it would be much inconvenience to people who wish to make inquiries of that description to go to your museum, instead of the one in the Domain? We are within 200 yards of the railway, and when the tramway is open it should be very convenient.
1229. *Mr. Trickett.*] Do you think your museum could be worked as an annex to the Mines Department? It would be a great detriment to us.
1230. Do you think it would be possible for Mr. Pittman to use your museum at Ultimo in administering his Department? I should think it would be inconvenient for him to go there. It appears to me to be indispensable to have a reference museum.
1231. You agree with him that he wants the collection at hand? I think so, I think the same museum should have its systematic collection for scientific purposes. There should be at the Mines Department a good reference collection, and we must have our museum for purely economic and teaching purposes.
1232. *Chairman.*] Do you think one floor in your museum would be large enough for a museum such as Mr. Pittman requires? I should think it would be ample.
1233. Would half of it do? I should be almost inclined to risk saying that half of it would be enough, but I do not care to give a definite judgment.
1234. You think that a floor space of 5,000 feet would be sufficient? That certainly is my impression.
1235. In the event of a museum being established as proposed there is no doubt a number of people would visit your museum all the same? Of course people would come there for the sake of the variety of exhibits, which, of course, cover the whole economic field.
1236. And any information they could get from the proposed museum they could also get from your museum, excepting as to the localities where timbers are obtained? Yes.
1237. Would it necessitate any great additional cost to post up your Department in that information? Of course the authorities in the museum know a great deal already in regard to botanical products, but they are not prepared to give an exhaustive account.
1238. Have you a library in connection with the Department, and any work on Australian timbers? Yes.
1239. Would they not give localities? Yes. Of course we have copies of all publications in the library.
1240. I noticed on some of the exhibits of logs the names of the localities from which they came;—have you any information as to whether they can be got in quantities in those places? I could not answer that question offhand; but I think the information could be obtained from our reference books.
1241. *Mr. Dick.*] I believe you also have in your museum exhibits of wool? Yes, the best in the hemisphere.
1242. And agricultural products, timbers, and minerals? Yes, and animal products.
1243. Are you continually being referred to by probable producers or investors, as to the best means of entering upon any enterprise in connection with minerals, timbers, or wool? Yes.
1244. You understand that in the Mines Department they contemplate having a large museum partly for the same purpose;—do you think any public purpose could be served by having two museums practically doing the same work? I do not think we ought to duplicate.
1245. There is another museum with almost the same class of exhibits, and intended for almost the same purpose;—do you think any public purpose would be served by having two museums of that character so close to each other? I do not think we should have two.
1246. Do you think you would serve the public purpose better by increasing the capacity of your museum or of one of the departments? Yes.

TUESDAY, 28 FEBRUARY, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
 The Hon. ANDREW GARRAN, LL.D.  
 The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
 JOHN CHRISTIAN WATSON, Esq.  
 ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Richard Teece, General Manager, Australian Mutual Provident Society, sworn, and examined:—

1247. *Mr. Trickett.*] How many employees are there in the Australian Mutual Provident Society's buildings? About 115 altogether in the Sydney office. R. Teece.

1248. Do they occupy the whole of the building? Yes; the whole of two floors, practically. The upper floor is devoted to other purposes—for the use of medical officers, and so on. 28 Feb., 1899.

1249. What is the size of your public office? Fifty-two feet by 41 with an annex 18 by 17 feet, and 22 feet high. That is the main hall. There are other rooms there. I occupy a room, and the Secretary occupies a room, which is additional to the space I have quoted.

1250. How many clerks are there in the main hall? Sixty.

1251. Is that room overcrowded? It is full. Of course, there is a public space, which I have not included in those dimensions.

1252. Is there any inconvenience in regard to sanitary arrangements, air space, and so on? Not the slightest.

1253. I suppose that, independently of the sixty clerks, there are frequently numbers of the public in the office at given times? Yes; as many as a dozen, and twenty at times.

1254. What about the working space of that room? I could not conveniently accommodate more.

1255. But still it is sufficient for all purposes? There is ample room.

1256. What is the system of arrangement;—have you one large room? Yes; overlooked by one officer.

1257. Is it divided here and there by head-high compartments? Not quite so high as that.

1258. Then the whole staff is under the supervision of one officer? Yes; the whole of them can be seen by one officer.

1259. Is that found to be a suitable arrangement in large establishments? Very.

1260. Is it better than having a number of small rooms? Yes; a number of small rooms is fatal to discipline.

1261. Have your clerks, generally speaking, a number of papers before them which occupy considerable space? Yes; they have large books before them.

1262. Is your system of arrangement of desks based upon any definite plan? Yes; so that the light shall fall along the length of the desks instead of on the backs or faces of the clerks.

1263. And I suppose they are arranged so as to economise space as much as possible? Yes.

1264. You have accounted for sixty of your clerks;—will you now deal with the other rooms on the ground floor? There is a small area 18 feet by 17 feet, by 22 feet high. An end has been cut off in the building which was originally in separate rooms, and which we have taken in. This is included in the information given above.

1265. Is that an open room? Yes; but it cannot be seen from the public entrance.

1266. By whom is that room occupied? By the clerks. There are sixty in all, but a few of them occupy that small space. I may add that the public space is 52 feet by 18 feet, and 22 feet high.

1267. Does the smaller area, to which you have referred, come into the room which you say is 52 feet by 41 feet? No; the portion absolutely occupied by officers runs out at about 900 cubic feet to each one. We cannot put them closer together if they are to work with comfort. The total superficial area for the clerks and the public is 3,374 superficial feet. Included in that is the public area, which is 936 superficial feet.

1268. With regard to the space occupied by the sixty clerks, and occasionally by the public—sometimes twenty of them at once—I understand that, although you have no room for any more clerks in that space, they are able to do their work well, and without inconvenience? Yes. Of course, we have provided for that by drafting clerks upstairs as soon as the room becomes overcrowded.

1269. But sixty clerks is the number you have continuously in that space? Yes.

1270. Are we to understand that the whole of the floor space of the A.M.P. Society's premises is occupied by sixty clerks, by the space for the public, by the Manager's room, by the Secretary's room, the lift space, and the strong-room? Yes; that is the whole of the ground floor.

1271. Will you describe the rooms on the next floor? There are two spaces there—one is 59 feet by 42 feet, and the other is 18 feet by 39 feet, including public space 17 by 13 feet.

1272. What is the smaller room for? There is only a wooden partition between the two. They are both clerks' rooms. It is practically one space divided by a wooden partition.

1273. What is the superficial space of those two rooms? 2,987 feet, used by clerks.

1274. How many clerks are there in that space? Only forty-five at present.

1275. How does that space accommodate the forty-five clerks? There is room for more.

1276. Have they ample desk accommodation there? Yes; without overcrowding.

1277. Have they any large books which require a fair amount of space to manipulate and move about? Yes; they have not only large books, but they have a space where tables have to be placed for the purposes of the particular work which has to be done.

1278. And there is room for more than the forty-five clerks already accommodated there? Yes.

1279. Do you occasionally go into the room occupied by the sixty clerks? Yes.

1280. What is your opinion in regard to the ventilation? It is quite satisfactory.

1281. Is there nothing offensive? Nothing at all. Both rooms are lighted on two sides. The one has a frontage to Pitt-street and the other to Hamilton-street.

1282. And I understand that the partitions only go up a little way? That is all. The object is merely to provide two departments of the office.



- R. Teece.  
28 Feb., 1899.
1283. And there is a current of air through the whole of the rooms? Yes.
1284. In connection with the building submitted to the Committee for consideration, there is provision for electric fans and special air-circulating appliances;—do you find the want of anything of that kind in the top or ground-floor rooms? No; we have not observed any want of it.
1285. Do the clerks suffer in health, as far as you know, by being in these rooms? No.
1286. And there is no special provision there, excepting ample window and ordinary ventilation? That is all.
1287. Where is your room? At the corner of Pitt and Bond Streets.
1288. On which floor? On the ground floor.
1289. Does that come out of the 3,374 superficial feet? No.
1290. I believe you are the head manager of the institution;—what is the size of your office? It is 18 feet square.
1291. Do you find it large enough for your requirements? Ample.
1292. Have you to frequently interview the public? All day long.
1293. To any great number at a time? As a rule only one at a time.
1294. And you find your room big enough for all purposes? Yes.
- 1295-6. You have accounted for sixty clerks, yourself, and Mr. Cameron on the ground floor, and for forty-five clerks on the first floor;—where are the remainder? They are messengers and casuals.
1297. You say the second floor is occupied by the medical staff? Yes; and a lumber-room, and a large hall where we hold examinations and do various jobs.
1298. What is the size of your strong-room? It is a large room. I will forward its dimensions to the Committee. [*Vide Appendix.*]
1299. Is it a room on the ground-floor? It goes up both floors. It begins in the basement, and is carried up by a spiral staircase. It is entered by a separate door on each floor.
1300. You go from the basement to the first floor by means of a spiral staircase, so that all your documents can be got at by one clerk, and from one entrance? Yes.
1301. Do you find that an advantage? I do not see any particular advantage in it.
1302. Is it more advantageous than having two or three safes entered by various doors and for various floors? It is not in our case, because we have a different set of documents in the two strong-rooms.
1303. Do you think that, in a great public Department, where documents and records are constantly being referred to, it would be an advantage to have one large room? I should think so.
1304. Is your strong-room fitted up on modern principles? Yes.
1305. With galleries? Yes.
1306. And steel fittings and pigeon holes? Yes.
1307. Have you a large number of records? Yes.
1308. Are they constantly being referred to? All day.
1309. What is the reason for separating the safe on the second floor from the other floor? It is not for the reception of ordinary office records. It is a room we keep for our ordinary valuations.
1310. In round numbers, you have a floor-space of 6,361 feet? Yes.
1311. Occupied by 105 clerks? Yes.
1312. And you find it sufficiently healthy and capacious for carrying on your business? Yes.
1313. The minimum space required for the Mines and Agriculture Department is 33,501 feet, and the officers of that Department number 147. Does not that, as compared with the space you have, appear to be an enormous amount? Yes; that gives about three and a half times as much superficial area as we have.
1314. In the Public Instruction Department there are, in round numbers, 100 officials, and it is proposed to give them 22,786 feet? That is about the same average as the other.
1315. And is it, in your experience, unnecessarily large? Altogether unnecessary.
1316. Was the A.M.P. Society's building erected as a life insurance building? Yes.
1317. Were you the manager at the time? No.
1318. What were the instructions to the architect as regards accommodation;—did you and the contractors consult with the architect as to the floor space required, and the number of clerks to be accommodated, and did you, generally speaking, consider the requirements of the Society before the building was erected? Yes; everything was gone into very carefully.
1319. You did not erect the building first, and then consult with the heads of the different departments as to how it was to be occupied? No.
1320. I presume you carefully considered the necessities of each department? That was with regard to the ground-floor. When we first went there, we only required to occupy the ground-floor, and consequently the whole of the first floor was made one large room, which we subsequently divided by ordinary lath and plaster partitions. When we required the whole room we simply removed the partitions.
1321. At the commencement of your occupancy of the building, had you sixty clerks on the ground-floor? We had not so many.
1322. *Dr. Garrahan.*] Do you open your windows for the purposes of ventilation? We do, but we find it very inconvenient on the Pitt-street frontage, owing to the neglect of the Corporation to give us a decent street there. There is too much noise, but we are hoping to remedy that.
1323. Do you find, in a large room with many clerks, great difference of opinion as to the opening of windows? Invariably.
1324. I suppose that some like them shut, and some like them open? Some people do not like fresh air, and others do.
1325. So that ventilation by means of the windows is inconvenient, in connection with a room occupied by sixty clerks? I do not know that. I do not think you could ventilate in any other way.
1326. Do you mean to say that if you keep the windows shut on a hot day, and there are sixty clerks in the room, there will be no foul air there by 4 o'clock? We do not keep them shut. We have a double street frontage. The Hamilton-street frontage is comparatively quiet, and we can keep the windows on that side open. It is one room right through from street to street.
1327. Do you always keep those windows open? Yes.
1328. Whether the clerks like it or not? Yes; they have to like it.
1329. There is no strong wind there to blow the papers about? No; that side faces the west.

1330. What do you consider is a fair and reasonably-sized room for an Under Secretary? That would entirely depend on what are the purposes to which the room would require to be put. If he is in the habit of interviewing considerable numbers of the public at one time he would require a large room, but if, like myself, he only interviewed one at a time, he would only require a small room. R. Teece.  
28 Feb., 1899.
1331. We will assume that he only required to see two or three people at a time? Under those circumstances, if he had a room 16 feet square, he would be amply accommodated.
1332. Then you think a distinguished officer of the Public Service who requires a single room will be amply accommodated with a room 16 feet square? Certainly.
1333. *Mr. Watson.*] In referring to the area occupied by your clerks, I do not think you mentioned the class of work in which they are engaged—whether they deal with ledgers and bundles of papers referring to particular cases? There are two classes of clerks; there are a number who deal with the public direct, and they require a considerable counter space. There is a much larger number who merely deal with books.
1334. Can they be concentrated? Yes. We put them as close as we can to find room. They could not be put closer, because there would not be room for the books.
1335. Is there any considerable portion of the clerks who have to deal with papers;—for instance, a man getting up a case may have a number of papers littered about;—would that necessitate much room being taken up? The man who would be doing that sort of work would probably be a responsible officer who would sit at a table.
1336. You do not think it necessary to provide tables for the ordinary clerical staff? No; they have desks.
1337. Even if they were dealing with papers as they do in the public departments? I do not think so.
1338. In the Lands and Mines Departments each set of papers is kept together, and when anything is done in reference to them the clerk has to consult them? Yes.
1339. You still think that in that case the work could be done more economically, as far as space is concerned, with desk accommodation than with tables? I think so.
1340. Have you a board-room? Yes.
1341. What is the size of it? It is about 28½ feet long by 18 feet.
1342. *Dr. Garran.*] For how many directors? Seven. It is quite a handsome room.
1343. *Chairman.*] Do you find it plenty large enough? Yes.
1344. With regard to the atmosphere of the room in which a number of clerks are engaged, I suppose you could hardly provide a room which on some days, in summer-time, would not be found inconveniently hot? You could not do that, no matter what building you have.
1345. And the clerks have to put up with it? Yes.
1346. Have you any special contrivance for ventilating the rooms? No. We started with the system known as Tobin's, but it turned out a perfect failure.
1347. As a matter of fact there are nights and days in which it is inconveniently hot in Sydney houses? Yes; I can give you the example of my own house, which is constructed with cavity walls, and with the most approved system of ventilation, and it is occasionally very hot.
1348. If your society were designing an entirely new building for the convenience of the clerks, would you depart materially from the arrangements of your present building? I do not think we should. I consider we have as fine and convenient a public office as any in the city.
1349. *Mr. Shepherd.*] Was the building constructed entirely under the direction of the Society? The arrangements were made under the direction of the Society.
1350. Did you calculate the number of cubic feet for each officer in constructing the building? No. We knew we were erecting a building which would be ample for many years to come—altogether too large for our then requirements.
1351. Have you any special arrangements for ventilation, or do you simply rely on the windows? Chiefly the windows. We endeavoured to improve the ventilation a little time ago by breaking through a thick wall in the basement. We have iron gratings over the pavements in the front, which communicate with some of the basement rooms, and we broke through an intermediate wall, which permits a current of air to go through the basement building now. That ascends, and I think it improves the ventilation a good deal.
1352. Is your strong-room absolutely fireproof? Yes.
1353. How is it constructed? It is constructed of concrete, and some kind of fire-resisting material. It has iron doors, and very thick walls.

WEDNESDAY, 1 MARCH, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.

The Hon. ANDREW GARRAN, LL.D.

The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.

ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

John Williamson Manson, Architect, sworn, and examined:—

J. W.  
Manson.  
1 Mar., 1899.

1354. *Chairman.*] Are you the architect of the buildings in course of erection for Dalgety & Co., at the corner of Bent and O'Connell Streets? Yes.

1355. What are those buildings specially designed for? For offices for the company.

1356. In designing those buildings, were you informed as to the number of the clerks, and as to the accommodation which would be required for them? Yes.

1357. I suppose that is always done? Yes.

1358. Have you had an opportunity of examining the plans now before the Committee? No.

1359. Then, I suppose, you are not prepared to give an opinion as to their suitability? No; it requires an examination of them to enable one to do that.

1360. Can you give us any idea as to the amount of floor-space to be allotted to the clerks in Dalgety & Co.'s buildings? I may mention that there are a number of single rooms for heads of Departments which take up a good deal of room. The main office, however, is 1,564 square feet.

1361. How many clerks will that accommodate? There will be twelve clerks there, but in the room immediately above it—the wool office—which is of the same dimensions, there will be twenty-five clerks.

1362. Is there any space provided for the public in the main office? Yes; but I have referred to the actual space occupied by the clerks. I may mention that in the general office, there is a good deal of moving about, and books and papers are required. More room is wanted in a case of that kind than in cases where men sit down quietly at their desks.

1363. What is the space allowed for the manager's room? 19 ft. 6 in. by 15 ft. 6 in.

1364. *Dr. Garran.*] Are there any other officers there who have rooms to themselves? Yes, a great many.

1365. What sized rooms have you given them? About 18 feet by 14 feet is the average size.

1366. Were you obliged to make the space 18 feet by 14 feet? No; that is how the plan turned out.

1367. Have you an inside corridor? Yes.

1368. Is there any method of ventilation other than the opening of windows provided in the large rooms? There are ordinary outside ventilators. There is no artificial ventilation.

1369. I suppose you trust to the windows a good deal? Yes. I may add that there is a good deal of corridor space, and also an open staircase.

1370. Of course, in this climate you can have the windows open during the greater part of the year? Yes.

1371. Where a large number of persons are in one room it frequently happens that open windows do not suit the whole of them? That is so. You must provide some ventilation without causing a draught.

1372. Is it possible to do that without artificial means? Under certain conditions it is, but generally speaking it is not.

1373. I presume that there are very few offices in Sydney which have artificial means of ventilation? Very few.

1374. And where it does exist, is it a success or not? I do not know of any office in Sydney where I have had the opportunity of seeing it work. I have seen fans working, and they are very satisfactory, but I have not seen them working in offices.

1375. Do the fans exhaust the air, and bring in fresher? You can exhaust or force the air.

1376. I suppose that in muggy weather, if a room is at all likely to be stuffy, you could not get good ventilation without a draught? No.

1377. As you are aware, there are not only very hot days here, but occasionally very muggy days;—in days like that, should we not have extra ventilation? Yes.

1378. I believe that in the principal room at Dalgety's you have allotted about 60 square feet to each clerk? Yes; of course every office has its peculiar requirements. They wanted this space at Dalgety's. There is a good deal of moving about, and they do not want the men to be cramped for room. There are a number of books, and papers, and tables, and they have to be provided for.

1379. Would many of the officers who work in that room be out in the course of the day doing business elsewhere, and thus relieving the pressure on the room? I think they all remain in the office. I believe there are a couple of boys who are moving about most of the time, but the bulk of the clerks are in the office the whole of the day.

1380. Have you had anything to do with the arrangement of the furniture? Not yet; but I shall have. I have only a rough plan from the head of each Department, showing the desks required for those Departments. I may state that there is ample room in the main office for the clerks.

1381. We have had evidence to the effect that the proper allowance, in a climate such as this, is a floor-space of 100 square feet to each person;—do you think that an excessive amount? It all depends upon what the clerks are doing. If the clerks simply sit in their places, they do not require more. I should think that that amount would be quite enough.

1382. I presume you know that if air becomes vitiated, you cannot get the same quantity of work out of men as you would get out of them in a purer atmosphere? That is so. I do not see any difficulty, with modern ventilating appliances, in ventilating any place so long as you have an opening to exhaust the air, and reasonable window space.

1383. It is of course to the interests of an employer that his clerks shall work in fresh air, and not be suffocated? Yes.

1384. And you think 60 square feet is enough for each clerk? That is the amount which is provided at Dalgety & Co.'s. Of course the Government are setting a good example in giving ample accommodation, and in making the circumstances under which work is to be done as comfortable as possible.

J. W.  
Manson.

Mar., 1899.

1385. Do you think 100 square feet is too great for Government officers to work in? It is a very good space. I think 60 square feet would be enough, but in some cases I would rather give a little more.

1386. Do you think, wherever the architect can arrange it, that a room 16 feet by 16 feet is a fair size for an officer who is supposed to have a room to himself? Yes.

1387. Do you think that would be sufficient for an Under Secretary? Yes.

1388. Do you think the proposed building will harmonise with the buildings which will surround it? I think it will harmonise very well with the buildings about there.

1389. It is proposed to devote the basement of the building to the purposes of a museum;—do you think a basement like that, which is partly a ground floor, and partly a basement, would be a good site for a museum? Very good. Where there are heavy exhibits it is better there than anywhere else, and it is more convenient for the public.

1390. It is proposed to remove the exhibits from the building in the Domain to this structure;—do you think it would be a good position for a museum so far as the public are concerned? I think so, if there is sufficient light.

1391. The light on the Bridge-street side will be very good, inasmuch as there will be full-sized windows to the street. There will be a central light, and also a certain amount of area light on the other side, but not so good a light on the side where the basement is sunk? I had the same difficulty at Dalgety's, but I find the light ample for office purposes.

1392. Do you think there will be enough light for the purposes of a museum? Without seeing a plan of the proposed building, I could not very well say.

1393. The central lighting area will be 26 feet square? If that is all glassed, there will be a good light.

1394. Are you making any strong-rooms in Dalgety & Co.'s building? Yes, several; running from the basement right through.

1395. Do you enter on each separate floor? Yes.

1396. Do you provide that method of entrance in preference to an inside staircase? It is better for the purposes of the company.

1397. Do Dalgety & Co. propose to let off any portion of their buildings to other people? No.

1398. You prefer the plan of each floor having its strong-room? Yes; it works better, and it gives more room. A staircase inside will take up a good portion—about one-sixth—of the space.

1399. Are you building the strong-room of brick and cement? Yes.

1400. With any lining of iron? No.

1401. Of what are you making the floor? With terra cotta lumber, and steel joists.

1402. Are you constructing the racks for holding papers of steel? Of enamelled iron.

1403. If the building happened to catch fire and were burnt down, do you think the strong-room would stand of itself? I believe it would.

1404. You consider that the books and papers in the strong-room would be unharmed? Yes.

1405. Is the building itself a fireproof building? No.

1406. In constructing public buildings, in connection with which the documents used are not put into a strong-room, but are still of a valuable character, would you recommend a semi-fireproof construction? Yes.

1407. You do not think that a waste of money? Not in a public building, where the papers are very valuable indeed.

1408. It would embarrass the Government a good deal to lose ledgers and books? I presume it would.

1409. And you do not think a semi-fireproof construction of a public building would be a waste? No.

1410. If you were the Government Architect, would you make any new pile of buildings you erected fire-proof? Yes.

1411. Generally speaking, you think that a fireproof structure, with strong-rooms for special papers, would add security to Government buildings? Yes. I have never seen a really fireproof building in Sydney. I do not think such a thing exists, excepting in connection with the Safe Deposit Company. There are always such things as furniture about, which will burn. I have seen photographs of so-called fireproof buildings, where the intense heat has affected the constructions and brought the buildings down.

1412. As you are aware, in some of the Government offices there is a large amount of furniture, such as tables, book-cases, and so on;—do you think that if they caught fire they would try a fireproof room? In any ordinary-sized room they would not do any harm at all.

1413. The proposition put before us is that a fire in any one of these rooms might burn all the windows, but would not damage the rest of the building? That would be so in connection with good-sized rooms, not overcarried with furniture.

1414. It is proposed to make all the partitions of steel lathing;—do you approve of that? Yes; it is very good construction, and not expensive.

1415. Could you, judging from what you see of the plans, say whether the corridors would be sufficiently lighted? Yes; they would be fairly well lighted.

1416. If you had to make a fireproof staircase, what material would you use? Iron.

1417. Do you think iron will stand the effect of a fire? There would be nothing to burn if it were all iron.

1418. Would not the flames and water get into the iron and affect it? Certainly.

1419. Would such a structure be better than a brick and cement structure? If there were anything inflammable about the staircase, material which would burn fiercely and for some time, I would put in brick or cement; but an ordinary open iron staircase is quite good enough if there is nothing inflammable stored about it. It is very seldom that there is anything to burn under a staircase.

1420. In planning a building, would you put the staircases well away from the lift? Generally speaking, they are put together.

1421. Supposing a fire breaks out close to a lift, the staircases would, of course, under those circumstances, be choked with smoke? Yes.

1422. Would it be desirable, under those circumstances, to put them apart from each other? I do not think it is worth while considering that matter. The event is so unlikely that it would not be wise to separate the two. I would not spoil the arrangements of a building in order to avoid that contingency.

1423. Would a stone staircase be likely to split under fire? I do not think so.

1424. *Mr. Trickett.*] How many principals and clerks are to be accommodated in Dalgety & Co.'s building? About seventy.

- J. W. Manson.  
1 Mar., 1899.
1425. What is the floor space which will be occupied by them? The main floor is 6,365 square feet.
1426. *Mr. Watson.*] Is that exclusive of corridors? No; that is the total area. The corridors amount to about 1,200 square feet. The building is of four stories. Three of the floors have a space of about 18,000 square feet. The top floor is being made for future requirements and expansion.
1427. So that the seventy employees will occupy the three floors, comprising about 12,000 square feet? Yes.
1428. And in addition to that there is a top floor? Yes, at present used as a laboratory and for storing.
1429. Of the 18,000 square feet, how much must we allow for corridors, lavatories, safe accommodation, and lifts? I am afraid I cannot say at present, but I will supply the information. [*Vide Appendix.*]
1430. Is there a corridor running through the building so as to make the rooms front O'Connell and Bent Streets? No; the main corridor runs in a line with Bent-street.
1431. What is the width of the corridor? 9 ft. 6 in. or 10 feet.
1432. That, I presume, is an ample corridor? Yes; of course, there is a good deal of traffic.
1433. What will be the cost of the building? Approximately, about £18,000.
1434. Do you know the extent of the frontages to Bent-street and O'Connell-street? Yes; it is 104 feet to Bent-street, and about 90 feet to O'Connell-street.
1435. I presume the offices will be fitted up in modern style, with not too elaborate furniture? That is so.
1436. What would you think of a proposal under which the perspective drawings which you see around this room were prepared, showing the details of a building to cost £97,000, and then getting the heads of the various Departments, who are to occupy those buildings to go and look at them, and see how they are going to fit themselves into them. Is that the usual way of going to work? No. It would be better to get the requirements of the various Departments first, excepting in the case of a peculiar site. As far as one can see there has been, in the present instance, a very wise arrangement of the building so far as the site is concerned and the light. But the practice is to get all the detailed requirements before making your sketches.
1437. Of what are you constructing Dalgety & Co.'s building? Of brick, with stone dressings.
1438. Is that fairly expensive? It is much cheaper than stone.
1439. Dr. Garran has asked you something about special or shaft ventilation;—do you know of any place in Sydney where they have gone to the expense of providing electric fans? No; they may be put in a badly-situated building, where they could not possibly obtain ventilation otherwise.
1440. But are not ordinary air-shafts, with a patent revolving apparatus attached, very effective in the way of drawing out heated air? They are ineffective, and are always getting out of order.
1441. In a building which is occupied by a large number of employees, do you think it would be advisable to adopt that plan? Yes.
1442. It is proposed that the basement of the new buildings should be occupied by the museum in connection with the Mines Department;—you will see from the plans that it is lighted on the eastern side partly by area lighting; on the northern side it will be open; on the western side it will also be open, and over the air-space on the first floor will be a skylight;—do you think that will give ample light for the purposes of a museum? Very good light.
1443. So that in that respect you have nothing to fear? I do not think so. The worst place will be on the eastern side, but with the other light there ought to be sufficient.
1444. *Chairman.*] What is the amount of floor space occupied by the clerk in your own office? It is very small, but one cannot get what one would wish in the city in the way of an office. I have three small rooms, and the whole area is about 460 feet. One room is 14 feet by 12 feet, and two rooms are 12 feet by 12 feet.
1445. How many draftsmen do you usually employ? Two. When I have temporary assistance there are three.
1446. Is that all there would be employed? Yes; they are extremely cramped.
1447. In your profession you necessarily require much larger floor space than ordinary clerks? Yes; I may state that I am so cramped that I want double the space to do the work comfortably.
1448. Would a space of 10 feet by 10 feet per man give you plenty of room? No; in the first place we want a large drawing table, and another table is wanted on which to put plans. There must also be a rack for other plans, and a little desk which would fill up the whole space. For one draftsman to work comfortably you want an office 15 feet square at least.
1449. Supposing you had a dozen men together at that sort of work? It would take less—say 15 feet by 12 feet. Of course in a large office where there are from fifteen to twenty men you would want less space.
1450. *Mr. Watson.*] Mr. Trickett asked you a question as to whether, in connection with a building such as the one proposed to be erected, you would first get your rough plans out, and then invite the officers of the departments to tell you what were their requirements. I should like to ask you whether, in the event of your being informed by two departments that one required 23,000 superficial feet and the other 43,000 superficial feet, you would not feel justified in proceeding with the sketch plans? Yes; to the extent of rough sketches—that is, to show how the area could be put to the best accommodation. The plans before you are, I suppose, subject to alteration, if necessary. I think that Mr. Trickett's question referred to detailed plans.
1451. Of course, you would not called the plans before the Committee detail plans? No; sketches only.
1452. To give an idea of what it is proposed to do with the site? Yes.

Robert Etheridge, Curator, Australian Museum, sworn, and examined:—

- R. Etheridge.  
1 March, 1899.
1453. *Mr. Dick.*] I believe that the Museum of which you have charge is an educational institution? We try to make it so.
1454. Have you a great variety of exhibits of natural history and minerals? Yes, and fossil organic remains. Using the expression "natural history" in its broadest sense, we include the whole under one term.
1455. Have you any timber in the Museum? No. We do not take in botany in any shape or form.
1456. Are there any exhibits of wool or of agricultural specimens? No.
1457. I believe you have a large set of mineral exhibits? Yes, we have a fine mineral collection—chiefly foreign. 1458.

R. Etheridge.

1 Mar., 1899.

1458. Is your Australian series of mineral exhibits complete? Not by any means.
1459. Is it as good as that of the Technological Museum? Yes; it is quite as good as that.
1460. I suppose you know that it is proposed, at a later period, to considerably extend the building which you now occupy? It is under gradual extension now.
1461. In what direction is your collection mainly extending? Chiefly in the zoological department and in ethnology—that is, in all matters relating to man.
1462. Then there is no great increase in your mineral department? No. We are not favourably suited for increasing it. We have no connection with mining centres. We have to depend simply upon gifts.
1463. Do you think you could accommodate the greater part of the Technological Museum exhibits in your present building? No. In fact, we have not room for our own possessions, much less anything else. I could fill a museum half again the size of the present Australian Museum from my stores without spending a single halfpenny in the purchase of specimens.
1464. What is the average attendance per day? Last year, on week days, our average attendance was 334, that is for five days in the week. On Sundays, when we are open for three hours, the average attendance was 561. The full attendance last year was 116,961. These figures are absolutely correct, because we have turnstiles at the institution.
1465. Do you think any public advantage would result from the institution of another mineral museum within a short distance of yours? That entirely depends on the point from which you look at the matter. If you look at the matter from a national point of view, the more these museums are agglomerated together, the better. If you look at the matter from a Departmental point of view, if a museum is to be of practical use to the Department to which it is attached, it should go with the Department. From a national point of view, the more you bring the museums together, there is the lessening of expense in every way, and better opportunities for displaying these specimens.
1466. Is there not a wide difference between a reference museum for Departmental purposes solely, and a general museum for national or educational purposes? Undoubtedly.
1467. Do you think it is wise to multiply within a very small area—to duplicate in fact—museums for the general education for the public? No.
1468. Your idea is, then, that a Departmental museum of the reference kind is essential to the Department; but nothing further so far as Departmental requirements are concerned? That is so. That is the view I have held for a long time.
1469. Can you give us a rough idea of the amount of space which would be required for a fairly well-equipped reference museum? I should not think they would require anything larger than the space at present occupied by the iron shed in the Domain. I should think that ought to be quite large enough.
1470. *Chairman.*] Would it be necessary to keep the exhibits in glass cases, in connection with the reference museum? Yes.
1471. *Mr. Dick.*] Do you find many inquirers amongst men who are seeking for information prior to entering into financial enterprises in connection with mines? We get a very fair number; I could not say that we get a large number.
1472. At any rate, you have inquiries? Certainly.
1473. I presume the Technical College at Ultimo requires a museum? They require class collections for the teaching of the students.
1474. With the reservation in regard to the requirements of technical schools, you think it would be a wise thing to combine all these museums in one large institution? Decidedly.
1475. *Dr. Garran.*] Do you know the museum at the Technical College at Ultimo as well as you know the museum in the Domain? I cannot say I know it intimately; still I occasionally go to it.
1476. Do you think the commercial specimens, which you do not keep in your own building, are duplicated in those two museums? I think so, to a slight extent. I would not like to answer the question in a positive manner without taking another look at both of them, but I think it is so.
1477. Is there any unnecessary duplication? I think there is inclined to be.
1478. The Technical College would really be the most suitable place for articles of that description because there the teaching is done? Decidedly. All specimens relating to process work should undoubtedly be exhibited in the Technical College at Ultimo.
1479. Whatever is suitable for that museum is not wanted in the other museum? Certainly not. I should like to point out that I have been most scrupulously careful in introducing into the Australian Museum—nothing which can be construed into process work of any kind whatever—so as not to trench on the Technological Museum.
1480. Yours is a scientific museum? Exactly.
1481. Do you agree with the Superintendent of the Geological Department that he should have his minerals close to his elbow? That is quite right.
1482. And so far as he is concerned his mineral specimens ought to be in the office adjoining the one in which he himself is situated? They ought to be contiguous to him.
1483. You agree that he should have a museum? Yes; so long as it is restricted within its proper limits.
1484. But the mere industrial part of it had better go to the Technological Museum? I should say so.
1485. Some duplication is inevitable? You cannot help that.
1486. Do you know the University museum? What do you mean by the University museum;—do you mean the Macleay museum or the class museum.
1487. The class museum? Yes, I know it.
1488. Is that as good as it should be? No.
1489. Is there any unnecessary duplication there? No.
1490. I presume that the professors at the University really require, not only all they have got, but more? Certainly they do. It is impossible to lecture without.
1491. You think they are deficient at present? Yes; it is impossible to teach students the various subjects which they are supposed to be taught without actually putting the specimens into their hands, so that they may become acquainted with them, not only by the eye, but by the touch and feeling.
1492. Then you think our educational equipment there is defective? Yes; in that respect.
- 1493-4. It is proposed to make the basement of the new building into a museum. You will see from the plan that the windows facing Bridge-street will give a very good light. On the western side of the building, facing Young-street, there will also be a good light, but on the other two sides it will not be so good. There will be a sunken area on each side, and also a central open space, which will be covered by

R. Etheridge. a glass roof,—do you think that, taken all round, there will be a sufficiently good light for the museum? I should think so. Of course, I am not in love with any light which is derived from a sunken area, but if it is of limited extent it will not make much difference.

1 Mar., 1899.

1495. But you have not such a good light as that in the Museum? Not in one part of it. One part of it was constructed many years ago. It was not constructed for a museum, and not much attention was paid to the lighting; but in all the portions recently added we have really more light than we want. That light is derived from what is known as Helliwell's patent. It is a roof within a roof, and is easily cleaned.

1496. Is that light only applied to the upper storey? No; to two galleries and a hall.

1497. Who was the architect who designed that? The Government Architect. I am not sure whether it was at the close of Mr. Barnett's reign, or when Mr. Vernon came in, but I think it was when Mr. Vernon first took office.

1498. We are supposed to have on the basement of the new building 12,000 square feet of space;—would that be abundant to house all the specimens in the new museum? I think so.

1499. If the museum in the Domain, which will be transferred to this museum, were purged of all that should go to the museum at Ultimo, the 12,000 square feet would, in your opinion, be superabundant? I should say that it is ample.

1500. Which is the best collection of minerals we have in the Colony at present? From an Australian point of view, that of the Department of Mines; but if we look at it as a general collection of minerals I could not say whether it was better than ours or *vice versa*.

1501. If anyone from abroad asked you to show him every kind of gold-ore raised in New South Wales, you could not show him them? I should send him to the Departmental museum.

1502. If he asked you to show him specimens of tellurides, could you do it? Yes; but not as good as theirs.

1503. Is your mineral department one of your best? It is one of the best.

1504. Is it equal to the rest? Certainly.

1505. It is not your weak department? No.

1506. Have you anything there which there is not in the Mines Department? I dare say we have; but I would not like to answer the question off-hand. I dare say they have things which we have not.

1507. Are you still increasing your mineral collection? When we get the opportunity.

1508. *Mr. Watson.*] What do you consider the opportunity—the obtaining of specimens, or the finding of room? The obtaining of specimens, if we can get people to give them.

1509. Then you have room for them? The minerals are the only things I have room for, at present. I have a little room for further minerals, and that is the only room I have.

1510. *Dr. Garran.*] When the building is finished, will you have room for your collection? Room for a certain quantity. If the entire south wing were put up I should have room.

1511. The general effect of your evidence is, that we must have four different museums in Sydney—one at the University, one at the Technical College, one at the Mines Department, and one where you are? Yes.

1512. But that we could and ought to avoid duplication? Yes, and that might be done by arrangement.

1513. And that we ought to aim at making yours the most complete scientific collection? Yes. I consider that the Australian Museum in New South Wales takes, and should be permitted to take, the place of the British Museum in Great Britain.

1514. There is no common authority to govern the whole of the four museums;—perhaps they are in conflict with, and to a small degree jealous of, each other? Possibly.

1515. The only authority would be Ministerial? Exactly.

1516. They are not all under the same Department? To a certain extent the Technological Museum is a direct branch of the Public Instruction Department, and we are an offshoot.

1517. If the University is under any body it is under the Education Department? Certainly; but the class museums there have been practically formed by the professors themselves—almost entirely by the sole exertions of each professor. I should not be inclined to speak of them as a city or national museum, because they really are the absolute property of the University.

1518. They are the result of personal efforts? Exactly.

1519. And the State has never given anything for them? I think not, beyond the mere State grants to the University.

1520. *Mr. Shepherd.*] Would it be possible to make some arrangement so as to avoid such a multiplication of museums? Only by increasing one or other of them so that it could encompass the whole.

1521. Do you think it could be accomplished? Yes, at a considerable expense. You would require to put up an entirely new building, or increase one or other of the remainder, so as to take in the lot. Then there is this difficulty: The Technological museum, of course, should be attached to the Technical College just as much as the Mining museum should be attached to the Mines Department. It is a difficult thing to say exactly how to go to work to accomplish it, but if it could be accomplished it would be a great saving. If you could bring the Technical College and the Technological Museum in juxtaposition with the Mines Department and museum, and then bring them into juxtaposition with our Museum, you would get them all in one.

1522. Do you not think that such a museum would be of greater value than a number of museums distributed about the city and suburbs? Certainly.

1523. You could have a larger and better collection controlled by one head? Yes, and it would be a more cheaply managed collection.

1524. Do you see any difficulty in the way of creating one establishment for the whole? Nothing more or less than vested interest.

1525. Would it not be possible to arrange some portion of a building of that kind so that classes could be taken to it and instructed? Yes. Of course, we lay out one day a week for the attendance of any classes or people who are in want of instruction.

1526. I suppose, there is no doubt that in all these museums there is a great duplication of specimens? I would not say a great duplication, but there is duplication to a certain extent. Of course, in what you might call the strictly zoological part of our museum, there is no duplication.

1527. I suppose the Mines Department would have duplications of what you have? To some extent.

1528. And the Technical College as well? To some extent, no doubt.

1529. So that there are really three or four specimens where one ought to do? Possibly.

THURSDAY,

THURSDAY, 2 MARCH, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Edward William Knox, General Manager, Colonial Sugar Refining Company (Ltd.), sworn, and examined:—

1530. *Chairman.*] I believe you have had considerable experience in office work? I have been connected with a large business ever since I began business life. E. W. Knox.
1531. The Committee are anxious to know what would be a fair amount of space to allot to individuals doing office work;—can you give us any particulars as to the number of officers you employ, and the floor-space allotted to them? We have between sixty and seventy on our staff at present in the office, and the space inside the outer walls of the building consists of three floors of 2,800 feet each—8,400 in all—from which has to be deducted the staircase and corridors. When your Secretary spoke to me about the Committee wishing me to give what information I could on the subject, I calculated what I thought would be a fair allowance for each officer, and I came to the conclusion that 100 square feet was a fair thing, without taking into account the corridors and staircase. 2 Mar., 1899.
1532. Does your experience lead you to believe that 100 square feet is an ample average? Yes; I myself have a larger room of 200 square feet.
1533. I suppose that at times you receive a number of gentlemen in your office for the purpose of doing business with them? Yes.
1534. Do you find that you can transact business comfortably in that space? I think a room, the dimensions of which are about 250 square feet, is large enough for almost any one who has to transact business in an ordinary way.
1535. *Dr. Garran.*] Do you, as far as possible, put your staff of clerks in large rooms where they are subject to supervision, or do you put them in a number of rooms? We entered our present offices about fifteen years ago, and I had not given the matter as much consideration then as I have done since. We subdivided one floor into a number of small rooms with lath and plaster partitions. That, however, was, I think, a mistake. If I built a new office I would build a shell, and fill it up and subdivide it by means of glass partitions.
1536. Then your supervision on the floor to which you have referred is not so good as you would wish it to be? Nearly the whole of the floor is occupied by independent officers who do not require supervision.
1537. In a case of that kind, then, you would subdivide? I would subdivide with glass—not with lath and plaster.
1538. How much space do you consider a single officer in one room ought to have? Twelve feet or 15 feet by 10 feet—about 120 square feet.
1539. Do you consider that sufficient for an Under Secretary in the Government Service? Scarcely, because an Under Secretary sometimes has to see a large number of people at one time. I was referring rather to superior officers who have to do a good deal of work, and who require quietness in order to do it.
1540. What is the largest number of clerks you have in any one room? In the laboratory there are about fifteen.
1541. Have they 100 square feet of space each? Very nearly so, I think.
1542. I take it for granted that they would require fully that amount in a laboratory? I do not know that they require that space more in the laboratory than in any other room, because the men there work on their feet most of the time, and they keep the windows open more than it would be possible for them to do if the whole of them were engaged in clerical work.
1543. Are there no chemical vapours which vitiate the atmosphere of the laboratory? Not to any extent.
1544. What is the largest number of ordinary clerks occupying one of your rooms? There are twelve clerks in the main office down-stairs.
1545. Do you know the size of that room? It is about 50 feet by 20 feet. It is a very lofty room—a large open office.
1546. Do the public enter that room for the purpose of transacting business? Yes.
1547. Is a portion of the room railed off by means of a counter? Yes.
1548. Have you ever received any complaint from your clerks in regard to the condition of the atmosphere? No; the room is a very lofty one.
1549. Do you find that you can keep your windows open during office hours? We generally have the door open, and the windows are always open.
1550. We are advised that in many instances one clerk likes to keep the windows open, and another likes to keep them shut? Yes; that is often the case. The strongest man generally gets his own way.
1551. I suppose you can keep your windows open sufficiently to enable you to secure adequate ventilation and fresh air? Yes.
1552. Have you any special ventilating apparatus connected with the buildings? No.
1553. When you say that you allow about 100 square feet to each clerk, do you include in that space all the room occupied by single officers in various parts of the building? Yes.
1554. I take it that they would have a little more than 100 square feet of space? Yes; because if a man is shut up inside four walls the whole of the day, he must have a little more than would a number of officials who are spread over a large area.
1555. Do you carry your dividing partitions up to the roof? In places where you want quiet you must do so. For ordinary clerical work, I think the best arrangement is that which has been effected by the Australian Mutual Provident Society, where they have only low partitions.
1556. But where it is necessary for confidential conversation to go on you must necessarily make your offices more private? Yes.



- E. W. Knox. 1557. With regard to Government offices, where a large number of clerks are engaged, you would, I suppose, prefer a large open room for their accommodation? Yes.
- 2 Mar., 1899. 1558. You do not think, however, that the Government ought to allow its employees less than 100 square feet? I should not think it expedient to do so, because, after all, a man employed in an office passes the greater portion of his life there—that is, of his waking life.
1559. If you were planning a scheme like the one under the consideration of the Committee, and had to be in charge of from fifty to sixty clerks in one room, and you were asked what would be a fair space to allot to each of them, you would, I suppose, reply “100 square feet would be a reasonable amount”? It would be plenty.
1560. If you keep a man working from 9 a.m. until 5 p.m., you ought, of course, to give him as much fresh air as possible? That is so.
1561. I suppose you could not expect a man to do good work during the last three or four hours of the day if he were in a foul atmosphere? No.
1562. Do you think that 100 square feet would be about the standard to allow in new offices? About that.
1563. Were the offices which you occupy designed for you? No; the shell was put up, and we were left to fill it up with partitions in any way we pleased.
1564. The subdivisions are the work of the company? Yes. Since we first went into the building we have pulled down many of the subdivisions.
1565. You did that as the result of your experience? Yes.
1566. And your experience leads you to favour large rooms? Yes.
1567. Do you not find that confidential and leading officers like to shut themselves in? All the leading men have separate rooms.
1568. They do not like to be in a room with others? No; they should not be.
1569. Would you encourage that system in Government Departments for chief clerks? There you get beyond me, because I do not know to what extent the chief clerks have the direct supervision of those under them.
1570. There is a tendency in the Government Departments for officers to require rooms, so that they may shut themselves off? I think that is a mistake.
1571. You would only allow that where confidential conversation was really required? Yes.
1572. Do you find that your officers work fairly well, so far as space is concerned? Yes.
1573. If you had to build again would you make many changes? I would have nothing but glass for divisions.
1574. Do any of your men complain of want of ventilation? No, excepting in the very hot weather. The men on the top floor complain of the radiation of the heat from the roof. Unfortunately it is the practice in Sydney to make the lower rooms very lofty, and the top rooms very low, whereas the practice ought to be absolutely reversed.
1575. The top rooms are under slate or iron, and you cannot get away from the hot air? That is so.
1576. *Mr. Shepherd.*] I suppose the 100 square feet allotted to each clerk means 100 square feet of floor-space? Yes.
1577. Of course, the number of cubic feet would depend entirely upon the height of the rooms? Yes.
1578. What is the height of your different rooms? About 15 feet on the ground floor, 12 feet on the first floor, and 10 feet on the upper floor.
1579. Are 100 square feet allotted to each officer? No, that is how it works out roughly.
1580. How are the rooms ventilated? Only by windows, excepting on the top floor, which has ventilation through the roof as well. Of course, there are windows and openings into the corridors over the doors.
1581. Are the whole of the divisions of glass, or have you any divisions of other classes of material? On the ground floor they are all glass; on the first floor they are lath and plaster, and on the second floor they are match-boarding and glass.
1582. Is the building fully occupied by the sixty or seventy clerks, or have you room for more? There is, of course, the basement, but I would not put men there. Otherwise the place is rather too fully occupied.
1583. I suppose that on the ground floor a considerable space is occupied by an opening for visitors to come in? Yes.
1584. And there are a number of enclosed rooms on the ground floor? I gave you the area of the ground floor occupied by the twelve clerks as that which was not taken in by the enclosed rooms.
1585. Have you a regular length of desk, or has each clerk a table to himself? Downstairs we have nothing but desks; upstairs we have nothing but tables, excepting the desks of the book-keepers. Desks are the best for book-keepers.
1586. And the whole of the space on the three floors is occupied by clerks only? Yes.
1587. *Mr. Levien.*] You say that if you were building again you would have glass partitions between each room? Yes.
1588. Would you have none between the rooms of clerks who conduct confidential work? I do not think you can hear through a good glass partition.
1589. As a matter of fact, you would have each room with a partition of glass? Yes.
1590. Up to the ceiling? Yes.

FRIDAY, 3 MARCH, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Frederick Bickell Guthrie, F.C.S., Chemist, Department of Mines and Agriculture, sworn, and examined:—

1591. *Chairman.*] Will you give the Committee the particulars of your present accommodation? I have premises in the old Naval Stores, Circular Quay, behind the North German Lloyd wharf. I have one half of the building. It occupies a little under 4,000 square feet of floor space. It is fairly suitable, as far as room goes. I could do, of course, with more room, because I have a great deal of bulky stuff. It is a ramshackle building, and it is of no use trying to put up anything good in the way of fittings. In chemical work it is essential that the buildings should be as good as possible, and the appliances up to date. We are rather handicapped in that respect: The floor is shaky and it is difficult to get the chemical balances to read accurately on that account. It is a very dusty place, and is inconvenient in being separated from the rest of the Department. Of course, I have a certain advantage in being left to myself when work is required to go on continuously. There is, however, a disadvantage in being separated from other scientific officers of the Department, because we cannot exchange ideas very well. F. B. Guthrie,  
F.C.S.  
3 March, 1899.
1592. Would the work be done more economically under one roof? Undoubtedly. I think it would increase the efficiency of the work if we were all together.
1593. Do you know where you are to be located in the proposed new building? I believe on the top floor, fronting Bridge-street. The accommodation is about one-third less than what I have now, and the accommodation I have now is none too large for my work. I should like to urge upon the Committee the desirability of giving me, at least, the amount of accommodation I now have. I understand that some of the top floor might possibly be available.
1594. You are of opinion that the amount of space allotted to you in the proposed building is not sufficient? It is rather cramped.
1595. Where were you accommodated before you entered your present building? I had a basement in the Forestry Department in Macquarie-street—about half the size of what I have now—perhaps about 2,000 square feet of floor space. My work since then has grown considerably.
1596. Do you think it will expand greatly in the future? Yes.
1597. If you have 4,000 square feet now, the probabilities are that you will require a great deal more in a short time? I should not like to say that, because I think 4,000 square feet is a very fair size for a laboratory, and four or five of us could work there comfortably. I do not think the work would require much more space. We have no museums or collections or anything like that which grow in size.
1598. The main things which would make it desirable for you to remove would be the inconvenience of the stores in not being close to the Department, and their age, which accounts for the floor being shaky, thus interfering with the proper working of the Department? That is so.
1599. *Dr. Garran.*] What are the bulky articles which you have in your premises? We have a small wheat mill, which takes up a good deal of room. It is a permanent arrangement, and requires to be separated from the rest of the chemical work. It does not do for the flour to become contaminated with acid vapours. In addition to that I have often to undertake some investigation or inquiry requiring the use of bulky apparatus. For instance, some time ago I was asked to make experiments with regard to fumigating fruit. That involves the fitting up of a small chamber.
1600. It is the apparatus that is bulky, and not the articles sent to you? The articles sent are sometimes bulky.
1601. Do you analyse soils? Yes; they are sent in large bags.
1602. Do you analyse wheat? Yes; a great deal.
1603. Is that done free for the farmers? Yes.
1604. Do you make any use of the museum in the Domain? Not much.
1605. Do you require a museum for your work? No, excepting a small collection of new chemicals, new foddors, foods, and manures. I have a little museum of that kind of my own, but it is not connected with the Department.
1606. Would the basement of the proposed building suit you as well as the top storey? One floor would suit me as well as another. There is, however, an advantage in having a chemical laboratory near the top of a building. If it is on the basement it may be found inconvenient, because of the acid vapours which are given off.
1607. Have you any assistants? Yes, two.
1608. If the work increases, will you have to increase their number? Yes; I am to have another shortly.
1609. *Mr. Watson.*] What space have you now? 3,700 square feet, according to a rough measurement.
1610. And it is proposed to give you 2,500 square feet; even allowing for the bulky articles you have mentioned, does not that seem a very large area for yourself and for your three officers? Of course, a great deal of space is occupied by benches, tables, and so on; and a great deal of the work has to be separated. For example, we keep the balances in a room which is shut off from the rest of the space, so that they will not be affected by the vapours and fumes.
1611. The balances will not take up a great deal of space? No; but we have to keep certain work separate. For instance, the examination of water has to be conducted in a separate room, where there is absolutely no danger from contamination by fumes.
1612. Are you a great deal inconvenienced by being sent for by the head of the Department for consultations? Very often I have to stop work for half an hour or an hour to see the Minister or Under Secretary. If we were in the same building the delay would not be more, perhaps, than ten minutes.
1613. How far are you from the Mines Department? About five minutes walk. 1614.

- F. B. Guthrie, 1614. Then, from your point of view, it is necessary that you should be placed in close proximity to the Department? It would be very advantageous. With regard to my remarks about space, I wish to state that I do not want more than I have now; but any less space will cramp me.
- 3 March, 1899. 1615. Do you think you could manage with 2,500 square feet? Yes; it would rather cramp and inconvenience me.
1616. Do you think the probable increase which you speak of in your work will necessitate a great increase in space? I do not think so. I think the increase hitherto has necessitated more space; but we shall not have much more variety of subjects to deal with.
1617. Then you could accommodate a greater number of officers even with the same space if there is not a great increase in the variety of the matter treated? Yes.
1618. *Mr. Shepherd.*] How is your present space of 4,000 square feet occupied? It was originally one large room, and I subdivided it into different rooms. There is one main laboratory in which the assistants and myself work. That takes up about 1,200 square feet. It is fitted up with six benches. Then there is a room partitioned off for books and records, and the assistants also use it. That is a small room, about 12 feet square. There is a balance room, about 14 feet by 9 or 10 feet. There is a small room, about 10 feet square, fitted up as a dark room for testing sugars and so on. There is a room about 20 feet by 20 feet in which I generally work. It is fitted with benches and tables, and a writing desk. I use it as an office and laboratory. There is another room which I use for any special work which requires to be kept free from contamination. The rest of the space is taken up with shelves and stores. There is a table for samples as they come in. Another corner of the building is devoted to grinding samples and getting them ready for analysis.
1619. Altogether you have seven rooms? Yes.
1620. Do you keep the samples permanently? Only for a certain time.
1621. Do you find the space always fully occupied? Yes.
1622. Do you think it is likely that you will require additional space? No; 3,700 square feet would be enough for me.
1623. Are any of the manures which you have to investigate obnoxious so far as smell is concerned? Yes; that is a reason why it would be an advantage to be in an upper building. Of course the ordinary acids we use are also objectionable.
1624. *Mr. Levien.*] Would it not be rather awkward to convey the bulky samples with which you deal to an upper storey? We are up-stairs now, and have to raise them. We have a chain, pulley, and lift.
1625. There would be no lift in the new building beyond the passenger lift? Of course our bags of wheat and other stuff could not very well be put into a passenger lift.
1626. It would be necessary to have a lift or some other means of conveying heavy goods and samples to the top of the building? Yes; it would require some arrangement of that sort.
1627. How many bags of wheat do you get at a time? The other day the Chamber of Commerce, in conjunction with ourselves, were taking the standard weights of wheat, and they sent about thirty bags, containing about 2 bushels each, to us.
1628. And these would have to be taken to the top of the new building? Yes.
1629. Do you often receive heavy bags? Yes; bags weighing 100 lb.
1630. Do you ever receive any machinery? Yes; for instance, we have a wheat mill.
1631. Then, in your opinion, it would be better to have a lift for the conveyance of the bulky samples? Yes, unless there is a court-yard from which to raise heavy goods by means of a rope and pulley.
1632. Otherwise, you think the situation of your Department in the new building on top floor would be convenient? Yes.
1633. *Mr. Shepherd.*] Are these very heavy parcels of wheat frequently received? No, not frequently.
1634. Could they be unpacked and sent up? No. A bushel of wheat, for instance, would have to go as it was received. Cases of chemicals and apparatus could be unpacked.
1635. *Mr. Trickett.*] Who fills the position of Metallurgist? Mr. Taylor.
1636. Is he in the building? No; he is at the Clyde.
1637. Who is the Bacteriologist? There is not one.
1638. Who is the Dairy Expert? Mr. O'Callaghan. He is at present next door to me at the Queen's Wharf.
1639. Where is the Assayer? At the Clyde.
1640. So that really the only scientist in your branch in Sydney is yourself? There is Mr. Froggatt, the Entomologist.
1641. Is it proposed that he should occupy part of the 2,500 feet? No, he will have a separate room.
1642. Your branch includes yourself and two assistants, who will be increased to three, and the space to be allotted to you is 2,513 feet? Yes.
1643. Mr. Knox, of the Colonial Sugar Company, has a laboratory in O'Connell-street, occupied by fifteen people, over a floor-space of 1,500 square feet; you and three assistants are to be allotted 2,513 square feet;—does not that seem ample? Not really. I can accommodate a great many more people, but I cannot accommodate more apparatus. Mr. Knox's work is all of the same nature—testing sugars. At his place they can work as students work at the University. We, however, have a considerable amount of different kinds of work which has to be kept separate, and some of which takes up a considerable deal of room.
1644. The other day Mr. Pittman said he thought that you might possibly object to want of space, because, as he stated, no chemist in the world has as big a room as yourself, and you will be naturally loth to leave it? That is rather unkind of Mr. Pittman. I am surprised he made the remark.
1645. Do you think you are not asking for rather too much space? I do not think so.
1646. With regard to your tests of agricultural produce—wheat, manures, and so on;—is it not always usual to limit the bulk submitted for analysis where the premises are limited in extent? I do not wish you to imagine I have an enormous bulk of separate samples. We have, however, occasionally to keep bulky things, such as, for example, cases of fruit for the purpose of examination. These have to be provided for. It would not do to neglect an experiment simply because we have no means of getting a few cases into the building. The bulky things I spoke of were things like the wheat-mill apparatus for weighing the bushel of wheat, small chambers for fumigating fruit, &c., which take up more space than chemical apparatus usually does. I do not wish to be greedy about space, but I should be loth to have less than I have now.

1647. Were you, as the chemist whom it is sought to locate at the top of the proposed building, consulted as to the location, size, and suitability of the place you are expected to occupy? I do not think I ever was officially.

F. B. Guthrie,  
F.C.S.

3 March, 1899.

1648. *Mr. Dick.*] Can you give us a general outline of the work you do in your Department? We are, speaking generally, chemical advisers to the farmers. We make all kinds of analyses of farm produce and soils in order to show the best treatment for manures. We make analyses of fertilisers, and tell the farmers whether they are getting value for what they receive. We make analyses of well waters, chiefly with a view to testing their suitability for irrigation or watering stock. We also make analyses of milk, butter, and cheese. Last year and previous years we had a good many beets to analyse, especially when Mr. Lee was cultivating beet at Tenterfield. We analyse fodder to ascertain its value and composition. We frequently analyse samples of plants which are supposed to be poisonous to stock. In addition to that, we have to give advice from the chemist's point of view, and undertake investigations into any questions of interest to the farming community.

1649. What does Mr. O'Callaghan do as a dairy expert? He, or his assistant, examines butter and milk as a bacteriologist. The work I have to do in regard to these things is to ascertain their chemical composition.

1650. Does Mr. Hamlet, the Government Analyst, also make analyses of water? His work is mostly in connection with the Board of Health. He deals with water for human consumption.

1651. His work in that connection, however, is in many respects similar to yours? It is a similar class of work, but the analysis requires a different application.

1652. If Mr. Hamlet makes a chemical analysis of water, he is doing similar work to yourself? Personally, I do not see why one Department should not examine all the waters, excepting, of course, that the farmers like to deal with the Department of Agriculture.

1653. There is also a chemical laboratory at the Mines Department? A laboratory for assaying and for the analysis of minerals, stones, and rocks.

1654. Do you think any economy, in the way of gas chambers and the various appurtenances to a laboratory, could be secured by combining the various laboratories under one roof? I do not think so. It would not decrease the quantity of work to be done.

1655. Do you not think that a large building could be fitted up in such a way as to result in a material decrease in the amount of apparatus required? I do not think you would find that there would be much saving. Each of us is working full time and overtime, and have more than we could do. In order to save in chemical apparatus we should have to do less. The more work there is the more chemicals have to be used.

1656. I am referring more to the mechanical appurtenances? The bulk of the Assayer's apparatus in the Department of Mines consists of such things as furnaces, which, of course, I do not use at all. There would be no saving there.

1657. Do you know the chemical laboratory at the University? Yes.

1658. The amount of space allotted to each student there is very small? Yes.

1659. You will find students there engaged not only in class, but in special work in the one building? Yes; but they have a fairly big laboratory. Their floor-space is considerably more than I have.

1660. What special apparatus have you besides the wheat-mill which takes up a lot of room? Practically very little, excepting benches and tables.

1661. Apart from the wheat-mill, have you any special apparatus of an extensive character? An occasional one has to be fitted up. For instance, I had to fit up a couple of big cases for the fumigation of fruit. I require a special room for that. I am fitting up an apparatus for taking up the weight of a bushel of wheat. That I have had to put into the basement in territory which does not belong to me—not so much on account of want of room, as on account of the floor being so shaky.

1662. Do you think if a decent floor were put down, the place would suit your purposes for many years to come? It is such an old and dilapidated building that, I think, the Government Architect would object to put a good floor into it. The walls, of course, are good.

1663. Do you keep samples of various kinds of soil? I used to try and keep them altogether, but I found the samples took up too much room. We keep them for about a year now. Of course we keep the results of the analyses. With regard to the accommodation at my disposal, I should like to say that I am occupying the rooms which used to be occupied by the analyst at the Clyde, and I have never heard him complain of their being too large. Mr. Hamlet, the Government Analyst, was next door to me, and occupied premises which are of exactly the same size. If Mr. Pittman says I have the largest laboratory of anyone in the world, I can only reply that I occupy exactly the premises his analyst occupied, and a space exactly similar to that which Mr. Hamlet occupied.

1664. What space does Mr. Hamlet occupy now? I do not know, but I do not think he has so much.

1665. Would it be wise to send your samples of soil when you have done with them to the Technological Museum? I should be glad to do so.

1666. *Chairman.*] How long have you held your present position? Since 1892.

1667. What were you doing before you entered the Government service? I was Demonstrator in Chemistry at the University of Sydney.

1668. Supposing you were in private practice doing work similar to that which you are doing at present, necessitating the employment of two assistants—do you think you would go to the expense of renting premises of 4,000 square feet? I should, if I could afford it.

1669. That is if money were no object? Yes. Of course, one would have to take into consideration the question of rent.

1670. The Government, being the providers in this instance of both space and money, you have not, I suppose, given much consideration to the question of economy? I feel, of course, justified in asking that I should not be cramped.

1671. You have not had occasion to think much of the question of economy? No.

1672. Are there many private laboratories in Sydney? Yes.

1673. What class of business does Mr. Vale do? He is an assayer. Dr. Helms has a fair-sized laboratory, and does general work. Mr. Dixon also has a fair-sized laboratory.

1674. Do they occupy anything like the space, which is provided for you in the new building? I should think they have nearly as much. Dr. Helms has a floor in Bridge-street, and Mr. Dixon has a floor in a street off Pitt-street.

1675.

- F. B. Guthrie, F.C.S.  
3 March, 1899.
1675. Is there not an overlapping of work, and could not some of that which you have to do, such as analysing soil, be done at the Clyde works? Not with the present staff. All their time is fully occupied.
1676. Would it be possible, by a better arrangement of work, for you to do with less space than you ask for? I could do with less space, certainly. If you only give me a certain space, I must manage with it.
1677. But you could do your work much better with plenty of elbow room? That is so.
1678. I understand that the Board of Inquiry, in regard to proposed buildings, stated that you asked for 4,500 square feet, and that they had to cut it down considerably;—did they cut it down without consulting you? Yes. I admit that I asked for more than was absolutely necessary. I did this in order to provide for expansion, and because I anticipated that whatever space I asked for would be reduced.
1679. *Mr. Levien.*] Are you frequently interviewed by farmers? Yes.
1680. Then it would be better for you to have your Department in Sydney than at Clyde? Certainly. Farmers generally go to the head office first, and then come to me.
1681. I suppose a personal interview with these men is far better than writing to them? Yes.

Alexander Bruce, Chief Inspector of Stock, Department of Mines and Agriculture, sworn, and examined:—

- A. Bruce.  
3 March, 1899.
1682. *Chairman.*] Where are your offices? In Young-street, in a house belonging to Mrs. Rosenthal.
1683. What rent do you pay? £175 per annum.
1684. *Mr. Dick.*] Give us a general idea of the work carried on by your Department? As Chief Inspector of Stock, I have to do with everything in regard to stock which comes within the scope of the Government,—principally in connection with the prevention of diseases to stock. Then I have charge of the registration of brands, pounds, and commons. I have to carry out the administration of the Stock Protection Act with respect to noxious animals.
1685. Do you employ officers who are skilled in stock diseases? Yes; there are about fifty inspectors, and a qualified veterinary surgeon.
1686. What qualifications do the inspectors possess? They pass an examination by the Stock Board of examiners.
1687. How many officers have you in the head office in Sydney? Fourteen including myself.
1688. What floor-space have you? 1,300 or 1,400 square feet. We are very much cramped for room.
1689. If you were provided with one large room, how many men could you put in it? I should like to get the whole of the staff in one room. It would be very convenient. My work is so much connected with the public, that I should like to have the ground floor of the proposed new building. We have to examine dogs and horses at the door. We have a continuous stream of people calling with respect to stock, which are going away by ships and trains.
1690. If you could not get a large room on the ground floor, do you think the basement would be suitable for you? Yes, if it were well lighted.
1691. *Mr. Trickett.*] Do I understand that horses and dogs are brought to you for inspection at your office door? Yes; generally on their way to be shipped. A person comes and makes a declaration, and subsequently brings his horse, which is inspected. The inspector signs a certificate, and hands it to the man in charge of the horse, generally when it is on its way to the ship.
1692. In a building in connection with which such a process as that is in operation, would it not be better that there should be a small court-yard where you could carry out your inspections? We have been accustomed to do it in the street. I do not know that there need be special provision for it. There is a lane in connection with the new building which would be very convenient.
1693. Were you ever consulted about the construction of the building? The heads of the different branches were invited by the Under Secretary to talk the matter over a few days ago.
1694. Was that before the plans were prepared? No. I think, however, there was some consultation some time ago, but I forget what took place.
1695. Are your clerks in different rooms? Yes, we are in seven different rooms.
1696. Would it be better to have them in one large room? Yes.
1697. Is your staff at present on different floors? Yes. We shall require about 2,000 square feet of space.
1698. Is your work in any way connected with the Chemist's department? Sometimes we have to send him plants to ascertain whether they are poisonous.
1699. It is proposed to locate the Chemist in the top storey of the building;—what is your opinion with regard to that arrangement? It would be very convenient for us.
1700. At present you have to send your work to Mr. Guthrie, at the Quay? Yes.
1701. Is that inconvenient? It would be very much better if we could be together. I find it very inconvenient, even now, to be sent for by the Minister as I frequently am.
1702. Is the quarantine of dogs, &c., under your Department? Yes; we have a quarantine at Randwick, one at Shark Island, and one at Bradley's Head.
1703. How do you work them? One of the inspectors takes charge along with a Government veterinary surgeon.
1704. Any dealings with animals in quarantine have to go through your office? Yes; in fact, we have to get notice that they are coming before they arrive.
1705. Are you connected with these stations by telephone? Yes.
1706. Do you think the accommodation you are asking for is ample for some years to come? I think it is, because I used to do work which some of the branches of the Agriculture Department have taken up.
1707. In erecting office accommodation for your branch of the Department, is any special consideration necessary, excepting that you should be as near to the ground-floor as possible? I do not think so.
1708. *Dr. Garran.*] Do any of your officers make use of the museum in the Domain? We have to refer to it at times, but not much.
1709. What about? About wool, plants, and animals.
1710. *Mr. Watson.*] Is your branch likely at any time to be brought under the Lands Department? I do not think it could possibly leave the Agriculture Department.
1711. Is it not a fact that your work and theirs comes very much in contact with regard to the administration of stock routes, annual leases, and reserves? Yes; but that is a comparatively small portion of my work. In every other part of the world, the Stock Branch is attached to the Agriculture Department.

1712. Then the small portion of your work which touches the Lands Department is not sufficient to justify your inclusion with them? No.

1713. *Mr. Shepherd.*] You say you require a space of 2,000 square feet? Yes.

1714. And your staff consists of fourteen? Yes.

1715. Are they supposed to occupy the whole of the 2,000 square feet? I need a pretty large room, because I frequently have meetings of the directors and other bodies. The Government Veterinary Surgeon would take up a large space. He has two rooms now, and I do not know that he could do with less. Besides there are frequently four or five people in the place at a time. We require a good deal of space for the public.

1716. In that case you would not require the whole of the 2,000 square feet in one room? There need only be a temporary partition between myself and the officers.

1717. You would have an office to yourself? Yes.

1718. And one for the Veterinary Surgeon? Yes.

1719. And the remainder could be placed in one room? Yes.

1720. Do you not think that 2,000 square feet is a very large space for the accommodation of a staff of fourteen? I speak from my experience of what I have at present. We have a large number of books and papers which require shelving.

1721. Do your inspectors often visit Sydney? Occasionally. Of course they would not require extra accommodation. They merely interview me, send in reports, and so on. We send out 11,000 or 12,000 letters during a year.

A. Bruce.  
8 March, 1899.

WEDNESDAY, 8 MARCH, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD,  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Denison Samuel King Miller, Accountant, Bank of New South Wales, sworn, and examined:—

1722. *Chairman.*] Can you give the Committee information with reference to the number of officers employed in the head office of the Bank of New South Wales, and the floor space occupied by them? Yes; I have drawn a rough sketch showing each room, and I have also particulars of the number of clerks. The main banking hall is 45 feet by 90 feet by 18 feet high. The principal working space is behind a long counter to which the public go. That space is 24 feet by 44 feet, and in it there are forty clerks working. They are arranged along desks in such order as to take up as little space as possible, and to give every convenience in the shape of access. My office is located so that I can see the whole of these clerks at work. The room I occupy is 12 feet by 10 feet. That room is for myself and a clerk. At the side of where I sit there is further counter accommodation for the public. There is a working space there of 29 feet 6 inches by 10 feet, in which seven clerks are working. They attend to a great number of the public who stand on the opposite side of the counter. Nearer the front of the building the sub-manager is located. He occupies a room 7 feet 6 inches by 9 feet 6 inches, which is quite enough for him; and he, like myself, interviews people all day long. As a rule, I only require to see one person at a time, and if there is enough room for one's self, a table upon which to put necessary papers, and a chair for a visitor, it is quite sufficient. We go up a few steps at the rear of the main banking hall to the portion which we call the Government banking chamber. The whole of the space occupied by the Government banking chamber is 45 feet by 57 feet by 13 feet 6 inches high. The working space is 23 feet 6 inches by 23 feet by 13 feet 6 inches high. Nine clerks are working in that space at present, but when we did the whole of the Government banking business we had twelve or thirteen clerks there. At the back of that we have the chief cashier and three clerks in a space of 16 feet by 16 feet. He is given that amount of space because he has a large quantity of notes always on hand, which require to be sorted out during the day. We have an entrance to the inward exchange department from the side street for clerks from other banks. They only do routine banking business. There are from six to eight clerks there, and they occupy a space of 24 feet by 13 feet. Next to that is a room 8 feet by 11 feet 6 inches. In that room is the secretary to the exchanges for settlement with the banks in Sydney. In that room there is a desk and copying press. Adjoining it we have a makeshift for a library, which is 14 feet by 10 feet. Next to it is another room, 18 feet by 9 feet, which is occupied by a clerk and the auditors when they come round each half year. We keep that room practically for their use. That comprises the main banking hall from the front to the back. We also have a suite of rooms for the accommodation of clerks. The manager occupies a room 14 feet by 16 feet and 18 feet high. Outside his room is a waiting-room, which is used by people who come to see him. That room is 14 feet by 6 feet. Next to the manager's room is a room for securities and head office deeds only. That is so arranged that people who come to see the manager can go into the next room, and a clerk can attend to them. The room for securities and deeds is 20 feet by 13 feet. In it there are five clerks, and the necessary deeds for carrying on the head office work. Deeds and large tabular books have frequently to be spread out there. Then there is a room 23 feet by 17 feet for the purpose of dealing with bills, correspondence, and postage. In that room we have ten clerks. They also attend to the public who come to make inquiries. Next to that room is a room which we call our country office, which is 23 feet square, and in which are seventeen clerks at work. We have room for two or three more to attend to the public as they come in. At the back we have the Gold Department. In that we do all the smelting and assaying. That is divided into four rooms and a bath-room. There is a complete assaying plant, and it takes in about 23 feet by 25 or 26 feet.

1723. What is the total number of officials employed on the ground floor? 107 clerks on the working space, without taking into consideration the part allotted to the public. That gives each clerk 700 cubic feet.

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feet. According to the Factories Act 400 cubic feet must be provided for each person, and under those conditions we could employ 325 people on the ground-floor.

1724. Has there ever been any sign of ill-health on the part of the clerks owing to overcrowding? None whatever. We are well situated with regard to ventilation. We have windows 5 feet 4 inches by 10 feet high, and they are open at the top and bottom all day.

1725. Do you find the ventilation from the window openings sufficient? Yes.

1726. Have you any mechanical appliances for ventilation? No; we have one or two ventilating shafts. Of course, the lift acts as a ventilating shaft, and in a room where we never get any ordinary ventilation, there are two shafts, or ordinary pipes, 12 or 14 inches in diameter, which go above the building outside. The ventilating cowl at the top sucks up the bad air. There are seventeen clerks in that room, and that arrangement gives ample ventilation.

1727. Will you describe your arrangement for the subdivision of that space, and the provision you make for supervision? Our system is to see the whole of the clerks at work at one glance. There are no obstructions in the shape of backs of tables or desks. I can sit at my desk and see fifty or sixty clerks at work. That is one thing upon which we insist. Another thing is the grouping of officers, so that the work they do shall run continuously. For instance, if a cheque comes in it goes to one clerk first, and then to the next in order, and then the next to him in order, instead of going to another part of the building and back again. A man presents a cheque, and the paying teller cashes it. It is then posted in the ledger, and the ledger is immediately behind the teller. It then goes to the cash book-keeper, who sits immediately opposite at a double desk. That deals with the cheque. If, after the teller cashed a cheque, it had to go to different points, 12 or 14 or more feet away, the result would be loss of time. As things are, the cheque passes directly from hand to hand, and the clerks deal with it in rotation. No time is lost in sending it backwards and forwards. The same thing occurs in correspondence. A letter comes in, and the clerks are so arranged to deal with it that they have not to take it from one room to another and back again, but they deal with it in one room only.

1728. Are the partitions carried right up? Only so far as the public are concerned, so as to prevent them from seeing to the back of the office. It is all open at the back of the office.

1729. Are the glass partitions between the public and the clerks frosted? Yes.

1730. And the partitions behind are of clear glass? Yes.

1731. *Dr. Garran.*] Is your own room surrounded by clear glass? Yes.

1732. How is the manager's room divided? It is closed right up to the ceiling.

1733. Is that the only one on that floor which is closed to the ceiling? Yes.

1734. Then the whole air-space is available for the clerks? Yes.

1735. *Chairman.*] Can you give us any idea as to whether the public attending the Bank suffer any inconvenience owing to the heat of the building? We have never heard of it.

1736. How many people do you suppose come to the Bank on a busy day? On a busy afternoon I have counted as many as 150 of the public in the Bank at the one time. We endeavour to arrange so that there may not be large gatherings of that character. We make arrangements so that a man who goes to the counter shall be attended to without being kept waiting, unless we really cannot help it.

1737. Are there frequently 150 of the public there, as well as the 107 clerks? From 100 to 150 of the public are occasionally there without any inconvenience. Of course, we are exceptionally well ventilated. I may mention, that on Saturday morning last, I got a messenger to stand at the front door to count the number of people who came in to be attended to between 10 and 12 o'clock, and there were just 1,100.

1738. What about the first-floor? Of course, the boundary walls are the same as down below. Going up in the lift we come to the principal room, which is the general manager's room. That is 22 feet by 17 feet by 14 feet high, which he finds ample. The next room is a board-room, which is also used for shareholders meetings. That room is 45 feet by 16 feet 6 inches. The Board can do with a room half that size, but we like to have our shareholders meetings in the Bank itself, and that room accommodates them as well. The height of the room on this floor is 14 feet. At the back of the general manager's room and the board-room are the usual bath-rooms, &c., for the directors. Going from the general manager's and the board-room we have the whole of the inspecting staff, branch securities staff, and branch accountant's staff. The general manager's secretary occupies a room 12 feet by 12 feet. Next to him are two clerks in touch with his department who keep the share-lists of the Bank. That room is 6 feet 3 inches by 12 feet 4 inches. Next to that are two rooms occupied by the inspector to the southern division. His room is 10 feet by 10 feet 6 inches. At his door are two clerks, and sometimes three, occupying a room 11 feet 6 inches by 9 feet 6 inches. We go along the passage and come to a room of the inspector for the northern division. When he is in town, he and two or three clerks occupy it. That room is 17 feet by 11 feet. Next to that is the room of the inspector of the central division. He occupies a room 12 feet by 12 feet, and his two or three clerks have another room 12 feet by 12 feet. Following round the building we come to the branch securities room. In that room, which is 22 feet by 18 feet, we have ten clerks always at work, and sometimes one or two more as the deeds come in from the country.

1739. Is there any accommodation included in that 22 ft. by 18 ft. for any person making inquiries? Yes; the end of the passage is fenced off by a counter 3 feet 6 inches wide, and the whole of the inquiries in that room are made at that counter. If the inquiry is such as to necessitate the inspection of a deed, the inquirer is taken inside to a table at which there are two clerks, who attend to him.

1740. Do you find that sufficient room? Plenty. Of course, they have no room to spread out there, but they are able to work quite comfortably. The next room is the branch accountant's room, 48 feet by 18 feet. In that eighteen officers are employed. They have a little more room than usual, simply because the room is there, and they have large returns, which must be spread out and put side by side. There is ample accommodation there for four or five more clerks. On the second or top floor, in a room of the same width as the general manager's room—17 feet by 16 feet, but with bathroom accommodation taken off, we have accommodation for two lady type-writers. Next to that we have a general ledger department, in a space 29 feet by 13 feet 6 inches by 12 feet high, in which there are five clerks. Extra room is required there, because other clerks have to come from other portions of the building to check their work. Next to that is the station inspector. He has charge of all stations in which the bank is interested. He has a room 11 feet by 9 feet 6 inches for himself and clerk. There is plenty of room there for any person who comes from the country to interview him, or see what plans they require to see. Next to that is the Wool and Produce department, which is 16 feet by 16 feet 6 inches, and three clerks

are

are employed there. A clerk working with ordinary ledgers, which are about 22 inches by 15 inches, and which open out to about 30 inches by 22 inches, can, with two such ledgers, work easily in a space of 5 feet 6 inches. Of course, he would always have one ledger open and the other shut. The clerks work back to back in the main hall, and there is a space between the desks of 5 feet. That is ample for them, and for any person passing up and down between them. For an ordinary single desk, for large books, such as we use, a space of 2 feet 6 inches is plenty.

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1741. On the top floor the arrangement is different from what it is below in this particular—that the walls go from floor to ceiling? Yes.

1742. Do you find any difficulty in regard to lighting? No; because we are bound by the street all round.

1743. On two frontages? Yes; I may mention that a lantern light is provided for the board-room and the general manager's room, and that, in each case, gives ventilation.

1744. How many clerks are there on the first floor? Forty-one, and twelve on the second floor.

1745. Have you any accommodation for a caretaker? Yes; three rooms and a kitchen are apportioned. Part of the Wynyard-street frontage on the top floor is occupied.

1746. Do air-shafts pass through each of the floors? No; when you pass the top floor there are open spaces. On the first floor there are louvres at the sides for ventilation.

1747. Do you find the cowls of the ventilating-shaft effective? They are, as far as we can judge.

1748. What about your lavatory accommodation? That is on the basement.

1749. Do you provide lavatory accommodation on each floor? The general manager and directors have general accommodation for themselves; but that is all. We have twelve water-closets and ten urinals in the basement for the use of the clerks.

1750. Have you a luncheon-room on the premises? Yes; those clerks who care to do so can lunch in the building. Most of them do that. They also have lockers, in which to put their clothing. Each senior officer has a locker to himself, and the juniors have to share one between them.

1751. Then in every way your bank has provided for the convenience of the clerks? Yes; they need not go out at all between morning and evening, unless they care to do so.

1752. Is there any special arrangement in reference to the luncheon-hour? Yes; the luncheon-hour is really the only time during which the clerks are allowed to be off the premises without consent. Matters are so arranged that if four clerks are working at one class of work not more than two of them can be away at one time. Thus the work is continuous.

1753. Will you describe your strong-room arrangements? The strong-rooms are, of course, on the basement. The cash strong-rooms are so arranged that the chief cashier has control of them, and you cannot get to them without going down some steps, and he or his assistant always has the steps in view. On the other side of the building are securities, and papers, and deeds. People cannot get down to them unless I or a clerk see them. Of course, no one can get into the strong-room without special keys which are carried by the officers who are authorised to carry them.

1754. I suppose that the securities-room, which you say is up above, is cleared of securities every day, and they are brought below? Yes; they are not allowed to accumulate. Work that comes in to-day must be done to-day. Each day's work stands on its own merits, and must be cleared off.

1755. Therefore, it is not possible for the securities to accumulate? No. No accumulation of work is allowed. We have book-rooms on the basement, and we follow out the same system there. We only keep on the premises at the head office the books which are likely to be required for daily use. Some of the books are not wanted after they are used, and can be stored away at the store-room of one of the branches where they can be got at when necessary. Books which are likely to be used day by day are kept on the premises, so that if a book for the year 1892 or 1893 is required it can be obtained without trouble.

1756. *Dr. Garran.*] Would it be more convenient to have the securities on a floor from which they would not have to be carried;—could you not have a strong-room on each floor? It would be advisable, if we had the space and accommodation.

1757. Supposing you were building afresh, would you prefer the plan of having a strong-room running up through every floor? If you were building a new building that might be an advantage.

1758. Are the securities carried loosely in the hand? No; they are locked up in tin boxes.

1759. Then they could not be snatched out of anyone's hand? No.

1760. Have they to be taken down two sets of stairs, and be brought up again the next morning? Yes, in the lift; but as many as four boxes are put on one truck.

1761. Are the tin boxes put away at night? Yes; everything is put away. The books are locked up in large safes 8 feet high. They are in such a position that the men who are working with the books have only to carry them a distance of 6 or 8 or 12 feet in order to put them in their proper places in the safe. You can put books in safes, but not moneys and securities. They, of course, go down below. Our objection to large safes anywhere but on the ground floor is that in case of fire they might fall through to the bottom. Those we have are bound to the wall and the floor.

1762. Have they any special support underneath? Railway sleepers are put right through under them, and the wall holds them up.

1763. I believe the old part of the building was erected many years ago? Yes.

1764. Then you have to adjust your space from time to time? Yes; to make the most of it.

1765. If you were to begin *de novo*, would you make more changes? Yes. We should be able to provide in the same space accommodation for more people than are there now.

1766. Is any part of the building fire-proof? No.

1767. Not even the new part of the building? That was built twenty or twenty-five years ago. The only fire-proof part we have is, of course, the strong-room.

1768. *Chairman.*] I suppose you are able to economise space by proper grouping of your officers? That is what we have done. All men engaged in a certain class of work are together and in touch with one another. By that means they keep their work going.

1769. *Mr. Trickett.*] I believe you had an opportunity this morning of going to the Lands Office and the Mines Department? Yes.

1770. Will you give us your opinion about the rooms, and the arrangement of the clerks there? Speaking generally, I may say that there is a great waste of space and littering of the offices. There seems to me to be quite unnecessary furniture, books, and papers there.

1771. Do you think there is an absence of method? Apparently, a complete absence of it.

1772.



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1772. If you go into a room, and stand at the main entrance, you probably see the head of a clerk or two, the rest are hidden behind some cupboards at the end of a big table? My experience of cupboards is that you have not time to open and shut them all day long, and that whatever you put in them generally stops there for a week. It is necessary that a clerk should have his work on the table, put it away at night, and start fresh with it next morning. In the principal rooms there, I saw great piles of papers, which no man can possibly attend to in one day. What he cannot attend to should be under the table or in the vaults.

1773. You will admit that the papers in the Government Departments are, in many instances, bulky? What I saw this morning looked bulky enough. Of course I would not like to say what the requirements were which necessitated all those papers being about a man when he was at work.

1774. Was there, in your opinion, an absence of method and arrangement? There certainly was. For instance, in one large room I saw from ten to twelve clerks. The bulk of them had separate tables to themselves, with plenty of room. The same clerks could have been accommodated at a desk, standing face to face, with, perhaps, a rack upon which to put their papers, in half the space.

1775. Did it not strike you that the furniture was cumbersome and old-fashioned, and took up a great deal of space? It was quite out of date. Of course, if you have any amount of furniture, which you do not know what to do with, you must put it somewhere. If, however, you run your office on business principles, that kind of furniture is quite out of place in it.

1776. Supposing you had the arrangement of the correspondence room in connection with the Mines Department, what would you do? I would rather not answer that question, without going into the matter properly; but, speaking generally, I should be very dissatisfied to control officers arranged as they are.

1777. Did you notice the arrangements for the books? Yes; the offices are littered up with books. I noticed a great number of large tables, with high pigeon-holes at the back of them. I made a note to the effect that there were large quantities of newly-printed matter and forms piled up in the different rooms, and large quantities of old, and probably out-of-date papers and books, lumbering the room.

1778. Did you notice a great deal of writing-paper, blotting-paper, and envelopes? There was a large quantity of printed and other papers all over the place.

1779. What are your own arrangements with regard to writing material and forms required for your business? We keep on the premises, in a press, which is about 12 feet high by 10 feet, all the urgent requirements of the country branches of New South Wales. They are all in methodical form. Anything which we cannot keep in that confined space is kept by Messrs. Sands in a room, which is at our disposal, on their premises. They look after it, and keep it in order. Each of our clerks keeps only enough writing material at his elbow or on his desk for his immediate requirements.

1780. That not only avoids waste, but it avoids the taking up of space? Yes; it avoids the taking up of unnecessary space.

1781. Messrs. Sands occupy the same relation to the Bank of New South Wales as the Government Printing Office and the Stores Department occupy to the Government? Practically.

1782. I suppose that in connection with the work of the Bank of New South Wales you do not find it necessary to have sheets of foolscap, blotting paper, and envelopes lying about? I would not allow it for a moment.

1783. I suppose your method of grouping your clerks economises a great deal of space? Yes; the clerks should be grouped in such a way that they are able to do their work expeditiously and easily. They should not be lumbered up with papers with which they have nothing to do.

1784. Are you in a position to say, judging from your observation of the two Departments you visited this morning, that, with an economical arrangement of space and modern desk appliances, considerably more clerks could be accommodated than are at present accommodated? Certainly, in a great many of the rooms. But I would not like to pick out any particular room and say it could accommodate so many more.

1785. But the general impression in your mind is that, arranged as they are, there is space for a great many more clerks in those rooms? From what I saw I should say that 30 per cent. more clerks could be accommodated in the rooms I visited this morning than are at present there. I should be very much surprised if that could not be done.

1786. I suppose you noticed in the Mines Department that what was originally a large room has been divided by partitions which run right up to the ceiling;—do you approve of that arrangement in dealing with a large number of clerks? No; we are quite opposed to it.

1787. Does it interfere with the ventilation, and with the supervision of the clerks? There is no question about it. You cannot see through a partition which is boarded up, but with clear glass you can see what the whole of the staff are doing.

1788. If you had the arrangement or supervision of a large Department, would that be one of the first things to which you would attend? Yes.

1789. So as to ensure complete supervision? Yes.

1790. *Dr. Garran.*] Is there not always a tendency on the part of leading officers to get themselves isolated? In the Bank of New South Wales we only have two men who are of sufficient importance to be isolated—the general manager and the manager.

1791. Are they the only people who are isolated? They are. The three inspectors are partially isolated, because they are fenced off with their clerks.

1792. If a partition is only carried up a little distance conversation can be overheard? Yes.

1793. And you have a good deal of confidential conversation in the Bank? Yes; but the manager and general manager principally deal with it, and also the three inspectors. The three inspectors can shut themselves off from their clerks; but they can see what they are doing.

1794. Beyond those officers, you would not allow anyone to be isolated? No; the rest are under observation.

1795. *Mr. Watson.*] You will notice from the sketch plans of the proposed new building that the strong-rooms run right up from the basement to the fifth floor? Yes.

1796. It is proposed that they should be entered from each of the floors upon which they are situated, and it has been suggested that it would be an improvement to have a spiral staircase in the strong-room running from the bottom to the top;—do you think it would be advisable? I should say that it would be

a convenience to have an entrance from each floor. I saw a strong-room at the Lands Department this morning, which, I daresay, is admirably adapted for the purpose for which it is used, namely, the piling-up of old records; but if you have an entrance to the strong-room from each floor, and if the separate Departments are responsible for the records which are deposited from each floor, there ought to be no means of access whatever by means of a spiral staircase.

D. S. K.  
Miller.  
8 Mar., 1899.

1797. You think, then, that it would be better to have access from each floor? I think so. It would be absurd, in order to get to the top floor, to go to the bottom and then come up a spiral staircase.

1798. *Mr. Shepherd.*] Can you give the Committee the gross measurement of the ground floor of the Bank of New South Wales? Seventy-three feet frontage by about 162 feet. A portion of space at the back is occupied as a yard.

1799. And on the ground floor you accommodate 107 clerks? Yes.

1800. Out of that space you provide accommodation for the public in the front of the counters? Yes.

1801. You have the manager's and other rooms there as well? Yes. On the ground floor, the whole of the work of what is called the head office is conducted. The work connected with the branches is located upstairs.

1802. What are the dimensions of the first floor? Exactly the same as those of the floor below. The first floor, however, is not so much occupied.

1803. How many clerks are accommodated there? Forty-one.

1804. And you have a large number of rooms on the first floor? Yes. Upstairs we only go back to about 93 feet. A large amount of space is occupied by the officer who lives on the premises with his family.

1805. I understand that you have three safes;—are they independent of the strong-room? Yes they are book safes only.

1806. Is the strong-room on the basement absolutely fireproof? Yes, and it is so constructed that if a safe fell upon it from the top storey, it would not go through the roof.

Walter Wilson Froggatt, Entomologist, Department of Mines and Agriculture, sworn, and examined:—

1807. *Chairman.*] Where are your offices? At 40, Young-street; but I am about to move to the old Naval Depot Stores as soon as the floors are covered.

W. W.  
Froggatt.  
8 Mar., 1899.

1808. *Dr. Garran.*] Are you moving because you are inconveniently situated? Yes; I have only one small room where I am at present, and there are two large rooms in the other building.

1809. Will you have plenty of room where you are going? Yes.

1810. Have you any assistant? No, but I have the promise of one shortly.

1811. And there will only be two persons to accommodate? Yes.

1812. Is the museum in the Domain of any value to you in the prosecution of your work? No, I have nothing to do with it.

1813. Do you keep any museum or specimens of your own? Yes, I keep a large collection in my room—it consists of economic collections.

1814. I suppose you are aware that it is intended to have a museum on the basement of the proposed new building. Yes.

1815. And no part of that will be wanted by you? No.

1816. Is it a matter of importance to you whether you are on the same building as the Minister for Mines and Agriculture? It would be advisable that all the experts should be there.

1817. Does he often send to you? Yes.

1818. How often? Once or twice a month.

1819. What is your special work? To report on any insect pests which turn up, and to reply to any letters dealing with them.

1820. Do you consider the best means of destroying them? Yes; that is my special study.

1821. Have you any practical work to do in connection with that branch of your business? Yes; I visit a good many places in the course of a year, and make reports on anything I find. I inspect orchards for scale insects and other pests.

1822. Part of your work consists in travelling about? Yes; and making experiments.

1823. How much time do you spend in travelling about? Last year, I spent ten days out of every month—perhaps more. That was an exceptional year.

1824. I suppose you are in no particular hurry to move from your present quarters? No; the only thing is that it will be convenient to be with the rest of the Department.

1825. Would it be any convenience to you to be with the other scientific gentlemen connected with the Department? Yes; some of our work interlaces. I refer to the work of Mr. Allen, the Fruit Expert, the Viticulturist, and the Chemist.

1826. You have no employment in common? I have a little with Mr. Allen in connection with spraying material.

1827. Have you any books in common? No; I keep my own entomological library.

1828. Now and again your work interlaces a little? Yes.

1829. But not often? No. Sometimes, however, I go out to inspect different places with Mr. Allen.

1830. I suppose you have no objection to being put into the top storey of the new building? No.

1831. It will be convenient for you, if you have room? Yes.

1832. What is the maximum room you require? I think I should have two rooms. At present you can hardly get into my room on account of specimens, books, and book-cases. The room I at present occupy is about 12 feet by 14 feet.

1833. Is it big enough? It is big enough for office work, but I want it a little larger for specimens.

1834. Would one room, 20 feet by 20 feet, and another, 14 feet by 14 feet, be sufficient? Yes.

1835. If you get an assistant you will not want more? No.

1836. Do you know anything about the specimens of insects at present in the museum in the Domain? There are only a few there which are used for sending to shows. They are of no special value to me for my work. They are merely curiosities, with no scientific value.

1837. Is there anything in the Technological Museum at Ultimo of any value to you? There is a little, because there are some of my old collections there which I made when I was there as an assistant.

1838. What you are making now is a fresh collection? Yes. Of course there was the nucleus to it before I went there, but I have identified it and worked it up since.

1839.

- W. W. Froggatt.  
8 Mar., 1899.
1839. Does it grow rapidly? Yes. Of course a good many scale insects and other pests are obtained, and I send specimens to different specialists in order to get others in return.
1840. There is always a special demand for a new case? Yes.
1841. And you would want room for new cases? Yes.
1842. Still the room you have referred to would be large enough for some years to come? Yes.
1843. Have you any special demand for light in your room? I want good light for the purpose of using the microscope. An ordinary window would do, so long as it is low enough. I want a side light.
1844. You prefer a side light to a light above? Yes, I want a direct light which I can shut off by means of a black curtain.
1845. *Mr. Shepherd.*] Have you no assistant at present? No.
1846. Do you inspect orchards? Yes, if I am requested to do so by the orchardist.
1847. Do you inspect any fruit that is sent away? No, but I have been doing that temporarily. I did it when the Act first came into force.
1848. How is the fruit inspected now? Our own fruit is not inspected at all; we have no Act; no one can compel any one to have the fruit inspected here. A great deal is fumigated, but that is at the option of the exporter.
1849. Is not that done under your supervision? No; special inspectors are appointed now.
1850. Sometimes fruit is condemned after having been operated upon here? We have no power to even fumigate here. We only do it at the request of the exporters.
1851. I believe some shipping companies refuse to take either fruit or plants without a certificate? Yes.
1852. How do they obtain that certificate? Through Mr. Campbell or some of the inspectors.
1853. Surely there ought to be some means of effectually treating these things before they leave here, or what is the use of the certificate? They are fumigated with hydrocyanic acid gas, which destroys insect life; but you cannot fumigate for the codling moth, the fruit fly, and internal insects.
1854. Do you find that there is a greater disposition to cope with insect pests than there was formerly? Yes; all the large orchardists are spraying now, and they were not doing that five years ago.
1855. I believe the Department issues a sheet, giving details of the diseases of fruits? A sheet was issued before I came into the office.
1856. Was it largely applied for? No. It was not very accurate. It was issued by Mr. Fuller, and I stopped it. We are, however, issuing a pamphlet now which is up to date.
1857. You say you only occupy one small room? Yes, at present. I have a verandah, upon which I keep a lot of boxes.
1858. *Mr. Watson.*] Did I understand you to say that you are only sent for by the Department about twice in a month? By the Minister: but more frequently than that by the Under Secretary.
1859. I believe the object of the question was to find out how frequently you are required at the head office? Several times a week, either by the Under Secretary or by the Minister.
1860. Suppose you were to remain away from the new building, would it not be possible to communicate with you by telephone without the necessity of personal attendance? Yes; but I am away a good deal. Of course, if I had an assistant, he would be able to speak through the telephone.
1861. In any case, if you were away, you could not attend the Minister; so that, from that point of view, there would be very little saving? Yes; I might be away for an hour or two, and the telephone would be ringing, with no one there.
1862. If your office were in the main building, and you were away for an hour or two, they would have to wait until you came back? Yes.
1863. I presume one large room would suit you, so long as you had the necessary space? I would sooner have two rooms, because I could then use one for the finer microscopic work, where there would be no dust.
1864. I suppose you would have visitors from amongst the public? I have a great number of visitors.
1865. And you would like to have them away from your work? Yes.
1866. In any case, there does not seem to be any urgent necessity to get your branch into the same building as that occupied by the general body of the Mines Department? I do not think there is at the present time. Of course it would be an advantage to be with the rest on account of the work interlacing a good deal.
1867. I suppose it is more important to you to be in close touch with the Fruit and Dairy Expert and the Chemist, than it is to be in close touch with the head of the Department? Yes.
1868. There is a nest of branches which overlap and interlace one with the other? That is so.

Duncan Clark McLachlan, Under Secretary, Department of Mines and Agriculture, sworn, and further examined:—

- D. C. McLachlan.  
8 Mar., 1899.
1869. *Chairman.*] Have you examined the plans since you gave evidence on a former occasion with a view to the more economical grouping of your officers? Yes; the more serviceable grouping of the officers.
1870. Will you give us the benefit of your examination? Yes. I was asked to consider further whether I thought it would be convenient to have the building divided right through from top to bottom. I think that would be a very inconvenient arrangement. I think there should be one floor devoted wholly to the Ministerial part of each Department. The Mines Department should have one floor to itself, and the Instruction Department another floor, so that the Minister could have about him all the officers he immediately requires. For that reason I think it should be so put up that one floor will be devoted to the Ministerial part of each Department.
1871. *Dr. Garran.*] But everyone seems to think that the first floor is the convenient Minister's floor? It is more convenient; but that is scarcely a matter about which I would argue, because I do not think it much matters, so long as we have a floor.
1872. You do not think the Ministers would mind the next floor? No.
1873. You, as Under Secretary, would not mind it? Not at all.
1874. So long as you had a lift? Quite so.
1875. *Chairman.*] That is the case now, is it not? Yes; he is surrounded by officers with whom he is in constant communication, so as to save going up another flight of stairs.
1876. The Minister for Mines is situated above the Minister for Lands? Yes.
1877. *Dr. Garran.*] And he has all his leading officers on the same floor? Yes.

1878.

1878. You would not like to alter that? I would not. It would be inconvenient to the public, and would cause vexatious delay.

1879. If that idea were carried out, it would mean an alteration in the disposition of the building, and there would be really two buildings under one roof? Yes. Theoretically it seems a good thing, but I do not think it would do in practice. I think too much has been made of the question of having separate stairs to each Department. It really does not matter. In the present building there are not separate stairs.

1880. *Mr. Watson.*] In any case the two separate corner entrances, which may be in themselves convenient as means of access, and which would save a little distance to the public, would still be consonant with the idea of having separate floors? Yes.

1881. There would be nothing out of place in having additional entrances? Not at all. Besides, you could not keep the business of that particular Department at one end of the building, and the business of the other Department at the other end. The public would come in where they liked, and would go out where they liked.

1882. It is proposed to have locks on the divisional doors? I am sure they would soon have to be unlocked. The whole building ought to be free to the public to get in as they wish. Of course it is a nice arrangement for the Department. They will keep every one with whom they are concerned to themselves, but I do not believe in the idea myself.

1883. *Dr. Garran.*] With regard to the other floor;—would you prefer to have the people working there also on the same floor? No; after getting one Ministerial floor, I can go in for a central division if I like.

1884. You have somewhat rearranged your rooms to meet the plan? I have.

1885. Otherwise you would subdivide much as you did before? Yes; all the accommodation we require is provided.

1886. You still find you have a little space on the top floor which you do not want? Not immediately. It will meet future requirements.

1887. *Mr. Watson.*] In the rearrangement which you have made, do you take into account the possibility of arranging your furniture and office accommodation in a manner different from what it is at present? Yes.

1888. The Committee, when visiting the place the other day, came to the conclusion that the space was not economised as it might be; that view has been borne out by outside evidence, not only with respect to your Department, but with respect to other Departments;—have you in view any better method of disposing of your furniture and officers? Yes.

1889. I understand that the method of furnishing would rest with yourself more than with the Government Architect? Yes; we should make a requisition to him.

1890. The manner in which you would arrange your officers, and the accommodation which you would give them individually rests with yourself? Yes.

1891. And you contemplate some alteration? Yes.

1892. Will you give us an idea of it? My idea is, as far as possible, to make all the clerks utilise flat desks, and instead of their having pigeon-holes and presses in front of them in which to keep their papers, the wall space around the room should be utilised for the presses. I would arrange the clerks around the room, and, if it is broad enough, along the centre as well.

1893. I presume you would arrange matters so that a clerk could obtain the papers which it is necessary for him to handle from within easy reach? Just behind him.

1894. In what would you carry the papers? In pigeon-holes right to the top. The clerk would be facing away from the wall. There would be a uniform width of pigeon-holes, and that would economise space. The furniture which is there now has been accumulating for years.

1895. It has been stated that the system of having tables with pigeon-hole backs, or pigeon-holes at one end, very often has the effect of obstructing a view of the clerk when engaged in his work? That is not a fact.

1896. Of course, it would not apply to the arrangement which you have spoken of, but it would apply to the existing arrangements? No; not where they work. The man who is in charge of a room can see every one in it. The pigeon-holes may be facing one way, but he can see all along the room, notwithstanding that they are there.

1897. Still, if there were anything in the objection it would not hold with regard to the suggested arrangement about which you have spoken? No. All the centre of the room would be clear of the papers against the wall.

1898. You think it is possible to arrange the clerical division in that way? Yes.

1899. And that should result in a great saving of space? Not a great saving, but it will result in a saving.

1900. What saving do you think you could effect by that method as compared with your present arrangements? I do not think it would save more than 1,000 feet.

1901. What percentage is that? Perhaps 10 per cent.

1902. I believe you have some plan to show the Committee with regard to the arrangement of the rooms? I have marked out the manner in which the Mines Office should be located. Of course, the basement will be as before—kept as a museum. I propose to leave the space on the ground floor exactly as it is allotted. I propose to put the Stock Branch in the two rooms on the ground floor fronting Bridge-street.

1903. *Dr. Garran.*] Mr. Bruce says he has all sorts of animals brought to his office for examination, and he thought it better for him to go to the back lane? It will not be far for him to go round. Mr. Bruce has a good deal to do with the public. A large number of people come in to see his inspectors, and they should be handy. For the reasons you have mentioned, it would be as well to put him on the ground floor as near the street as possible.

1904. *Mr. Watson.*] Is there any door from that lane to the ground floor? No.

1905. If there were, it might be possible to put him in some of the rooms adjoining the lane? I do not think he could be located in a more convenient place than the one I have mentioned. I propose to put the Stock Branch on the Bridge-street frontage on the ground floor. The room fronting Young-street I propose to devote to an inquiry office for the Registrar connected with the Mines Department. Mr. Slee, the Chief Inspector of Mines, and his clerks, I propose to put in a room on the inner section of the Young-street frontage.

1906.

D. C.  
McLachlan.

8 Mar., 1899.

D. C.  
McLachlan.  
8 Mar., 1899.

1906. What is the area of that space, and the number of officers who will be accommodated? I think there will be thirty officers in those four rooms.

1907. Supposing you occupy the ground-floor, which has 3,722 feet of space, exclusive of the corridors, it will be divided amongst the thirty officers? Yes. I propose to make the first floor a Ministerial floor, and if that is objected to, to put it on the floor above, where the accommodation is the same. I propose that the Minister's room should be on the Phillip-street frontage, with a waiting-room at the northern end of the Phillip-street frontage. My room would be next to the Minister's room, and there would be a waiting-room on the other side. On the southern end of the Phillip-street frontage, I would put the Lease Branch and the legal officers of the Department. The Lease Branch is one of our most important branches, and more people come there than to any other branch of the Department. They come to the Minister, and he requires immediate answers to their inquiries. He generally sends to me, and I have no trouble in getting at the Lease Branch at once. The room on the inner side of the Phillip-street frontage is a long room which I propose to cut into two, and to put the Registrar of Mines into one portion of it. I refer to Mr. Ray, who is a very important officer of the Department, and who requires to communicate with the Minister, and he will be right opposite his door. There will also be a board room and deputation room.

1908. You do not propose that the Minister should receive them as now, in his own room? His own room will very often not hold them now. We frequently have conferences on agricultural and stock subjects, and as many as 100 people come there. At present we have to borrow the Land Board room to accommodate them. We had a deputation last week from the Chamber of Mines, and there must have been more than 100 people there. They could not get into the room. Every office in connection with which deputations, conferences, and meetings are held, requires a board room. There is a long room fronting Bridge-street, which I have cut up into four sections—a small room in one part for the Chief Clerk, and the rest for the branches—Stock, Agriculture, and Public Watering Places. He is separated from the rest. On the opposite end I have put the Chief Clerk of Mines proper. Between them I have the records and correspondence. These two will be only separated by a glass partition with a swing door. They are always wanting papers, and they have them at their hand.

1909. Do you propose to have these two officials, although only having a glass partition between them, separated as far as sight is concerned, or could the partition be of clear glass? Clear glass would do.

1910. Would you have the room for the records and correspondence again divided? No. I would put the correspondence at one end, and the records at the other, with no partition. With regard to the inner section fronting Bridge-street, I propose to put the Public Watering Places Branch there. I propose to divide the room on the inner section fronting Young-street into two, and to put the clerks of the Agricultural Branch there, and the Inspectors of Agriculture alongside them. Their business is so interwoven that the papers can pass from one to the other without being carried upstairs or moved about.

1911. Do you propose to subdivide that by means of a partition all the way up? Yes; with a door between.

1912. Do you think it is a good idea to have so many partitions? Their work is quite distinct, and if you have too many in a room a lot of talking goes on, and it interferes with work.

1913. Some business firms have as many as sixty or seventy clerks in a room, and the man in charge sees that no talking goes on? I do not refer to general conversation, of course, but to conversation about business and explanations. A great number of people have to come and see the inspectors. When ships are arriving half-a-dozen frequently rush in to get the inspectors to go to the wharfs to inspect their fruit. They often have wordy battles about the fruit. Of course, if that goes on the clerks cannot work. At the end fronting Young-street, I propose to put the accountant's and the Examining Branch in one room. Therefore the Minister will have his Under-Secretary, his Chief Clerk, his records and correspondence, and his accounts and inspectors on the one floor, and if he wants any of them they can be sent for in a moment. If a man comes to him about his account, and wants to know why it has not been paid, or when it will be paid, he can obtain the information at once.

1914. What number of officers will be accommodated there? I could not tell you at once.

1915. There are 9,531 feet of space available on that floor;—I should like to know the number of officers proposed to be put there? I will send the information to the Secretary. With regard to the second floor, seeing that we have taken some space from the Instruction Department, of course, this floor will be given up to them. I have taken more than I give. To make up for taking more than I give, I let them have another floor entirely, so that they really get more than we do. The object, of course, is the concentration of offices.

1916. You are prepared to give up your share of two floors for their share of one floor? Yes; and I do not think they should object.

1917. Then, leaving the basement out of account, you would have three complete floors, and the already proposed division of another floor? Yes.

1918. That would be equal to three and a half floors? Yes.

1919. What about the fourth floor? That of course will remain as it is. I propose to put the Government Geologist and his staff in the rooms fronting Phillip-street, and on the side fronting Bridge-street I propose to put the Charting Branch. Fronting Young-street I intend to put the Library Department, and the editor of the *Agricultural Gazette*.

1920. Which branch is the library connected with? The Agricultural.

1921. What about the inner section fronting Young-street? I propose to put the Chief Inspector of Collieries—Mr. Atkinson—and his clerks there. On the inner section fronting Bridge-street, I propose to put the Board of Exports, who will occupy half a room. The other half will be taken up by the map-room, where they print all the mining plans and tracings, and that sort of thing.

1922. Does your Department print these for itself? Yes, it prints all the mining maps. The mining divisions are constantly being altered, and the maps are sent out every three months, showing all the ground taken up for mining purposes.

1923. You do not get that work done at the Government Printing Office? No.

1924. What about the inner section fronting Phillip-street? Immediately behind the Geological Branch, I propose to put the Curator of the Museum, and the place where all the sorting of minerals is done. I propose to put the Chief Inspector of Agriculture (Mr. Thomson) in a small room there, and in another small room, the Fruit Expert, Mr. Allen. The general agricultural work will also be done there.

For

For instance, the distribution of seed-wheat is going on. A couple of officers see to the distribution of that, and I want a room in which to put them. That exhausts the fourth floor. On the fifth floor I propose to put the Pathologist, and all the artists in the Agricultural Department in the large room fronting Phillip-street.

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1925. Do you propose to subdivide that room? No; those people are at present working in the dome at the top of the Public Works building.

1926. Do you propose to put any more in that room than are at present working in the dome of this building? Yes; I propose to put Dr. Cobb and Mr. Farrar, the Wheat Expert, in a room on the inner section fronting Phillip-street. I give a room for plan-mounting, or anything of that kind required in connection with drafting. I cut off another portion for a store-room. There is also a long room fronting Bridge-street for Mr. Guthrie, (Chemist), and his assistants.

1927. *Dr. Garran.*] How do you propose to get his plant to the top of the building? It can be taken to pieces and conveyed up in sections; it can be easily dismantled.

1928. He states that at times he has 2 or 3 tons of wheat sent to him? That is on very rare occasions indeed.

1929. He sometimes receives heavy cases of chemicals? I do not think they would be too heavy to go in the lift. The back room on the inner section of the Bridge-street frontage I propose to use as a general work-room. The back room on the inner section of the Young-street frontage, I propose to cut into two, and to put the Dairy Expert in one part of it, and the Viticultural Expert in the other. The Entomologist will be put in a corner room fronting Young-street. He will have 300 feet of space there.

1930. *Mr. Watson.*] He states that he would like to have two rooms, as he has to receive the public, and he requires special lighting for his instruments? He can divide that room into two.

1931. There will be a certain amount of space to spare on the Young-street frontage? Yes; 824 feet.

1932. What about the Bridge-street frontage? That is for the laboratories and chemists.

1933. You have used up the whole of the room now? Yes; I admit that there is plenty of room in all these offices at present, and as we grow, we can put men in; but they will be all grouped, as I have stated.

1934. Leaving out the spare 824 feet, there is a saving of something like 1,700 feet as compared with the previous estimate? Yes.

1935. It was proposed to allot to you 47,941 feet;—the total you propose to utilise, not taking into account the saving of 824 feet, is only 46,240 feet? That is about it.

1936. If there are 824 feet to spare, that will leave about 45,200 feet; so that practically there is a saving of 2,500 feet? Yes. I pull in that much by means of this arrangement, and I make a much more convenient office to work in.

1937. That 45,000 feet would be better for you than the 48,000 feet as arranged in the first instance? Very much better. I am positive that if the previous arrangement of the office were adhered to it would be impossible to carry it out in practice, and the building would have to be re-arranged when we got into it.

THURSDAY, 16 MARCH, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Walter Liberty Vernon, Government Architect, sworn, and further examined:—

1938. *Chairman.*] You were asked to prepare a statement of the cost of putting another floor on the present Lands Office building;—have you considered that question? I have looked at it, and can give you, approximately, the result.

W. L. Vernon.  
16 Mar., 1899.

1939. Is it possible to do it? Physically, it is possible to do it. The office floor-space which would be gained would be 19,643 superficial feet. The approximate cost has to be taken into consideration with the removal of the dome. An extra storey would at once give the dome bad proportions, and it means reconstruction, so that I have had to calculate accordingly. I should also have to alter the construction of the side domes. Taking these matters into consideration, and also basing my estimate, to some extent, although not fully, upon the original cost of the building, I find that the cost of the floor and re-roofing will be £46,880. The original cost of the building, including the tower, was £232,000. If one takes the tower and domes and adds them to the average cost per floor, it gives £58,000 as the original cost per floor. I have brought that amount down in this instance to £46,880, believing I can do it by using the old roofs to a great extent, and probably simplifying the dome.

1940. *Mr. Watson.*] Is the 19,643 superficial feet exclusive of corridors? Yes, office space only. Then I use a certain amount of space in the dome floors, which I have not calculated. For the sake of comparison, the additional storey works out at a cost of 47s. per foot superficial, of office floor-space, as compared with the design before the Committee, in which the floor-space works out at 27s. 6d. per foot. It can thus be seen at once that this is a very costly addition to make. It is practically the building of one floor only, with a roof to it, at a cost of 47s. per foot superficial of floor-space, whilst the proposed building costs 27s. 6d. per foot superficial. In this instance we have one building with a number of storeys to construct, over which the roof could be proportionately spread.

1941. *Chairman.*] How much additional floor-space are you providing at the General Post Office? We are building two large halls—one for the telephone exchange, and the other for the telegraph operators. They measure about 120 feet by 54 feet each. There will also be a gallery at the end. Those two halls will cost about £22,000 or £23,000. I am not speaking now of the addition to the George-street frontage, which is another thing altogether.

1942. *Mr. Trickett.*] That is an exceptionally expensive job, owing to the height at which the work has to be done? That is so. 1943.

- W. L. Vernon. 1943. *Dr. Garran.*] In the course of our inquiries it has seemed possible that a large part of the museum will be found to duplicate with what is at the Technological Museum, and that we may not require the whole of the basement for museum purposes;—would it be possible to utilise it for offices? Yes; on the Young-street side particularly.
- 16 Mar., 1899. 1944. Would there be any damp? No.
1945. *Mr. Levien.*] Mr. Guthrie told us the other day that he would require heavy goods to be conveyed to the laboratory at the top of the building;—how is it proposed to take them up? There is provision in the plan for taking heavy goods down to the museum, and the same appliances can be used for taking them upwards. I did not know he wanted that accommodation. He can, however, easily find means for taking the goods up.
1946. Would that entail extra cost? It is probable we should put in a small lift which would be worked by an electric motor.
1947. Could they be taken up by means of a derrick? I do not see why they should not. The space in the corner of the lane is intended for a loading cart containing the material for the museum. If we can load downwards, there is no reason why we could not load upwards.
1948. *Dr. Garran.*] Would the passenger lift be strong enough to carry heavy cases of chemicals? I should not like to use it.
1949. The Chemist has a small flour-mill which he would require on the top storey;—would the vibration from the mill be inconvenient? We should place it in the best position possible. We propose to put a motor in the basement for ventilating purposes, and it would work the mill, and there would be no vibration at all.
1950. *Mr. Watson.*] Supposing the design for a museum in the basement were omitted, would it make much difference in the cost of the building? I could lower the building by one floor in height at once.
1951. What proportion would that bear to the total cost? If I took one of the smaller floors, it would probably mean one-seventh off. What I save on the roofed proportion I lose again on the partitions.
1952. The basement practically will cost about £1 to a superficial foot—about £14,000? Yes. I have reckoned the whole building at 27s. 6d. a foot; but, of course, there are no corridors in the basement.

Duncan Clark McLachlan, Under Secretary, Department of Mines and Agriculture, sworn, and further examined:—

- D. C. McLachlan. 1953. *Chairman.*] The question has arisen as to whether it is not possible to provide accommodation in the premises now occupied by you, by putting another floor on the top of those already existing;—how do you view a proposal of that sort? I should be quite favourable to it. Of course, our predominant idea is to concentrate all our forces. We have no wish or desire to have a special building of our own. We only want to get all our offices together, and if that can be done by putting an additional floor on the top of the existing building that is all we want.
- 16 Mar., 1899. 1954. I believe you have some rooms which are unoccupied on account of the heat? On the roof in the dome there are some rooms unoccupied. They are not serviceable. You would not utilise them in any way.
1955. Those rooms which are now lost, together with the additional floor-space which would be given by an extra floor, would, I suppose, accommodate you? It would accommodate us—not wholly, but it would be a great advantage over what we have at present.
1956. Would there be any great public inconvenience by retaining the old Commissariat Stores, and using them as they are now used? There would not be so much public convenience in leaving some of the other branches where they are. The Chemist's branch could more easily be dispensed with out of the main building than any other.
1957. Would it not be more advisable to keep a Department of that sort away from buildings where there are a number of offices? No. The work done there does not in any way interfere with the work of other offices.
1958. I noticed a couple of furnaces there the other day? They are only small gas furnaces, which affect nobody. Of course, nothing is done there on a commercial scale. Although I am the head of the Department, I have never been in some of the offices, simply because I have not the time to go and see them.
1959. Are there any rooms in the present building which you have not been in? Not belonging to the Mines Department.
1960. But there are some you are seldom in? There is no necessity to go into them, perhaps. I am in every room of the Department every week.
1961. Supposing something important were going on, would you not have to go to the building now occupied by Mr. Guthrie? No; I would have to send somebody else. My time is so much occupied where I am that I cannot leave the building. It is with difficulty, even, that I come here. Whilst I am here there may be twenty people waiting to see me. Apart from that, there would be better supervision if we were all in the same building.
1962. Suppose you went to that particular branch, you would not be able to tell whether the officials were doing their work properly or not? Nevertheless, the fact of their being overlooked has a good moral effect.
1963. Have you been to the Commissariat Stores? Only once.
1964. Are you aware that there are a number of unoccupied rooms there? I believe there are.
1965. There is also a covered yard there? I believe so.
1966. Mr. Bruce has stated that, as a rule, he inspects horses and dogs in the street;—if he could do that in the covered yard referred to, would it be a great convenience to your Department? Yes, no doubt; but Mr. Bruce is wanted every hour of the day at the head office.
1967. How long would it take him to go from where he is now located to the Commissariat Stores? Ten minutes each trip.
1968. Then there would be a difference of about 4 minutes in going to the yard from where he is now, and in going to it from where he would be located in the Commissariat Stores? Yes; but every 4 minutes are valuable, and we cannot afford to lose them. We have so many people to see in a day that we cannot afford to wait until an officer comes from a distance of a quarter of a mile away.
1969. How many times a day, on an average, do you think you have Mr. Bruce trotting backwards and forwards? I have known him come twenty times a day. If he makes a number of trips his day is practically gone.

D. C.  
McLachlan.  
16 Mar., 1890.

1970. Therefore, you consider it absolutely necessary that you should have as many officials as possible under one roof? Yes.
1971. *Mr. Dick.*] Do you set much store upon the idea of having the whole of the basement for a museum? Yes. I have an idea of making that a feature of the Department, and of the city. In a year or two the whole of it would be utilised with specimens which would be of use to the Department, and of benefit to the Colony generally.
1972. In arriving at that decision, have you taken into consideration the fact of the existence of other museums, one of which—the museum at the Technical College—will do the same work as yours? I do not think that museum supplies the objects we have in view at all. They have certain specimens which are only show specimens. We have what we call practical specimens—earth, and ordinary rock, and stones—which they discard.
1973. Take the various products of the Colony in order: do you propose, for instance, to have a timber department in the museum;—have you seen the timber exhibits at the Technical College? No.
1974. Are you aware that they have a complete set of exhibits there? I dare say they have, but I question whether the man who goes to the Technical College can obtain the economic information he requires from the officers there in the same way as he would from an expert belonging to the Department.
1975. Are you aware that they have an expert in timber at the Technical College? I was unaware that there was more than one man in the Government Service who was an expert pure and simple in timber, and he is in our Department. There are many people who know the different timbers, but that is all.
1976. Are you aware, too, that the botanist at the Technical College is in communication with other Departments with a view to informing intending investors where they can obtain supplies of timbers similar to those exhibited in the museum? No.
1977. Take the case of the various agricultural products of the colonies;—do you know that they have exhibits of that kind in that museum? They have small exhibits there.
1978. And a pretty extensive department showing economic values of many of our native trees? Quite so.
1979. Do you think that if the exhibits which you now have in the Domain were sent to the Technical College the object you have had in view would be practically served there? I do not think it would be nearly as well served.
1980. For what reason? Because the men who understand the specimens are in our Department and know the history of them, and could properly explain them. The man at the Technical College knows no more than enables him to show them. The information an investor or practical man would obtain there would be very poor as compared with what we could supply. Again, it is only natural to suppose that a man wishing to inquire about minerals would go to the Mines Department. He would not expect to be sent to the Technical College to be told by some theorist what certain stones were. He requires to be brought into contact with a practical man and a geologist, and that would be done at the Mines Department.
1981. Would not the difficulty be met by transferring not only the exhibits but also the gentleman who acts as Curator of the Department? No, because the Curator is only part and parcel of the geological survey work of the whole of the Colony, and he must be attached to where the geological work is going on.
1982. Supposing the Geological Surveyor himself were transferred to the Technical College? It would simply mean this: that so far as giving advice to the public, respecting the geological formation of the Colony is concerned, you had better shut the Mines Department up altogether, and allow the work to be done at the Technical College. I do not think I can make a better suggestion than this: that as the best authorities in the Colony are Professor David and Professor Liversidge, you should obtain their opinion. They have a knowledge of the value of museums, and what they are capable of doing.
1983. Have you any idea of the attendance at the museum in the Domain, compared with the attendance at the museum at the Technical College? No, because, as it is now, people do not know it is there, and it is so unattractive that they do not go near it. We desire to make the new museum so attractive that people will be drawn there.
1984. Do you not think it is easier of access than is the Technical College? It is; but I question whether one man in 1,000 knows where to find it.
1985. The man who is bent on discovering some avenue for the employment of his capital is as likely to find the museum where it is as at the Mines Department? Yes, and they do go there. But I should like to send many more there. For instance, Sir George Dibbs, a few months ago, brought a gentleman from Vancouver, and he wanted to see what minerals and timbers we had. He wished to invest in our own iron-ores. The display in the Domain is very poor, and I was really ashamed to ask him to go and see them as representing the minerals which the Colony possesses. He did not invest in our iron-ores; but if we had had something attractive to show him, it is possible he would have been impressed and might have done so.
1986. Do you know whether your timber exhibits are as good as those at the Technical College? They are not at present, because we do not consider it worth while spending money on them and exhibiting them in such a place as they are in now.
1987. With respect to the chemical and other laboratories which you have at the Naval Depôt;—do you think it is a good thing, as a matter of economy, to locate them in buildings occupying expensive city sites? I do not. I think that site might be turned to more profitable use.
1988. Do you think it is a good thing to place the Chemical Department in the proposed building? Yes; as a matter of economy.
1989. You do not think some suburban place would be more suitable, and would give more room at less cost? They do not want more room. The great object is to have them handy. It would be useless to send them into the suburbs.
1990. Do you think the Chemist will have plenty of room in the proposed building? Yes. Of course that is a branch of our Department, which we intend to make very much larger in the future. We intend to go in more for analysing soil, and also to deal with the bacteriology of soils more than we do now.
1991. Will the Entomologist be accommodated in the building? Yes.
1992. Will the Fruit and Dairy experts also be accommodated there? Yes. Practically every officer we have will be accommodated, and we shall have complete supervision over every one in the Department. It will be a great saving of time to the public to have them there.



D. C.  
McLachlan.  
16 Mar., 1899.

1993. *Mr. Watson.*] Supposing, later on, it was proposed to start a School of Mines in the city, you would require to have a mineralogical museum in connection with it for reference purposes? Yes; a slight one, but not to any extent. They would only require the main minerals to see what they are.

1994. I should imagine the practice of some of the other places would be followed in having a fairly good display? That is so now. The School of Mines is connected with the University, and they have specimens there.

1995. I believe that at the Technical College they have a fairly large number of exhibits of the mineral specimens of the Colony? Yes.

1996. Do you not think that, with mineral specimens at the Technical College, the University, and in the Domain, there might not arise some feeling of doubt in the minds of people as to where they should go to obtain the best information? No; I do not think any man is likely to have any doubt. I should imagine that he would naturally think that he ought to obtain the information from the Mines Department. I do not suppose that he would expect to obtain it at the Technical College.

1997. It is a certainty that if he expected to obtain information about timbers he would do a lot better at the Technical College than at the building in the Domain? He would at present. We do not pretend that that is a proper museum, simply because we do not know the moment that it will be burnt down. We have lost a life's collection of minerals by fire already. They included some of the most valuable specimens ever obtained in the Colonies.

1998. At any rate, a very large number of the minerals in the main are not of economic, but of scientific, value? A great number of them. We are in touch with all the mine-owners, and when our inspectors see any good specimens they can easily get them.

1999. Would it not be possible to apply their collecting capacity in that way to a central museum—I do not say to the exclusion of a reference museum for the Geological Surveyor, but a central museum which would not occupy so valuable a site as this? It would. At the same time I think a man is more likely to be interested in his own Department. If he feels he is doing something for his own Department he will pay more attention to it, and obtain better specimens than he would for an outside institution with which he is not connected.

WEDNESDAY, 22 MARCH, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Tannatt William Edgeworth David, Professor of Geology and Mineralogy, University of Sydney, sworn, and examined:—

T. W. E.  
David.  
22 Mar., 1899.

2000. *Chairman.*] What position do you occupy? My present position is that of Professor of Geology at the University of Sydney. Before that I was for some years connected with the Geological Survey of New South Wales.

2001. *Dr. Garran.*] You had, I believe, some practice with museums before you came to this Colony? I had some experience of museums, such as the Museum of Practical Geology in London.

2002. Have you not had some connection with the museum which was in Macquarie-street, under the Department of Mines? I saw and used the museum in Macquarie-street, when it was connected with the geological survey, and also the older portion of the collection when it was housed at the back of the old Lands Office, subsequent to the burning of the Garden Palace. The geological collection and museum were kept for a few years, as far as I remember, at the back of the Lands Department, subsequent to the fire, and I used the collection then.

2003. You never were in any way in charge of it? Not directly.

2004. Did you collect specimens for it? I have done so.

2005. Have you had anything to do with the museum which is housed in the Domain? Nothing further than that I, from time to time, visit the spot and see the nature of the work which is going on there, and go over the collections.

2006. You have had no official connection with it? I have had no official connection with the museum in the Domain, as the date of the removal of the collection from Macquarie-street to the Domain was subsequent to my appointment to the University, and my commencement of my duties at the University.

2007. The proposal before the Committee is the construction of a new office in which the Mines Department is to be housed, and one part of the proposal is to take the whole of the basement for what I might call a Departmental museum. That covers not only the mineralogical specimens, but also a great variety of industrial specimens. It has appeared to the Committee, in the course of their investigations, that this industrial portion is duplicated to a very large extent at the Technical College at Ultimo. I want your opinion as an expert in museums as to whether there would be any advantage in that duplication? If it is proved beyond dispute that such duplication exists, I should say that it is very doubtful whether it is a public advantage that there should be anything like serious duplication. As far as I can see, although there may be a slight overlapping between a museum such as the Technological Museum and the Geological Survey, and again between the Australian Museum and the other two museums, still, knowing pretty intimately the collections of each of these museums, I do not think there is anything like a serious overlapping of the collections. It is true that, in the case of the Geological Survey museum, there are some specimens of such objects as building stone dressed up for exhibition purposes, and polished marbles, which were got up partly for exhibition purposes, and partly presented by the Works Department. There are a few specimens of that kind at the Geological Survey which I think are distinctly specimens of an industrial character, showing the manufacture of the raw product, which might, perhaps, with more advantage, be shown at the Technical College museum; but, in view of the fact that most of the visitors to the Geological Survey museum are visitors who come to the Mines Department, I think it would be in their interest if they could see, not only the collections made by the Geological Surveyors

T. W. E.  
David.  
22 Mar., 1899.

Surveyors at some locality convenient to the Department, but could also see a few of the economic uses to which some of the raw products are put. I must confess, however, that it would be undesirable to at all seriously duplicate collections illustrative of the working up of raw products into some kind of finished manufactured article. If it were proved that the overlapping or duplication was at all serious between the Geological Survey collections, and the Technological Museum collections, such a duplication would be prejudicial to the public interests, and steps ought to be taken to remove it. My opinion, however, is that there is no serious duplication at present.

2008. To some extent it seems that there must be a little duplication, because the director of the Geological Survey says it is as necessary for him to have his museum close, as it is for him to have his library close. Therefore, whilst he is quartered in the Department of Mines, he wants his museum there. That would apply to his part, so long as it is purely scientific; but would that cover the whole range of the mineralogical specimens, or only a part of them? Knowing the collection pretty intimately, I should say that it would cover something more than three-fourths; that is to say, more than three-fourths of the collection would be purely of scientific and practical value for the geological surveyors who have been chiefly instrumental in getting them together, and who need such a collection for reference, as well as for the mining public who, when they visit the Department of Mines, usually visit the museum also.

2009. Do practical miners go more to the Department than to the Technical College at Ultimo? I should fancy they do, although I am not prepared to give exact statistics on that point. I know that miners who come from a distance usually visit the Department of Mines on business, or to make inquiries of some kind, more or less official. I know that when I was at the Department of Mines, it was frequently their practice to go through the Geological Survey collection, with a view to instructing themselves.

2010. Do you think they would have done that if they had had to go to Ultimo? I should think it is very doubtful whether all of them would have gone to Ultimo. My opinion is that many of them would not have gone, as it would have necessitated a rather long journey.

2011. And you think you have more chance of getting them to make a study of the specimens, if you have them ready to hand, than you have if they are required to make a journey of a mile and a half? I distinctly think that would be so.

2012. So that, if we want to educate the people, we shall throw away a chance if we send them some distance to see the specimens? I think that would be the case.

2013. Admitting what you say with regard to the minerals, would your remarks equally apply to the large range of industrial products connected with the agricultural portion of the Department;—do you think there is any need to duplicate them? I have no knowledge of the exact character of that collection.

2014. The Department of Mines and Agriculture does not exactly touch the public at the same angle that a technical college would touch them, because the college is purely an educational institution, whilst the Department is an administrative one; therefore, the view of the college is scientific teaching,—that of the Department is to rouse public enthusiasm with regard to these industries;—do you think that consideration alone would justify two separate museums? It is hard to express a very decided opinion on that point. I know that the work the Department of Mines has done through the Geological Survey in arousing public interest, not only in Australia, but in other countries, by getting together collections of specimens, particularly in connection with either Australian or international exhibitions, has been an extremely valuable one, and I am sure has made very much in the interest of mining at large. The collections in the Geological Museum have been got together, partly by geological surveyors in their ordinary routine work, and partly through the agency of mining wardens, at times when exhibitions were about to be held. These two causes have operated to gather together these collections; and I think a very valuable work has been done in the way of interesting the mining community here in their own mineral resources, and in even educating the public, to a limited extent, in museums, by seeing the specimens and reading the labels. That may be of sufficient value, even in itself, to justify the existence of two separate museums.

2015. Your experience whilst you were in the Geological Branch was, that the money spent in that museum was well spent? I should express that opinion.

2016. You think the country got its money's worth? Yes.

2017. Still, as a museum expert, would you admit that it would be better to have one good museum than three inferior ones? I should certainly, if it be postulated in the first instance that there are three inferior museums. If, of course, you postulate that of the Australian Museum, the Technological Museum, and the Geological Survey Museum, I should certainly say, with regard to the Australian Museum, that that is a first-class museum.

2018. Still it is admitted that, in some mineralogical specimens, it is inferior to one or the other? The Australian Museum is, of course, capable of improvement in many directions. At the same time its general equipment all round is extremely creditable, and I should say it is the premier of the museums of Australia.

2019. We have three separate exhibitions of timbers under the Government, one distinctly better than either of the other two, or even of the other two put together;—is it worth while to keep up three separate exhibits of timber? As I have no knowledge whatever of what those timber collections are, my opinion, if expressed, would be valueless.

2020. With regard to the industrial part of the Mines Department exhibition—that is, their exhibitions of produce, you have no experience or opinion to offer? I have seen what may be termed products exhibited there, but they are extremely limited. I remember that, in one case, there is a little exhibit of metallic aluminium showing what varieties can be got out of the aluminous mineral of the country. That was put there with the view of showing miners that in spite of these minerals looking so earthy, as aluminous minerals do, there is still a precious metal contained in them.

2021. I am referring rather to the exhibits of vegetable products? I cannot express any opinion of any value, because I am not personally acquainted with agricultural exhibits.

2022. With regard to geological and mineralogical specimens, you are of opinion that the museum attached to the Mines Department is a good one? I think so.

2023. *Mr. Trickett.*] Would you care to express an opinion as to the structural properties of a room intended for a museum with regard to situation and light? It would be rather difficult for me to specify what my opinion would be of the most suitable position for the display of a geological collection, without knowing all the details beforehand.

2024.

T. W. E.  
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2024. Have you examined the plans of the proposed building? No.

2025. Do you know the new room in the Australian Museum, containing the mineral exhibits? Yes.

2026. Do you regard that as a well-designed room, as regards lighting, for mineral exhibits? Yes, I do—for its special purpose as a public museum.

2027. Do you not think that, in a museum, the light should be, as much as possible, of a uniform character all round? It is certainly very desirable in most cases to have the light as uniform as possible all through where specimens are exhibited.

2028. In the proposed building, the museum will be placed in the basement? The basement, on the eastern side, will be lighted by windows in areas adjoining the streets.

2029. On the Bridge-street side there will be windows as shown in the plan; on the western side the light will be fairly good by windows, and it is intended in one corner—so to speak—of the building to have a skylight which will reach up to the first floor, and above that there will be a lofty well right to the top of the building; that will be the character of the light to be conveyed to the museum;—do you think that would be a good kind of light for a museum? It would largely depend on the nature of the collections. If a very strong light is required all through the room, the light in places might, perhaps, be considered insufficient. If, for example, the specimens required minute microscopic examination, the light might be insufficient; but for general purposes it might, possibly, suffice.

2030. Do you not require a thoroughly good light for the casual visitor to inspect geological specimens containing gold indications, and so on? It should be a thoroughly good light, although not necessarily a very strong one. For example, a light such as we have in this room now is good enough for the examination of ordinary-mineralogical and geological specimens, although I should wish to see a somewhat better light in a museum.

2031. Is it not somewhat unusual to place a museum in a basement, part of which will not be on the level of the ground;—is not a museum generally constructed with regard to light requirements? It is certainly unusual to have a museum which is, in the least degree, inefficiently lighted. I know that, at the British Museum at South Kensington, parts of the collections are displayed in rooms which, for lighting purposes, would be somewhat similarly situated to the contemplated one in the new building; but that is the exception rather than the rule. As a rule, the lighting is extremely good. Nevertheless, advantage is taken of basements, even at such an establishment as the British Museum, for displaying collections of certain kinds.

2032. *Mr. Watson.*] I presume you have a pretty fair idea of the proportion of the exhibits in the Domain museum which would be necessary for reference purposes by Mr. Pittman, the Geological Surveyor;—it was stated by that gentleman that even if the industrial or economic aspect of the mineralogical museum were set on one side, and taken no notice of, he still would require a museum for reference purposes? That is so.

2033. Have you an idea what proportion of the exhibits now in the Domain would be required by Mr. Pittman for that purpose? I have.

2034. What floor area do you think would be necessary to accommodate that proportion of the Domain exhibits, without allowing for expansion? I have already stated that I think there is only a very small proportion—less than a quarter, perhaps only one-eighth of the collection—which might be considered from some points of view an industrial part of the collection. All the rest of the collection is purely of a scientific nature. I consider that the usefulness of the museum for Geological Survey purposes would be diminished if any part of the remainder of the collection were removed and taken elsewhere. I think three-fourths, if not more, of the present space occupied by the collection would be required in the future, and that is without allowing for any possible expansion in the future.

2035. You are now leaving out of account the exhibits which are there solely on account of their economic value? Yes; I am leaving out of account all specimens which could not be considered to be manufactured in any way—anything that is other than a raw product.

2036. Practically, then, you think that at least three-fourths of the exhibits, and consequently space now occupied there, will be required for Mr. Pittman's purposes as a reference museum? Yes.

2037. *Chairman.*] It is absolutely necessary that, for the purposes of Mr. Pittman, his specimens should be displayed in cases;—would it not be possible to arrange his specimens in drawers in order to obviate the necessity of taking up so much floor-space? I may state that I know that a considerable number of specimens are now kept in drawers for reference. Those which are displaced in the cases are chiefly specimens which are useful for more or less constant reference, and which are considered to be of public use in educating such members of the mining community as visit the museum.

2038. You mentioned a short time ago that a number of people visited the museum, and that you thought they would not go to the Technical College? That is so.

2039. I suppose there are two classes who visit the museum—those who visit it out of curiosity, and those who visit it for the purposes of business? I am speaking of personal experience of those who visited the museum at the time it was in Macquarie-street. At that time, those who visited the museum were, as a rule, miners who had business at the Department. There was, at the same time, a fair proportion of people who came in out of passing interest in the show.

2040. If there was a good collection of mineral exhibits at the Technical College, and the Curator there were supplied with information from the Mines Department, would that obviate the necessity of having the public museum in connection with the Mines Department;—would it not be possible to give him the information at the Technical College? Not, I think, as thoroughly and as efficiently as at the Geological Survey with a museum attached to it, for the reason that many of those men who use the Geological Survey collection bring down their specimens from various localities for assay to the Geological Survey; and it is to the Geological Survey that the assaying plant and the staff for assaying is attached. In view of there being so much work of that kind done for miners visiting Sydney, and who are up country, I think the Geological Survey can much better instruct visiting miners than could the Curator at the Technical College who would not have seen the specimens sent down from the mining districts to which the visiting miners belong, and who had not had an opportunity of a preliminary test of the minerals. I suppose the bulk of the time of the curator and mineralogist is taken up in testing specimens for miners who either bring the specimens personally, or who send them through the post to the Minister for Mines for testing at the Department. It would need almost the whole of a man's time to get through that kind of work, so numerous are the specimens received by the Department in a year. As I say, it would take up nearly the whole

whole of the time of one man. He thoroughly goes through the specimens received by the Department every day, and sees what they are, and what they are likely to contain. He discards some, and sends others on for assaying for the proper mineral they are likely to contain. That is the principal work Mr. Card does now. Any spare time he has, he devotes in arranging the Geological Survey collection.

T. W. E.  
David.  
22 Mar., 1899.

2041. If it is intended that the proposed museum shall be not only a reference museum for Mr. Pittman, but shall also have an educational value, do you think it is necessary that there should be two educational establishments—one at the Technical College and one in Sydney? If the two do not clash—as I do not think they do at present—and if the expense of maintenance is very small, I think it would be in the interests of the public to keep them both up.

2042. We are anxious that there should be no unnecessary duplication of the museums, either for educational or for show purposes. We have an excellent museum in the Australian Museum, and for people who simply want to pass away time, that would be ample? Yes.

2043. Now that we are in danger of having two educational establishments, the question is whether it is advisable to have them such a short distance from each other? I should be inclined to say that the more educational establishments you have, provided there is room for them both to work satisfactorily, the better for the mining public, always assuming that the two can be kept up without serious extra expense. I think the particular purpose which is served by the Geological Survey museum is somewhat different from the purpose served by the Technical College collection.

2044. But could not that particular part be served by a much smaller building? I am not prepared to give actual figures. I would state that I think the usefulness of the present collection to the Geological Survey would be impaired if it were reduced by any serious amount—that is by the withdrawal of any large proportion, such as one-fourth or one-third of the collection.

2045. *Dr. Garran.*] Would one caretaker be enough to look after 14,000 square feet of room? With the curator, and certain others in the building, such as the lapidary, who prepares rock sections for the geological surveyors, and with the clerk, I should think one caretaker would be sufficient. I should say that the same staff which at present has charge of the Geological Survey collection in the Museum, ought to be sufficient for a museum of the size contemplated in the new building.

2046. You must remember that in this building the Geological staff will be in a room four storeys high? By the staff I meant the staff who at present are actually at the museum in the Domain the whole of the day, or part of the day. That staff would be sufficient to look after a room of the size contemplated.

2047. What other persons are there besides the curator? There are two men engaged in lapidary work, and there is a man who is called a carpenter, who is engaged in packing and unpacking, preparing cases, and so on. They also have an assistant to the curator, who helps him in examining specimens for assay, and answering correspondence. That would make about five hands.

2048. Would there be any great inconvenience in having the museum at the bottom, and the scientific staff at the top of the building? I do not think there would be any serious inconvenience. I know that Mr. Pittman has complained a little of the distance, even as it is now, between the Domain museum and his office. He says that a good deal of his time is taken up, which should not be taken up, in travelling to and from one set of buildings to the other. If the museum were actually in the same building as the Survey, it would not be any material inconvenience to have the one on the basement, and the other on the top storey even.

2049. Especially if there were a lift? Just so.

WEDNESDAY, 29 MARCH, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.

The Hon. ANDREW GARRAN, LL.D.

The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.

JOHN CHRISTIAN WATSON, Esq.

ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Archibald Liversidge, Professor of Chemistry, University of Sydney, sworn, and examined:—

2050. *Chairman.*] Have you had an opportunity of examining the plans and reading portion of the A. Liversidge. evidence? Yes.

2051. Has your attention been drawn to the proposed museum in connection with the Department? I have paid special attention to that. 29 Mar., 1899.

2052. What is your opinion with regard to the lighting of the museum? My first impression was that the lighting would be insufficient—where the light is derived from areas; but on looking through the evidence, I see that Mr. Vernon states that he has gone into the matter very carefully, and that the lighting is sufficient. As the room is 20 feet high, the lighting may be good provided that the area light wells are made sufficiently wide and deep.

2053. Can you give special evidence with regard to the lighting of museums? No; I do not pretend to be an architect.

2054. *Dr. Garran.*] Did you not write a report for the Government on museums? Yes; but that was mainly upon the contents and arrangement of museums for educational purposes. I did not go into the question of building construction. My impression at first was that the lighting in parts would be hardly sufficient; but I have since seen, from the evidence, that Mr. Vernon has gone into the matter very carefully, and there is nothing further for me to say.

2055. Did you notice that the two sides which are best lighted cover the narrower floor space? Yes.

2056. And that the two sides which are worst lighted cover the wider part of the building? Yes.

2057.

- A. Liversidge. 2057. The skylight would greatly affect the narrower part of the building; it would be more valuable for that part than the other? Yes.
- 29 Mar., 1899. 2058. It would greatly help the window-lighting? Yes; but the skylight is apparently at the bottom of a very deep well. The light from it would not spread so much as it would from an ordinary skylight.
2059. Do you know the Museum in College-street? Yes.
2060. Is not the new part of it side-lighted? Yes.
2061. There is no skylight there? No.
2062. Is there sufficient light there? I think not. It is not a well-lighted place in parts.
2063. The object in having the museum in the proposed building is because it is intended to connect it with the Department which is to occupy the building;—do you think it would be as well lighted in the basement as on an upper floor with side-lights only? I think not, because part of the museum will be, as it were, under ground, and will receive only an area light.
2064. Do you think it would be better for the purposes of a museum to take one of the floors instead of the basement? Yes; if the floors are of sufficient height.
2065. The first floor will be 18 feet high;—would you consider it preferable to put the clerks in the basement and to take one of the upper floors for the museum? Yes, as far as the lighting is concerned, and provided the height of the floor selected is sufficient for the exhibits.
2066. The basement is 20 feet high, and the height of the windows is 12 feet? I should prefer the windows to be larger.
2067. The Government Geologist has stated that it is as essential that he should have a museum close to him as it is that he should have a library close to him;—do you concur in that? Yes. The officers of the Geological Survey should not be separated from their collections.
2068. At present the Government Geologist has to walk some distance to get to the collection in the Technological Museum in the Domain, and he complains of delay and loss of time? It must be very inconvenient.
2069. And to do justice to him he ought to have his part of the museum somewhere in the proposed building? Yes; to do justice to him and to the public.
2070. It appears from the evidence of the officers of the Department that practical miners are continually coming to town to see officials about their business, and that they are interested in the museum;—is it very desirable, therefore, that in their interest the museum should be close to the Department? Yes.
2071. Do you think it would help forward the practical education of the people? Yes, very largely.
2072. For that reason, too, I suppose, you would have the Mineralogical Museum in the building? Yes. I think that in many instances you might recommend a person to go to the collection in the Domain, and he would intend to do so; he might not, however, go; whereas, if the collection were in the building he would go at once.
2073. Somewhat the same argument is used to apply to the industrial part of the museum;—people coming to see the Minister for Agriculture would be taken to the museum close by, but they would not go to the Domain;—does not that strike you as another reason why the museum should be in the same building? Yes.
2074. In going over the three museums we noticed some things, such as timber, of which there were three separate collections;—there is one at Ultimo, another at the Technological Museum, and another at the Lands Office;—is there any necessity for three exhibits of timbers? I think not; you want one central and principal collection, and perhaps secondary ones for other purposes.
2075. That is at the Technological Museum;—that is far and away the best? Yes, as far as timber is concerned you might find it necessary to have smaller and secondary collections for limited purposes; but whether the principal collection should be at the Technical College or at the Agricultural Department I am not quite sure. I do not quite know whether the inquirers with respect to the timber come, for the most part, from the country, or are visitors from abroad. I think that many of the inquirers would prefer to have the timbers and other vegetable products in the same building as the Agricultural Department. At the Royal Gardens, at Kew, they have collections of economic products as well as the strictly scientific series; not in all cases under the same roof, but they are close together. Visitors to Kew can see the living specimens in the garden; they can also see there the scientific collections, and the specimens illustrating the properties and uses of the timbers and other products. I think that is an ideal arrangement for vegetable products.
2076. Is there any distinct mineralogical museum at the University? No museum. There are collections, but they are for teaching purposes. Although the public can be admitted to see them, they are not expressly for the public. The collections are for the use of the students and the lecturers.
2077. They have been got together for the lecturers for their use in lecturing? Yes; in no sense do they form a public museum.
2078. And they must have their specimens at hand? Yes.
2079. The same remark applies to the mineralogical lecturers at the Technical Museum, at Ultimo? Yes.
2080. Wherever there is a teaching institution the specimens to illustrate the lectures must be there? Yes.
2081. So that there must be some duplication? Yes; but it is hardly fair to call it duplication in the ordinary sense.
2082. Do you think there is any amount of undesirable duplication in Sydney? Not to any great extent. I am afraid you cannot prevent a little.
2083. If we set aside 14,000 square feet for a museum, it is pretty sure to be filled up in course of time? I hope so.
2084. And we might run the risk of unduly duplicating what is at Ultimo? I think there ought not to be much risk. The Geological Survey Museum, or collection, as far as I can gather, is essentially one of New South Wales minerals, rocks, and fossils, to illustrate the geology of the country. In addition, the Survey will still, I suppose, continue to get representative specimens from other countries, so that they may be compared side by side. I think the Department gets them entirely by exchange, and not by purchase. I believe, too, it merely gets specimens which are really wanted for particular objects, and not merely for show or curiosity, or anything of that kind. At the Australian Museum we have a general collection of minerals, which have been obtained from all parts of the world. The idea was to have at the Technological Museum specimens illustrating various mineral and other products and their methods of manufacture and the manufactured articles. Thus the three things—the Geological Survey collection, the

the Australian Museum scientific collection, and the Technological Museum economic collection—were intended to be quite distinct. If the directors or curators or governing bodies of the three different museums conferred from time to time, they could easily prevent any useless overlapping.

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2085. The College-street Museum is purely scientific? Yes.

2086. The Ultimo Museum is purely utilitarian and educational? Yes; that was the original intention.

2087. I suppose the Geological Surveyor's Museum would be scientific? Yes, but mainly for the purpose of illustrating the geology and the mineral products of the Colony.

2088. And it would have a utilitarian side? Extremely utilitarian.

2089. And the other part of the Museum—agriculture—would be distinctly utilitarian? Yes.

2090. And the question is, how far would the utilitarian side be a mere duplication of what should be at Ultimo;—there is some risk there? There is a little risk, but I think that ought to be guarded against by the officers controlling the museums.

2091. On the whole, you rather favour the idea of a Departmental museum in the building, provided that care is taken that there is no unnecessary duplication? Yes. I should like to add that in England both the Geological Museum and the Royal School of Mines arose out of the Geological Survey. The Geological Museum is still in existence in Jermyn-street. The School of Mines has been moved to South Kensington, and I saw in a recent number of a scientific paper that the authorities had decided not to move the Geological Museum from Jermyn-street. I suppose it will eventually be moved to South Kensington, but in that case I think they ought to move the office of the Survey with it. I do not think there is any present intention of separating the two. At South Kensington they already have the general scientific collection of minerals.

2092. Our position is not exactly on all-fours with that of England, because we have Departments here more definitely than they have in England? The Geological Survey in England is very much the same, but it is very much larger than ours.

2093. But the Geological Surveyor is not in the Minister's office? No; there is no Minister for Mines. The Geological Survey is under a Minister, of course, but in separate offices.

2094. On the whole, you are rather inclined to maintain this Departmental museum? I think so. I do not think the collections could possibly be in better hands. The geologists have collected the specimens, and it is their business to know all about them, and any information they may be able to give the public will be given first hand, instead of second hand.

2095. Do you think the space allotted in the basement will be too large? No.

2096. It may be too large at first, but I suppose it would all be wanted before long? I think so.

2097. Your only doubt is about the light? Yes; but, perhaps, under the circumstances, I have no right to doubt that. As I said before, I have not gone into the matter from an architectural point of view. I do not think one should give a definite opinion without making calculations, and I have not the necessary data to do so.

2098. *Mr. Shepherd.*] Do you think that, for educational purposes, one general museum would be better than two or three? Do you mean for students, or for the public and students.

2099. It appears to me that when we have a large museum like the Sydney Museum, it is hardly desirable that a second institution should be kept up for the general public to visit;—what is your opinion about that? By the second institution you mean the Mines Department's Museum.

2100. We have had evidence to show that as many as 12,000 people visit the Technological Museum, at Ultimo, in the course of a month;—to some extent that must interfere with the educational aspect of the institution? Do you mean that the presence of the public would interfere with the teaching.

2101. Yes; I want your opinion about that? If things are properly arranged I do not think it should. The collections, of course, are open to the public. There are rooms for the public, and there are other rooms, which are used as lecture and class rooms. The specimens which are required for teaching are kept in the class-rooms, or else they are taken out from the general collection at the time they are wanted, and then put back again.

2102. *Mr. Levien.*] The same as in the University? Yes; but at the University we do not attempt to exhibit them for the public.

2103. But you take the specimens out for lecture purposes? Yes.

2104. *Mr. Shepherd.*] Does not the existence of so many museums largely increase the expense? I suppose it does increase the expense to a certain extent. There is no doubt that ideally it would be better to have only one museum, and to have that in the most central position. If it were possible to have simply one museum for geological and mineralogical specimens, I think that the collections should not be arranged solely from a scientific point of view, and they should also contain specimens to illustrate the economic uses of the products. The mineralogical and geological specimens, I think, should be under the control of the officers of the Department of Mines.

2105. Of course, the Sydney Museum would, no doubt, be the proper one to have open for the public generally? It is open to the public.

2106. What I want to know is whether it is necessary to have three museums open to the public;—would it not be better to confine the Sydney Museum alone to the public, so that the expense might be reduced; the other two would not then require to be so large if they were simply for educational purposes? Then, I think, you would have to move the Geological Survey to the Museum to make it a really good-working arrangement.

2107. The Curator of the Sydney Museum states that it would not be convenient for classes to attend there for the purposes of instruction? Yes; the collections there are not arranged for class instruction. The specimens at the Mines Department's Museum are not arranged expressly with that object, nor are they altogether at the Technological Museum. At the Technological Museum, however, they can utilise them in the class-rooms. They can take whatever specimens they want into the class-rooms. There are no class-rooms at the Museum, and I suppose there would be none at the Mines Department.

2108. Do you think, if the exhibits at the Technological Museum, and the Mines and Agriculture Museum were kept exclusively for educational purposes, it would be necessary to occupy so large a space as that now occupied, and to keep so many persons in attendance? I think they would be less expensive to maintain, and would require a smaller number of persons to look after them; but I do not think much less space would be required.

2109. Do you think it is feasible? Yes, if the site and money could be got for the necessary buildings,  
the

A. Liversidge. the best plan would be to have all the scientific and the economic collections under one roof. But, at places like the University and the Technical College, as distinct from the Technological Museum, you must also have teaching collections.

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2110. You really think our present system could be improved upon? Yes, but I do not think it is possible to get the building. It would be very expensive to make the change.

2111. *Mr. Levien.*] If all these museums were centred in one, would it not occasion great difficulty, as far as Technical instruction is concerned? My notion would be to have the class-rooms in connection with such a central museum; but I am only speaking about an ideal arrangement; we do not stand the slightest chance of getting it.

2112. You would require a building of about five times the space proposed to be allotted? Certainly.

2113. Then it would cost an enormous amount of money to erect the building, and at the same time you would have a very large number of instructors? Yes; I do not think it could be done, it would be too expensive.

2114. Do you not think it is very convenient to have mining specimens at the Department of Mines, so that inquirers can see them on the spot? Yes.

2115. Do you not think that after all it is better for museums to be allotted to each Department? I think that under the circumstances it is best to leave things as they are, and to see that there is no unnecessary overlapping. As the three museums are in existence, it is perhaps as well to allow them to continue.

2116. What do you think about the duplication of specimens in the different museums? I do not think the duplication amounts to very much, but if it does it ought to be stopped.

2117. Could not the heads of each museum confer on the subject of duplication? Yes; of course, the conference should apply to more than simple specimens.

2118. *Mr. Trickett.*] Have you been abroad lately? Yes; in 1896.

2119. Were you in America? I was there in 1887.

2120. Did you visit any institutions similar to this where schools of mines or mines offices exist? Yes; at San Francisco, for instance, there is a Geological Survey for the State of California, and they have their offices in San Francisco. They also have a geological museum in connection with the Department.

2121. Is it a large room? Yes; at the top of the building. That is not the case at Jermyn-street. The museum there occupies nearly all the building from the ground-floor upwards, and it is lighted from the top. It is also lighted from Jermyn-street and Piccadilly, but the main light is from the top.

2122. Do you know of one museum which is in a partly-buried Department, such as this will be? Yes, several. There is an art museum, for instance, in Dresden, part of which is under very disadvantageous circumstances. They put up with it, because they have no better accommodation.

2123. It is not desirable to have them in a basement? No.

2124. I suppose that in a museum good lighting is one of the main necessities? Certainly.

2125. Especially for the purpose of dealing with mineral and geological specimens? Yes; some of them; of course some are large, and do not require a very brilliant light.

2126. The overhead light of the proposed museum will be by means of a well going up to the top of the building; the well above the skylight of the proposed museum will really be a shaft or enclosed space 80 to 90 feet high; do you not think that that will very much detract from the irradiation of a light through the skylight in the museum? It certainly will not be equal to the light you would get if the skylight were in the open.

2127. If it were practicable, would it not be better to have the museum at the top rather than at the bottom of the building? Yes; it would be much preferable as far as light is concerned.

2128. Did you make yourself acquainted with the working of the Geological Department in San Francisco—I mean as to the museum portion of it; and as to its being used as an object lesson for applicants for mining leases, and so on? I did not make any particular inquiries; but I did learn that it was being made use of.

2129. I suppose there are no two opinions in regard to the advantages of having a museum of some kind in connection with the Department? No. At Washington also they have large collections in connection with the Geological Survey.

2130. Did you visit that building? Yes.

2131. Is the museum a large room? So far as I recollect there are several large rooms.\*

2132. Can you give us any opinion as to what space is required for a museum? I think the space proposed to be given is not too much to allow for expansion.

2133. Do you think that the 14,442 superficial feet will be required? I think so, especially if you are going to include vegetable products.

2134. How is the museum at the University lighted? In the case of the geological collections, the rooms are ordinary rooms, well lighted. I think there are two windows on one side, and two on the other in one room; the other rooms have two windows; but the rooms are not more than 25 feet by 18 feet.

2135. Is not the Ultimo museum lighted from above? I cannot charge my memory, but I know it is well lighted.

2136. I believe the room occupied by mineral exhibits at the Australian Museum is splendidly lighted? Yes; we had that newly lighted a few years ago.

2137. As all the exhibits in the proposed building will be in cases, you naturally require a good light for them? I think it is absolutely essential for a museum—no matter what kind it may be—that the light should be good.

2138. Have you ever seen any museum, with the exception of the one at Dresden, situated in a basement? A part only of that museum is in the basement. Many museums have a basement, which is generally used for storage or for large specimens not requiring much light; but I have certainly not seen any museum, with so extensive a floor-space as the one proposed, the whole of which is in the basement.

2139.

\* NOTE (on revision) :—I omitted to mention that the U. S. Geological Survey collections are transferred, when finally dealt with, to the National Museum at Washington, but are still for the most part under the charge of officers of the Geological Survey, e.g., the Director of the Geological Survey is Curator of the Palæontological Collections, and the Chief Chemist of the Survey is Curator of the Mineral Collections. At Washington all the National Collections, without exception, are concentrated in one group of buildings.

2139. *Mr. Dick.*] You have stated that if we have museums in different parts of the City it will result in expense;—do you think the gain to the public at large is commensurate with that expense? Yes. I think, as they have been started, you are justified in continuing them. But, as I have said before, unnecessary duplication of the contents should be prevented. A. Liversidge.  
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2140. Have you any experience of a museum on the top floor of a lofty building? There is a museum at San Francisco, already mentioned, which was at the top of a building, but I do not think it was as high as the proposed building.

2141. Do you think the placing of a museum at the top of a lofty building would militate against its success as a public institution? Not very much. Of course most people prefer to be able to walk straight into a building, and some might be deterred by having to wait for the lift; but only a very few. The slightest thing will often deter some people.

Duncan Clark McLachlan, Under Secretary, Department of Mines and Agriculture, sworn, and  
further examined:—

2142. *Chairman.*] I believe you have had an opportunity of seeing the evidence given by Mr. Miller? Yes. D. C.  
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2143. Do you wish to make any remarks with reference to it? I have perused the evidence given by Mr. Miller, and by Mr. Teece, and I do not see that it bears very much on the question of this building, because the circumstances under which they work their business are altogether different to the circumstances under which we conduct ours. For instance, they have only one business to control—a banking or insurance business, and they can amalgamate all their clerks and jamb them up into space. Perhaps, you will be surprised to find that even in the Bank of New South Wales they have double the number of clerks we have, or intend to put, in the proposed building. A clerk takes up much less room than the kind of officers we mostly employ. They have 146 clerks against our 75. The greater number of our officers consist of professional men, such as draftsmen, &c., and require a lot of space. Then there are five or six different Departments to conduct, and it is impossible to put them into one big room. The Mines business is quite distinct from the Agricultural, and the Stock business is quite distinct from that. Then we have the Water Supplies, which are again distinct. Therefore, we must have divisions of offices. The nature of the business of the Bank of New South Wales and the A.M.P. Society is such that it has to be done by the simplest class of book-keeping. A clerk who never has to move from the desk at which he is writing can do with much less space than a man who has constantly to be moving about.

2144. Is not a good deal of your work simple clerical work? A fair proportion, say one half of it, is. But it is very different clerical work to that which is done in a Bank. For instance, the greater part of a Bank's work is in reference to cheques. A cheque is received and is placed to a man's account, and is done with at once.

2145. Will not a ledger-keeper in a Bank require two large ledgers? Yes.

2146. Are there not a number of clerks in your Department who have simply to deal with papers of foolscap size? Yes; but the clerk who has to deal with papers of that character has some thousand bundles of them.

2147. But it is not necessary for a clerk to have thousands of bundles of papers on the table at one time? No; but he must have them alongside him.

2148. Would not a good deal of your work, as far as space is concerned, correspond with banking work? No; none of it that I know of.

2149. Would not the space which would be necessary for a bank clerk be sufficient for an ordinary clerk in your Department? Only so far as the Account Branch is concerned.

2150. What about the correspondence? And probably the correspondence as well; as a matter of fact the space at present occupied in the Records and Correspondence office is no greater than that which is occupied in the Bank of New South Wales or the A.M.P. Society. In that office we have 13,035 square feet and twenty men working there. That gives 66 square feet per man. I think some of the officers of the Bank of New South Wales and of the A.M.P. Society occupy exactly the same space.

2151. How many scientific experts have you? About twenty-five whom I consider experts.

2152. Have they separate rooms? Yes. I am speaking now of the Chief Inspector of Mines as an expert, and also the Government Geologist and the Mineralogist.

2153. Of course they would require more space than an ordinary clerk? Yes.

2154. And so would a draftsman? Yes.

2155. There are no draftsmen employed in banks? No.

2156. Under the proposed scheme you will have 33,500 feet exclusive of the museum;—how many officers do you propose to locate in that space? One hundred and forty.

2157. That will average over 200 feet per individual? Yes, I daresay it will. In the 140 I include the draftsmen and every one else.

2158. Do you consider that the difference between a space of 50 feet for an ordinary bank clerk, and a space of 200 feet for your officers is sufficiently accounted for by the fact that you require extra room for professional men? Yes. I would point out that the clerks in the Bank of New South Wales are doing exactly the same kind of work, and are probably dealing with the same papers. One man enters a cheque, and it is passed along from him to others. I could not, however, put all our clerks into one or two rooms in the same way as a bank can do it. For instance, the Chief Inspector of Mines must have his clerks near him. He could not very well have his clerks' two floors lower down in a general clerks' room. It would be impossible for him to conduct his business under such circumstances.

2159. Mr. Miller, in the course of his evidence, stated:—

Following round the building we come to the branch securities room. In that room, which is 22 feet by 18 feet, we have ten clerks always at work, and sometimes one or two more as the deeds come in from the country.

That is an average of 40 feet. Mr. Miller was also asked the question:

Is there any accommodation included in that 22 feet by 18 feet for any person making inquiries? Yes; the end of the passage is fenced off by a counter 3 feet 6 inches wide, and the whole of the inquiries in that room are made at that counter. If the inquiry is such as to necessitate the inspection of a deed, the inquirer is taken inside.

Do you think the business you do is so different to a Bank's business that your clerks require much more room? Much more room.



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2160. And you explain that by the fact that banking work applies to detail, and you have much? Yes. They can put their clerks together and we cannot. Again, we deal with a system of papers, and the nature of our inquiries is altogether different. We deal largely with questions of public policy; bundles of papers accumulate, and have to be kept about the place. For instance, a man may make an application to have a common established somewhere; the application comes in, and perhaps necessitates a dozen inquiries from other different Departments. A particular officer has to keep that paper until everything is complete. It may be that we should have to consult the mining interest to find whether it would be affected. We now also have to consult the Lands Department as to whether they want to sell the land. The people interested would have to be consulted, and perhaps numerous petitions would come in from all quarters. A bank clerk has nothing like that to look after.

2161. Do you mean to infer that your clerks would have all those things on hand at once? Yes; some of them would have 100 of them on hand at once.

2162. Could he not deal with one set of papers and put them away? He would require them behind him or in front of him, where he could easily get at them. Otherwise he would be going about the whole day long to obtain papers, and valuable time would be wasted, and the number of clerks would have to be increased.

2163. Is not the whole of the business transacted with pen and ink? Yes.

2164. And does not a parcel of papers of foolscap size take up less space than a couple of ledgers? But the clerk who is working at them has a ledger with him bigger than a bank clerk's ledger, probably he has fifty of them alongside him—I refer to a record clerk.

2165. Where do they keep them? Some of them under the table and in front of them. A paper over twenty years old may have to be searched back for, and connected with the new application. The record clerk has to have the registers for those years in front of him, or handed to him. We will suppose that it is a mining lease which may have been granted twenty years ago. It has gone through twenty people's hands in that time, and fifty complaints have been made against him. There have also been transfers of it and shares sold in connection with it. The record clerk has to trace all that back, and he requires to have his books handy to enable him to do so.

2166. Do you not keep the whole of the papers from the inception to the finish together in a bundle? Yes; when they are finished.

2167. But, as the matter is progressing, are not the papers tied up? Yes.

2168. So that a man would not have to refer to fifty or sixty books to check what was in the papers? Not in any particular paper, but he gets in fifty new papers every day for which he has to set up a fresh search.

2169. Supposing there were fifty new cases coming in each day, he has not the whole of the papers connected with those cases littered about him at one time? He has them somewhere handy.

2170. Perhaps that accounts for a good deal of the delay about which we hear so much at different times? He has the whole of the papers by him.

2171. Is there any other matter in connection with Mr. Miller's evidence upon which you would like to give an opinion? No.

2172. What was the first proposition with reference to the accommodation you required;—do you know anything of a scheme which was to cost £18,000? That was prior to my joining the Mines Department, but I understand that it is a scheme somewhat similar to the one before the Committee now, excepting that there has been attached to it the accommodation for the Public Instruction Department.

2173. You have also stated that you have no desire to have a special building of your own, and that if you could get accommodation on the top of your present quarters, you thought you would be able to manage with it? I confirm what I said then. We only want to concentrate our offices, and if a storey can be added to the building which will accommodate us, it will suit just as well as a separate building. I may say that I was rather staggered at the estimate of cost by Mr. Vernon for an additional storey. It may be that he has some very elaborate scheme in regard to it. The building in which we are now situated has had a storey put on the top—a Mansard roof. I think the Mansard system of roofing is much cheaper than the one Mr. Vernon proposes to put up.

2174. Is there any great Departmental or public inconvenience occasioned by reason of the laboratory being at the Government stores? Only on account of the loss of time. When people come to the Department, a messenger is required to take them down. People from the country cannot find the place.

2175. Are you supposed to take country visitors about town? If a man is interested in this business we try to oblige him in every way we can.

2176. *Dr. Garran.*] During the examination of Mr. Liversidge it was suggested that instead of having the museum in the basement it should be on the top storey;—would it matter to you whether your officers were located in the top of the building or in the basement? I think not.

2177. Do you see any disadvantage in having a museum at the top? None at all.

2178. Do you think the people who want to go to it will willingly go in a lift? I think so. As a rule, interested people are willing to be put to a little inconvenience to obtain information.

2179. Would you keep the museum in the new building open on public holidays? Yes; that is the intention.

2180. Would there be any inconvenience in having the museum at the top of the building under those circumstances? No.

2181. Would you not have to keep the whole of the establishment open? Yes; but only a doorkeeper and those in charge of the museum would be occupied.

2182. Do you think it is very important for your Department to have an industrial portion of the museum? It is not so much for the benefit of the Department as for the public.

2183. Do you think the public would make more use of it in the proposed building than they would if it were at Ultimo? I think so.

2184. Do you know minutely the museum at Ultimo? No.

2185. You cannot say then whether there is any overlapping? No.

2186. Do you think the people who come to see you with regard to the agricultural portion of your business will visit the museum? I am sure they will, and it will save the Department a great deal of correspondence too. For instance, a farmer may want to know what is the best kind of wheat to plant. He may hear of a certain wheat, say Allora Spring, and he knows he can see it in the museum. He will, therefore, come there instead of writing.

2187. Then you think it would be a mistake to take away the industrial part of your museum? Yes.  
 2188. You think it would be worth all it would cost? It would cost very little indeed.  
 2189. Otherwise you admit there would be some disadvantage in having the same thing shown in the proposed new building at Ultimo with separate people to look after it? A great disadvantage to the public, I think.  
 2190. You do not favour overlapping unnecessarily? Certainly not.  
 2191. But if you are to have a museum of this kind it will be necessary for you and the Curator at Ultimo to come to an understanding not to multiply specimens uselessly? I think that would be a good thing to do.  
 2192. Have you any such understanding at present? No.  
 2193. Do you not think that there should be one? Yes.

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 McLachlan.  
 29 Mar., 1899.

THURSDAY, 30 MARCH, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
 The Hon. ANDREW GARRAN, LL.D.  
 The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
 JOHN CHRISTIAN WATSON, Esq.  
 ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Joseph Henry Maiden, Director of the Botanic Gardens, sworn, and examined:—

2194. *Chairman.*] What position did you occupy before taking up your present one? I was in charge of J. H. Maiden the Technical Education Branch of the Department of Public Instruction.  
 2195. Did that include any supervision over the museum in connection with that institution? Yes; I was the curator of the museum—a post I held since 1881.  
 2196. What does that museum embrace? The specimens are divided into three kingdoms—the animal, the vegetable, and the mineral products. Besides those there are exhibits which cannot very well fall under any section—such as educational and ethnological appliances.  
 2197. During your curatorship had you any opportunity of noticing whether the museum was visited by a great number of people other than students? Certainly it was.  
 2198. Is there any difficulty by reason of distance in reaching that institution? It has always been an objection. I always regretted the placing of the museum at Ultimo, but it had to be done. There was no vacant ground sufficiently extensive in Sydney. Before it was erected I held the opinion that it was out of the way for the general body of the public, and I think so still.  
 2199. Will the construction of the electric tramway past that museum remove that objection? Of course, new means of transit will be an improvement, but they will not entirely remove the objection.  
 2200. In the proposed museum in the new building it is intended to group all mineral and entomological specimens;—that being so, and the position being central, would there be much necessity for a museum in connection with the Technical College? It all depends on whether the two museums are conducted on the same lines. If one were a precise duplication of the other in aim and individual specimens, it would be wrong. I take it, however, that the museums have different objects and different classifications.  
 2201. Do you think the basement of the proposed building will be a suitable place for a museum? Any judgment I form is made, to some extent, on the spur of the moment; but I should say that there is not enough light for a museum building in that situation.  
 2202. Suppose we grant that there is sufficient light—do you think the museum would be better situated in any other part of the building? The handier to the street the better. There are, however, other things to be considered. You want light and ready communication with the professional officers who have to use the museum for the purpose of giving technical information to the public.  
 2203. If the geological surveyor is on the middle floor, it would not matter much whether he went up or down to the museum? No.  
 2204. I presume a better light could be given on a higher floor? Yes. I am very suspicious about the light. You cannot have too much light. Of course the position is advantageous, on account of it being easily accessible from the street.  
 2205. You will have noticed that the museum is to be lighted by an area on the eastern and southern sides? Yes; but those windows are connected by stone-work. There will be a lot of light absorbed and obstructed there. The light on the eastern side will not be sufficient; the windows will be below the footpath.  
 2206. *Mr. Trickett.*] What do you think of a skylight with a kind of shaft about 80 feet high above it;—would the light from that, for the skylight, be very effective under such circumstances? I do not think so. It would be like the light you would get in a mine; you would get some light from the top of the shaft, but on a dull day you would be very much in the dark.  
 2207. *Chairman.*] A scientist in pursuit of his studies would require all the light he could obtain? Exactly.  
 2208. This being a reference museum for a scientist accentuates the objection you have to it being on the basement? Yes; the question of lighting is paramount with me.  
 2209. *Mr. Trickett.*] Have you had much experience in regard to museums? Yes; when I left the old country I had been in most of the important museums in England, besides which I had had other experience.  
 2210. Do you know the Jermyn-street Museum? It is nearly twenty years ago since I was there; it was not well lighted then. Of course the developments of museums have taken place during the last quarter of a century. The new museum of natural history at South Kensington is a type of a modern museum. We have in Sydney, as far as I can make out, the nuclei of some of the best museums to be found anywhere.  
 2211. Do you not think that the proposed museum would be better situated if it were closer to the geological surveyor than it is proposed to be? Yes, from his point of view; but I take it that it will be used by the general public as well.

2212.

- J. H. Maiden. 2212. Seeing that there will be a large lift in connection with the establishment, do you think it would be objectionable if the museum were higher up, where you could get good light? I do not see any objection if you have a lift. Some exhibits at the Australian Museum are several floors up, and so they are at the Technological Museum.
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2213. Anyone requiring information for his own purposes, or in connection with his business, would not object to go up by means of a lift, so long as the museum is in a good central position? That is so. It is no use tantalising a man by showing him specimens in the dark. Light is paramount with me, and I have had nearly twenty years of practical experience.
2214. How is the museum at the Technical College lighted? By side windows. If you take notice of them you will find that the building is practically all windows. That building was designed by myself. The place is well illuminated.
2215. On what floor is the museum there? On all three floors. The ground is a little sloping. There is half a floor on which I placed the carpenters, and even they have good light. On the next (ground) floor you have the mineral kingdom, and on the first floor the timbers and botanical products. I placed them in the middle for two reasons—one because the products were intermediate in weight between the minerals on the ground floor and the animal products on the upper floor; and, because as Curator, I wished to have my office in the centre of the building, and, being a botanist, to have everything around me. On the upper floor are the animal products and miscellaneous specimens not otherwise characterised, such as musical instruments, educational appliances, sanitary fittings, &c.
2216. In designing that museum your main object was regularity of light? Yes; and if you want to keep out the light there is a good system of blinds.
2217. Do you think it would be advisable to try and locate the proposed museum in a part of the building where there would be no risk whatever in regard to light? I have no hesitation in expressing that opinion.
2218. If you were advising, would you not say, "I would sooner put the museum in some other part of the building higher up, where the light would be unmistakable"? Yes; I should be sorry to take charge of the museum in the site proposed.
2219. *Mr. Shepherd.*] Have you thoroughly examined the whole of the museums in Sydney? Yes.
2220. Has it struck you that a great many specimens are duplicated? There is some duplication, no doubt, and it should be the endeavour of those in charge to minimise it, but I question whether it could be done away with altogether. Of course, a man may run his museum regardless of any one else, and may duplicate without consideration; but the mere existence of two specimens of the same mineral or timber in two public institutions in Sydney would not necessarily denote duplication. In the Mines museum the collections are referential for the various officers. To some extent the museum at Ultimo is away from the heart of the city, and you must make allowance for the convenience of the public. Every day of my life it is my duty to refer people to the museum at Ultimo, and when it is explained that it is a mile and a half away they do not care to go. I think a small general collection in the city would be a great advantage to the public.
2221. I suppose the Ultimo Museum was intended more as an educational establishment for students than for the general public? No; I think the reverse was the case. When I was appointed to form that museum there was no such thing as a Technical College. Afterwards, when the system of Technical education was founded in New South Wales, it was brought forward as an argument for having the buildings together. That museum was inaugurated in 1880 as a branch of the Australian Museum. The Australian Museum buildings were not adequate to hold timber and specimens illustrating processes. Arrangements were made by the Government to take over a large number of exhibits from the Sydney Exhibition of 1879, and house them in a separate building. The idea was to have a general museum in Sydney for exhibits of that class.
2222. Would it not have been more desirable to add to the Australian Museum than to have had a separate building so far away? I think, with the development of trade, and an increased knowledge of products, the Technological Museum will, in process of time, become as large as the Australian Museum, and inasmuch as the Australian Museum will want to increase too, there would be constant conflicts in regard to the allotment of space, so I think it would be better for them to work out their own destinies independently.
2223. It appears to me that the multiplication of museums means the multiplication of expense? Of course it depends to some extent on the loyalty of the heads of the various staffs to reduce what is unavoidable to a minimum.
2224. You say you have always objected to the Technical College Museum on account of it not being sufficiently accessible to the public? Yes.
2225. It has been stated that 12,000 people have visited the place in a month;—is not that a large number? There is no limit to my ideas on the subject. Personally, I would put the Technological Museum where "Deeble's Hotel" is, and get 100,000 a month to come in. I do not think any site is too good for it.
2226. On the whole, then, you do not think the position of the proposed museum is suitable? No. I think it should be at the top of the building, if another floor cannot be given to it. If the choice be between lighting by area and roof, I would prefer the roof.
2227. Do you think a space of 14,440 feet is ample for a museum? I should think so, because there must be limitations to a Departmental museum. It would certainly last for twenty years or more.
2228. *Dr. Garran.*] As between the basement and the roof, the consideration is which is more important—to have easy access for the public, or to have good light? Light.
2229. If you had charge of the proposed museum, would you say, "Let it be on the top of the building, where I can have any quantity of light, and I will guarantee that the public will come to it by means of the lift"? Yes; I would choose that alternative. Of course the position of the basement is a great advantage in favour of that site.
2230. But balancing one advantage against the other, you look upon the light as the most important? Yes; I look upon light as the first consideration in a museum.
2231. And yet you say we have to shut out light very often, because it is too great? You should always have power to modify your light. You may have a collection of resins, for instance, which in hot summer weather might melt in the bottles.
2232. Have you any roof-light at Ultimo? No, excepting in a room I got the architect to put in a roof.

2233. You have some transverse walls in the middle of the building;—do they detract from the light? No; J. H. Maiden. their advantages outweigh their disadvantages. You must have some supports for the floors, and you get your supports in that way. These walls divide your exhibits, and also give you the opportunity of hanging objects against them. 30 Mar., 1899.
2234. Is it found, in this climate, that light from the south is better than from any other quarter? It is the general opinion, for many purposes. There is no glare from it.
2235. In many factories we have the eschelon-shaped roofs with the windows to the south? Yes; but I do not express any opinion as to whether that is extensively carried out.
2236. If you had to light the top floor from the roof would you so arrange it that all your windows should face the south, so as to get no sun on them at all? I do not know. I should prefer an opportunity of getting light all the way round, but with facilities for excluding it, if possible.
2237. You prefer a side light? Yes.
2238. Is the Technical College at Ultimo in the right place? Yes. It is not in a perfect situation, because I think no site is too good for it, but taking all things into consideration, I think the advantages are very much in its favour.
2239. It will be more accessible when the electric trams run? Yes.
2240. It would be more out of the way at the University? Yes.
2241. The Technical College, then, is there to stay? Yes.
2242. And being there, there must be a museum attached to it? Yes.
2243. I believe your exhibit of timber at the Technical College is the best in the Colony? Yes.
2244. Is there anything in the other two museums which you have not got? I could not say.
2245. The Ultimo exhibit being so good, would it not be desirable to make it as nearly perfect as possible, by taking from the other exhibits whatever it may be deficient in? I do not think there is anything in the Domain which the curator there would covet.
2246. Are those who want most to study our timbers persons who are engaged in the timber trade or visitors from abroad? Primarily the timber merchants. Many furniture-makers are also deeply interested in our timbers. A large number of people also come to our shores wanting to know about our timbers. Only a few days ago I had one of the principals of the world-wide firm of Wolff & Sons, the pencil-makers, to see me. He was in Australia for the purpose of seeing what timbers were suitable for pencils in New South Wales. A short time ago I had another person to see me. He was interested in using up our waste timber for the purpose of distillation—making various products from it. These people are perfectly sincere in their desire to utilise our timbers if they can get them.
2247. People having a special object would go to the museum wherever it was? Yes.
2248. But so far as the general public are concerned, a journey of a mile and a half, or to the top of the building, might make some difference? Yes.
2249. But still they are the least valuable visitors? Of course we sow our seed on all sorts of ground, and we never know whom we benefit. Some of our best men are those who say the least about it. They come in, obtain information, and jot it down in their books; in fact, they scarcely like to obtrude, but they think all the same. I have very strong feelings in regard to having a representative collection of our products in Sydney. Only yesterday I saw a gentleman whom I sent to Ultimo, but he very much demurred to going there.
2250. Identified as you have been with the Ultimo Museum, you are still in favour of a Departmental museum in the city? Without a doubt.
2251. And you think the idea of attaching a museum to the Department of Mines and Agriculture is a good one in the public interest? Yes.
2252. And that we shall get our money's worth? I am quite of that opinion. In the first place, as regards the staff, you can no more dissociate a staff from its specimens than you can a carpenter from his tools. Then I would have a small general collection of products for the public—I would limit it. There is one set of specimens you never can get at Ultimo, and that is a fresh collection of agricultural products—wheats, and the various kinds of vegetables and fruits in seasons. You must have these specimens in touch with the Department of Agriculture. If the Department of Agriculture only took up that one museum, I think it would justify its museum existence. Those are absolutely unprovided for in Sydney, with the exception of a few poor specimens in the Domain.
2253. Do you mean the natural products themselves or the models? I would have the models when I could not get the natural products.
2254. How long could you keep a squash or other vegetable in Sydney? A few days, or even years; it depends upon how you preserve it. At present there is no institution in Sydney to which you can take a country cousin to see a good collection of wheats and perishable articles generally, and that is what a large number of our citizens are interested in.
2255. I suppose the best we have is in the Domain? Yes.
2256. And you would have something like it, or something better in the city itself? Yes; I would keep it going all the year round.
2257. It has been stated that a great many people interested in mining and agriculture come into the office on business, and that it would be handy for them to go to the museum at the same time? That is a perfectly sincere statement.
2258. Do you think that in itself is a justification for a Departmental museum? It would be a justification for a small museum certainly.
2259. Have you anything like a herbarium at the Botanic Gardens? I have 15,000 species.
2260. Are you forming a little botanical museum? I am countenancing no duplication; I have carefully sent anything in the industrial line to the Technological Museum.
2261. And botanical students get access to your museum? Yes, and I send fresh specimens to the Technical classes for the students.
2262. Could University students get access to them? Yes; I am sending specimens to the University also.
2263. I take it that you work with the authorities at Ultimo and the University? Yes. Of course, unless there is a good feeling there will very readily be duplication.
2264. I understand that you think that provision for a museum in connection with the Department is not only proper in itself, but that the area devoted to it is not too large? Yes.

- J. H. Maiden. 2265. *Mr. Watson.*] You have stated that you consider it probable that the basement lighting will not be sufficient? Yes.
- 30 Mar., 1899. 2266. On the southern frontage of the building there is a wall which is ultimately used for carrying a flying corridor; that will naturally have the effect of obstructing the central lighting;—do you think, if it were removed, it would materially advantage the lighting in the basement? I do not think it would make much difference. It would not remove my objection to the position for a museum.
2267. I suppose you recognise that the amount of light derivable from the northern and western frontages would be considerable? Exactly.
2268. On those two frontages no area for lighting purposes is necessary? The only frontage that is good is the Bridge-street frontage, and there is not too much of it there.
2269. Notwithstanding that there is a fairly good light on the northern and western sides, the lack of light on the eastern and southern aspects would be fatal to the proper use of the museum? I think so. If it were to be handed over to me I would not take it without a severe struggle. I should say I would be handicapped in making a good museum.
2270. *Mr. Shepherd.*] Could not artificial light be supplied by means of gas or electricity? I doubt it. If you get artificial light you affect the appearance of the specimens. I would not light artificially if I could help it.
2271. Would it not be preferable to an imperfect natural light? That is rather a suggestion to do the best you can with a bad job. If I could avoid it I would not have artificial light. Of course, if you cannot get natural light, you must have artificial light.

TUESDAY, 11 APRIL, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

John Kirkpatrick, Architect, sworn, and examined:—

- J. Kirkpatrick. 2272. *Chairman.*] You are an architect practising in Sydney? Yes.
- 11 April, 1899. 2273. You are the architect who had charge of the work in connection with the additions to the Infirmary? Yes.
2274. Have you examined the plans of the proposal before the Committee? Yes; I have examined them partially.
2275. What the Committee particularly want to know is this;—whether it is possible to put another floor on to the present Lands Office building, and the cost? That I understood, and I have spent a little time in examining the building. I have been over the building twice. I spent Saturday afternoon on the roof, and I have made what I consider an approximate estimate of the cost of putting one or two storeys on, that is one first with a stone front by carrying up the building with stone, say 14 feet high, and placing over that storey another storey with a Mansard roof. That would give two storeys. Above the second floor, I propose to place a storey carrying it up 14 feet, and utilising the present roofs that are now on the building. They are all very good roofs. The greater part of the slating could be re-used in a similar manner to what has been already done on the front of the Government Printing Office. They have used the old slates there. That is one estimate that I have made. I also went on further, and I thought that I would suggest an idea of my own, namely, to take a good Mansard roof right round, by the removal of all the domes. The large dome in front is used as a plan-mounting and drafting room. Another one is used for photographing, and the one on the opposite side is not used at all. Whilst I was being shown over that roof by the caretaker, I was told that those domes were a perpetual nuisance, that they are always leaking, and that they are of no use whatever. Recently £100 has been expended on them, but they are just as bad as ever after rain. I think that, sooner or later, the domes will have to be taken away, and we might as well make an improvement by going right round and removing the domes; then we should lose that much roofing area. You might as well go in for an entirely new roof in the shape of a Mansard roof. There is a Mansard roof on a portion of this building. I thought we might as well gain the floor-space. There are some 20,563 superficial feet, including the corridors on one floor, as well as the large space that is occupied in the centre of the building. There is a block 80 feet long by 50 feet, and that includes a strong-room, store, corridors, &c. I thought we might as well take the whole of this up with the one floor in stone. I do not propose to go away from the architecture of the present building, but to carry it up in stone; then if, as I say, we remove the domes, it may be advisable to take the Mansard roof right round. However, we could carry up the stone building one storey, 14 feet high, and utilise the old roofs there, and the domes, without removing them. Of course, then comes in the expediency of doing that, whether it would not be better to go to the larger expense and remove the domes, which ultimately will have to be taken away. Whilst the scaffolding is all up, it may be better, and no doubt it would be cheaper to carry out this work at the first cost, whereas if we carry up the one storey in stone 14 feet high, and place the old roof on that, it would be done at a moderate cost at present, but within a few years time, I doubt whether those domes will be found too safe. From what I can see of the state of preservation they are in at present, they will have to be removed before very long, and to remove them you would have to put up fresh scaffolding, and go to work again, thus upsetting the officers at their work. It would be a serious matter to have the work of the draftsmen and compilers in the building, as well as of other classes of labour, destroyed or disturbed by workmen. Instead of getting a good day's labour you would have the men disturbed by the hammer, and the work going on. Therefore, it is a question whether we should not make a clean sweep of it at once, and do the whole thing properly.

2276.

2276. What would the cost be to do it at first? I have estimated in this way: I have run out the superficial area first and then the cubic area. I have estimated 14 feet and 6 feet—that is 20 feet. I have taken it up 20 feet high the entire area, and the area would be 20,563 superficial feet. I make the cost 1s. 6d. per cubic foot, or 30s. per superficial foot, and that runs out at £30,749.

J.  
Kirkpatrick.  
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2277. *Mr. Watson.*] That is for one floor? It is for one floor.

2278. Have you excluded from that the space which would be occupied by the domes? No; I have taken into consideration the labour that I should put on the dome. The 20,000 superficial feet is including the area of the dome.

2279. They are there already? Yes; but we have a considerable amount of cutting and fixing. I have omitted those little spaces; I have not taken in the latrines.

2280. That large dome has a fair superficial area, has it not? Yes.

2281. *Dr. Garran.*] You do not get 20,000 feet of new additional area? I do. The main dome is used for clerks. The room opposite the "Exchange Hotel" I am told is used for nothing at all. I have included the superficial area of the large domes.

2282. *Mr. Watson.*] That is hardly giving us the exact superficial area? A great many alterations could be made in connection with it; for instance, the front portion of the dome will come away.

2283. Do you know the area of the dome? It is 54 feet square. I run out the actual office space at 15,827 feet.

2284. Exclusive of the dome? No.

2285. There is nearly 3,000 feet in the dome;—that will leave a little over 12,000 feet actual additional space? Yes.

2286. *Chairman.*] Your design would be in harmony with the existing building? Yes.

2287. And it would cost £30,749? Yes.

2288. *Mr. Watson.*] Does that estimate include the removal of the dome, or only building around it, including the space already occupied by the dome? I cut the roof, and I make certain provision, and the corridors run through it in the same way.

2289. Otherwise you leave the domes as they are? Yes.

2290. *Chairman.*] You said you also prepared an estimate giving another floor under a Mansard roof? Yes; removing the domes, putting on a Mansard roof, and giving another 14-foot storey. For drafting purposes they could not have a better storey than that. I should construct a roof, not with a lot of wood-work with a danger of fire, but one of iron—iron principals, and place concrete on it in a similar manner to the roof of the Equitable Life Company's building. That roof is, perhaps, a heavier one than I should have. I have a copy of the specification. At the big building in George-street they have a fire-proof roof. They went to an expenditure of £167,000 on that building. They have a very fine roof, but it is a very extravagant one. We could have it quite as good for all purposes, and fairly cool, if we put up a Mansard roof. It would not be as hot as some of the Mansard roofs are. They are in vogue in Germany, and they are being copied largely in America. I would carry the roof round, remove all the domes, and I think that the whole of that work can be done for £30,000 for the first storey, and while we are at work there, I think we could do the whole of the work for £50,000. The space would be 40,000 superficial feet.

2291. *Mr. Watson.*] Inclusive of corridors? Yes.

2292. *Chairman.*] 40,000 feet for £50,000? Yes. There is no doubt that you would not use any of these iron principals again, but they are all of value. They could be sold to the Railway Commissioners, who are putting up new sheds. Instead of the Commissioners getting fresh iron-works, those iron pillars would fit some of their sheds.

2293. Then whatever we sold, it would be to the credit of the account? Yes.

2294. With regard to that floor with the Mansard roof, would that, in your opinion, be a suitable place for a reference museum in connection with the Geological Survey Branch? I think so. It would be out of the way, and you would have good lifts and the benefit of a good light. In a museum one of the most vital things is light. Every part of the museum should be well lighted, so that when you want to look at a specimen you can see it clearly. In this room we have to go to the light. But if that building is lit from the roof you will not have to go near a window, because you will get the light from above. One of the greatest examples in the world of this way of lighting is the "Pantheon." It has a diameter of 100 feet, and it is lit from the top by means of a 16-foot opening, and that one 16-foot opening beautifully distributes the light over the whole place. If you take the Eveleigh sheds, they put a small area of glass in the roof, and they get a perfect light. If you have a museum at all, and you want a perfect light, you could not do better than light it through the roof.

2295. Could those additions be put up without greatly inconveniencing the clerks at present working in that Department? I think so. There are some alterations being made in George-street, and the electrician was saying how troublesome it was for him and his men to be employed there, whilst men were working at the building. He said they dropped cold chisels through the building, and that it was a great discomfort trying to carry on business with all that work going on. They have a concrete ceiling at the Lands Office, and for a little expense the rain-water could be taken away if it should rain whilst the work is going on.

2296. Could you put up the necessary scaffolding to carry on the work without injuring the walls? Yes; I took my practical scaffolding builder there on Saturday afternoon, and he pointed out that we could erect gantlings and take them right down to the basement, so as not to have the machinery vibrating through the building.

2297. You considered that when you calculated the cost? Yes.

2298. It has been done in connection with public buildings in the city? Yes, in putting a storey on a portion of the Post Office. There is one portion in Pitt-street in a fair way for completion, and the George-street end is progressing.

2299. Does that injure the main building at all? I heard the other day that cranes were put at the top of the wall instead of bringing the bearers down to the ground, and a 10 or 12-ton crane, with the vibration of lifting, I believe, shook the Post Office walls pretty considerably. It was not discovered what was the cause for some considerable time.

2300. Have you anything to add to the proposal to put a new floor on to the present Lands Office? I think not, except that in my opinion if one floor is added I would not make it a simple Mansard roof. If you put a one-storey Mansard roof without the additional storey, you will destroy the whole proportion of the building, because, in my opinion, it is not sufficiently high for a Mansard roof.

2301.

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2301. *Mr. Watson.*] If only one storey is to be added, you think it should be in stone? I should keep it in stone. I think it is a wise suggestion to put a storey on the top of the Lands Office. I think it would greatly improve the building. It is a noble building; the architecture of it is good, except for those wretched domes.

2302. *Chairman.*] It would not improve the appearance of the building? Another storey would improve the building materially, and do away with the wretched appearance of those domes. That large dome is a very unsightly thing. If you were to go and look at the inside of the dome, you would say, "Remove it at once." It is in danger from fire; it is all wood; they use fire there; there are always scraps of paper about, and it might easily be set fire to. One little match in that dome would set the whole building ablaze.

2303. Your opinion is that the dome is dangerous as it stands? I think so. If you took a look at the wooden partitions and the wooden staircases, you would say, "We must clear the dome out for the safety of the building."

2304. *Dr. Garran.*] Was it put up for utilitarian purposes or for architectural reasons? I think they thought at one time of having instruments there for astronomical purposes. The plans show a revolving dome, which could be opened to let an instrument be put through.

2305. Do you know whether it has ever been appropriated to survey uses? I think not. There is a section which shows that it was intended to be similar to the Observatory dome. The part above the windows is entirely lost; it is of no use whatever. There are only about 12 or 13 feet of the dome available, and the other domes are of no use. The one intended for photographic purposes is not built correctly for modern photography.

2306. Is it used for photography now? It is used for storage and the taking of sun-prints.

2307. *Chairman.*] How much of that tower would be affected? We should have a little below the first cornice.

2308. *Dr. Garran.*] Do you consider the proportions of the tower are good as it relates to the building? I do not.

2309. In what respect? I think the tower is too high.

2310. You think it would rather improve it to take off the lower portion? It would not interfere with it.

2311. Suppose you put on your Mansard storey, how much would you take off the tower then? I should still save the cornice line.

2312. Then you raise the building by two storeys, and take off entirely the lowest storey of the tower? Yes; I think it will bring the tower into better focus.

2313. You have explained that you would make a new Mansard roof of iron;—how would you keep the heat down? I should make the frame of iron, and I should fill the spaces in with concrete. I should use the principle of the Monier arch, because I think it would be the strongest.

2314. The outside lining would be concrete, and the inside concrete? No. I would cover the outside with concrete and copper.

2315. Then it would be practically a fire-proof roof? Yes.

2316. And it would be cool? Yes.

2317. You admit that the usual Mansard roof is lined with wood? Yes.

2318. And it is very inflammable? Some that I put up years ago, I lined with wood, then covered the outside with felt, to try and keep the place cool, but I cannot say that it is a success.

2319. What is the Mansard roof at the top of this office lined with? I think it is very similar to the Post Office; I think it is lined with wood. A portion of it may be plaster. I have not examined it.

2320. The foundations of that building are all rock, are they not? I think so.

2321. So that they will carry any additional weight? Yes.

2322. And you are of opinion that the appearance of the building would be improved if it were raised one storey? I am sure it would.

2323. Should we have to alter the lifts very much? Yes; we should have to remove the lifts altogether.

2324. There are three or four lifts? There are two. They have a very cumbersome arrangement at present; I think they have their own pumping-gear.

2325. You were talking about the museum;—you entirely concur with the idea of putting the museum on the roof of the building in preference to having it on the basement? Yes.

2326. Are you aware whether there is any advantage in having the roof lights? Yes; you would have a clear light without any reflection.

2327. Is it not in many workshops a serrated roof which will light only from the south? Yes; our exhibition building which was burnt down was made in that way.

2328. Would that be a good light for a museum? Yes.

2329. We should be practically independent of side-lights? Yes; but I do not know that it would be absolutely necessary for a museum, because sometimes we want an extra bright light, even more than the south light; but the south light is the best.

2330. It is necessary to keep out a strong sun from a side window, but we should get no strong sun from a southerly light? Those things on exhibition that would be destroyed by a direct ray of the sun could be removed to a corner where they would not receive the direct rays.

2331. You recommend that the museum should be shifted to the top of the building? Yes. Were I erecting a new building I would make it sufficiently strong to carry the weight of a museum. I would certainly have the museum at the top of the building.

2332. Suppose we had it on the top of the building, would the southern lights on the corridor be sufficient to light the whole of that inner area? I have not studied this very well. You would have the whole of that light from the centre. Do I understand that the museum is only to cover a portion of the building.

2333. *Mr. Watson.*] In the basement it covers the whole area? In the roof the area would be reduced. You would have ample light from the top, and if you wanted the southern lights over the corridors you could place them there.

2334. *Dr. Garran.*] There would be plenty of side-lights on the top floor from the corridors in addition? No; I do not think there would be in this case.

2335. Looking at the design, do you think the Lands Office would make a suitable companion building to this office? I do not see much fault to find with the architecture of the exterior of the Lands Office.

2336. *Mr. Watson.*] The idea has been to try to lessen the apparent height of the Lands Office, in view of the small area? That cannot be according to the plan.

2337. You are of opinion that any building that is erected on this particular area of land should be a building fit to compare with the other two public buildings in the immediate vicinity? Yes.

2338. You would not throw away that site by erecting a plain brick building? No; I would have a good building.

2339. Do you think that the building designed would be fairly suitable? No; I do not think so. I think that between the two big buildings—the Lands Office on the one side and the Works Office on the other—that building will look an absolute pigmy as it is.

2340. *Dr. Garran.*] Squat? Yes.

2341. *Mr. Dick.*] Do you know that that building would be higher than this building or the Lands Office? No; that is not shown on the drawing. In perspective, some architects often do little forgeries. Some move a thing up or down for effect; some do not make them absolutely correct. That picture is not drawn correctly.

2342. *Dr. Garran.*] You propose to put on two new floors to get 40,000 square feet, at a cost of £50,000? Yes.

2343. Well, this building will give 70,000 superficial feet available for office accommodation, all useful space, at a cost of a little less than £97,000;—do you think it would be worth while to meddle with the old building if we have to spend £30,000 or £40,000, when, by spending £97,000 on a new place, we can get 70,000 superficial feet;—which do you consider the better mode of utilising the money? That requires consideration. I have not looked at it in that light. I was written to and asked by the Secretary to come and say what I knew about the estimate.

2344. You have not considered that point? No.

2345. *Mr. Watson.*] In that first estimate of £30,749 for raising the Lands Office one storey, in stone 14 feet;—what do you think it would mean additional on that estimate if you were to take the removal of the dome? I do not know that we could utilise the dome roofing.

2346. I want to know roughly what you think the additional cost would be to remove the dome, and put one storey right round? I do not like to hazard a guess; I should say £3,000 or £4,000.

2347. Would the removal of the dome itself entail much labour and expense? No; it is all iron bolted together.

2348. So if you put that down at £4,000, it brings up your estimate to about £35,000 for the erection of a single floor right round the building and the removal of the dome? Yes.

2349. *Mr. Dick.*] I think you stated that the Mansard roof, as you propose it, would be a cool one? I think it would.

2350. Would not the copper covering absorb the heat? It would; but I would have two linings. I have got means of overcoming any trouble from heat.

2351. *Mr. Watson.*] Do you think that the concrete would counterbalance it? We should put two layers of concrete, and have other arrangements.

2352. *Dr. Garran.*] Would not the air-space exactly underneath the copper be very hot? It would be more or less hot.

2353. Do you provide any exit for the heated air? Yes; there would be a draught from the bottom to the top. There would be a space of about 1½ inch at the top.

2354. There would be no hot air imprisoned there? None whatever.

2355. *Mr. Dick.*] In what way would that building be out of keeping with the architecture of this building and the Lands Office? The storeys of this building and of the Lands Department are 20 feet high. If you take a building with 20-foot storeys, and divide it up into the ordinary office style with ordinary windows, such as they have in ordinary warehouses, it makes a great difference.

2356. In the new building these are the measurements—basement, 20 feet, then they run 16 feet, 18 feet, 14 feet, and 12 feet. In this Department the ground-floor is 16 feet, this one 20 feet, and the others are all 14 feet? You must bear in mind that both here and in the Lands Office the ceilings have 20 feet from cornice to cornice. There is a space left between the floor of this storey and the ceiling of the other that you can crawl along. I was told that it was left for taking all kinds of pipes through, but the same thing applies in some of the rooms. I do not think the new building would fall in with the other offices, but it would be better than having a brick building.

2357. Would you like to offer an opinion as to the advisableness of placing the museum on the top storey as far as the attendance of the public is concerned;—would people like to go to the top of a high building to a museum? As an ordinary citizen, I might say that I think it is a waste of money to have a museum in the building at all. I would simply have one museum. Where do the public go; do they ever go to the Mines Museum. I have never seen any one else there when I have been there. If they must have a museum I would put it on the top floor. There is another reason why the museum should not be on the ground-floor—it is desirable to keep public offices on the ground-floor as much as possible. People who attend public offices are generally in haste to get their business done, and would lose time in having to go to the top of a building, but people who visit a museum generally have time at their disposal.

2358. You think the basement would have light enough in it for offices? Yes.

2359. You do not think the proportions of the tower of the main building will be altered for the worse by the addition of two storeys? I do not. If I did think so I would not propose a Mansard roof.

2360. Is the tower out of proportion now? I think it is too high. It looks too much like a candlestick, very much like the Post Office tower. All our towers are too narrow from the start. The only decent tower that we have in Sydney is the University tower.

2361. *Mr. Shepherd.*] You think that the museum would be better at the top of the building than at the basement? Yes.

2362. Do you think that it would not be possible to get sufficient light into the basement? Not as at present designed; that is an impossibility.

2363. You say that you propose to leave a lighting space of 16 feet square in the roof, if the museum is on the top of the building? No; I mentioned that in another building there is a lighting space in the roof 16 feet square, but in this case we should want a smaller opening.

2364. Of course, there would be ample means of thoroughly lighting the upper storeys? Yes.

2365. Could you properly light it from the roof? Yes.

2366. It would be something similar to the lighting of the Australian Museum? Yes.

2367. The light there seems to be perfect? Yes.

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Kirkpatrick.  
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2368. Did you say that you could add one storey to this building for £30,749? Yes.
2369. And two storeys for £50,000? Yes; for 40,000 superficial feet.
2370. In that plan would you do away with the dome? If I put on the two storeys I should take away the dome.
2371. Will the addition of one or two storeys interfere with the present design of the building? No.
2372. You can make it all in keeping? My idea is that something like what I propose will absolutely improve the appearance of the building.
2373. As it is it does seem rather squat? Very squat, and these domes make it a great deal more so.
2374. I suppose you would not interfere with the tower? I would not.
2375. *Chairman.*] This position is presented to the Committee: The evidence of the Under Secretary, Department of Mines, is that, by adding a storey to the present Lands Department, he would get all the accommodation that he required, and that is borne out by the fact that at the present, in the Lands Department, he occupies 36,000 feet, and Mr. Vernon would add on, in round numbers, 20,000 feet more, that makes 56,000 feet. The plan that is submitted to us of entirely new buildings will give the Mines Department a total of 48,000 feet, therefore the new building, at a cost of £97,000, will provide only 48,000 feet for the Mines Department. They at present occupy in the Lands Office 36,000 feet, plus that 20,000 feet, making 56,000 feet; therefore, by this one-room addition they will get 8,000 feet more than they would get in the entirely new building. That being so, and seeing that the new building was to cost £97,000, and that a top storey can be put on of a symmetrical appearance for £30,000, which do you think would be the best plan to adopt? The most economical plan appears to be to put one storey on the top of the Lands Department, and it will improve the building. I should think that that course ought to commend itself to the officers of the Department. The two Departments are so interwoven together that it will be most convenient to have them both under one roof.
2376. What do you think is a fair space for a draftsman to occupy;—suppose you had a dozen in a room, what space ought they to have? I had, I think, nine men working in a room in Pitt-street,—a room 40 feet by an average of 27 feet.
2377. Was not that rather crowded? They did not feel crowded.
2378. Would you not give draftsmen a little more room than that? I think they could work in that space.
2379. Do you think the draftsmen's rooms in the Mines Office and Lands Office are fully occupied? I went through them, and there appeared to be a good many desks, but I made the remark that I would not mind having an office like it. I am referring to two very long rooms fronting Bridge-street—one was occupied by draftsmen entirely, but the lower room partly by draftsmen and partly by clerks.
2380. You did not see the room whilst the men were there? No.
2381. Did you go through all the other rooms there? No; I only went through the two rooms. You can give a draftsman too much space to work in. When my business got slack I found that I only wanted three or four men, and they occupied a very large drafting-room, and they always had a great litter of things. They work in a more compact space and keep things in better order when they have not too much room.
2382. What is a fair space to allow for a draftsman? It depends upon what he is working on. Some drawings take up a large space.
2383. And it is difficult to lay down a rule? I do not think that a rule could be laid down, unless you were to classify the size of the maps and drawings.
2384. I did not get your figures quite correctly as to the cost for the additional storey? I gave 30s. per foot superficial, that is equal to 1s. 6d. per foot cubic. I was told by two men who were in the habit of taking out quantities for buildings that I had over-estimated it, but I think I have given a fair estimate.
2385. Have you gone pretty carefully into the matter and made a fairly liberal estimate? If I were a contractor, I should like to take the building at my figures.
2386. How much do you add for the removal of the dome? £3,000 or £4,000.
2387. That would be about 4s. per superficial foot extra? No, I included the amount per foot in my original estimate.
2388. Allowing for the removal of the dome, 34s. or 35s. would be a fair amount per superficial foot? I allow for the cost of stonewalling 7s. per cubic foot. I put up the Sydney Hospital and the Mutual Life of New York, and the contractors had only 5s. 6d. per cubic foot, and yet they made money. I believe they had something under that for the Markets.
2389. Would this addition that you suggest alter the character of the building so as to make it look as if it were an addition? I have not added anything of a new character to the work. In the top of the Post Office they have introduced work of a new character.
2390. You have avoided that? I have.
2391. If you look at the photograph on the wall, there is the coping shown in a dark line;—how would you treat that coping? That cornice I would leave where it is. The top balustrade would be altered to suit the design.
2392. Suppose that the Committee were to favour your idea of adding on one or two storeys to this building, would it be a work which you or any other architect might be ashamed of? I should not be ashamed of it.
2393. It would not make an ugly, unsuitable building? No; it would not turn out like the Post Office.
2394. As regards the tower, you think the additional storey would be an improvement? I think so. I do not think it would interfere with the tower in the slightest degree.
2395. When we visited the public buildings recently, we found that in those high-up rooms, especially where there were Mansard roofs, the heat was very great indeed;—could that be obviated? That could be entirely obviated. The upper rooms would be as cool as any of the other rooms if properly treated.

WEDNESDAY, 12 APRIL, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIFN, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Walter Liberty Vernon, Government Architect, sworn, and further examined:—

2396. *Chairman.*] In your evidence given here on the 16th March, you estimate the cost of giving 19,643 superficial feet at £46,880; we had Mr. Kirkpatrick here yesterday, and in his evidence, which I think you heard, he said that he could give slightly less than that for £30,740? Yes. W.L.V. mon.  
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2397. He bases his estimate on 1s. 6d. per cubic foot;—can you tell the Committee what you base your estimate on? I heard the evidence given yesterday by Mr. Kirkpatrick. I think he is perfectly right in his opinion that if an additional storey is to be put on to the Lands Office, it should be one in stone, and not a Mansard. As regards its dimensions, he states that the additional floor-space amounts to 20,563 superficial feet on one floor, as against the estimate which I gave to this Committee previously, of 19,643 feet. I have been through these figures very carefully this morning, and I cannot quite fit in the 20,563 feet to any exact portion, or the whole of that floor. But I find that he has included the floor space covered by the domes, which, it may be recollected by the Committee, he afterwards suggested he had omitted from the 20,563.

2398. *Mr. Watson.*] He included corridors? Yes, but he took no account of the strong-room, which is in the centre; so, practically speaking, the 20,563 feet is against my 19,643 feet, and I think the Committee may take them as fairly representing what the case is. But it must be shown that it includes the area which is now covered by those domes. When the evidence goes on as regards the cost, I also agree with Mr. Kirkpatrick that the cubic cost of that one storey is fairly put down at 1s. 6d.; in fact in my evidence I previously stated 1s. 6d. myself, so that we actually agree upon that. But in calculating, a difference has arisen between Mr. Kirkpatrick's estimate of £30,749 and my estimate of £46,880, and I can account for it in two ways. In the first place, taking the heights, I calculated for an additional height of 23 feet for the room, and for a portion of the roof, as we generally do in matters of cubing. The storeys in this building average 18 feet in height; the present top storey is 18 feet in height. I therefore calculated 17 feet in height for the new one, and the remainder for the thickness of the construction of the floors, and the average height of the roof, making 23 feet as against the calculation by Mr. Kirkpatrick of 20 feet in height. Mr. Kirkpatrick told the Committee that he calculated 14 feet as the height of the floor, and 6 feet additional for roof and floors, making 20 feet only. But if the Mansard roof were omitted from this sketch, it would give at least the 23 feet which I have taken, and therefore I think the 20 feet of Mr. Kirkpatrick is cutting it too fine for purposes of valuation. The second reason that presents itself to my mind is this, and I feel quite certain it is the case that Mr. Kirkpatrick has given you the superficial contents of the floors for office purposes, and has multiplied that by his height, but has forgotten to take the area of the outside walls as well. He has taken the one dimension of 20,563 feet, and has multiplied that by 20, which comes to 411,260 feet, and if that is calculated out at 1s. 6d. per foot, I get the result of £30,800, as against his estimate of £30,749—a difference of only £51. So that it is perfectly evident that instead of taking the whole area of the building, he has taken only the whole area of the floors inside the building, and measured that by the height, instead of the outside walls by the height. To my mind that explains the difference between us. Those two mathematically do explain it.

2399. You said that calculating by a height of 20 feet only, instead of 23, brings it, at 1s. 6d. per cubic yard, practically to Mr. Kirkpatrick's price? Yes; that is superficial floor-space. But the superficial floor-space is not the superficial contents of the building.

2400. *Chairman.*] In your evidence you say there are 19,643 superficial feet, Mr. Kirkpatrick says 20,563—would that account for the difference? No. I account for mine by not including the staircases.

2401. *Mr. Watson.*] And you do not include the corridors? Nor the corridors.

2402. Mr. Kirkpatrick did include the corridors? Yes.

2403. Including the corridor space, 20,000 odd feet, that would make up the difference? Not exactly. But I can get out the exact total cost of the building, taking his superficial floor-space multiplied by his height, and showing that there has been an omission of the thickness of the walls.

2404. *Dr. Garran.*] Still with your slightly larger area you do not differ very much from him in the estimate? Well, it increases the estimate from £30,749 to £46,880, which was my original estimate—that is, the heights and the widths taken as the two items.

2405. *Chairman.*] Taking your measurements, you add 50 per cent. to the measurement? Yes, quite. I understand Mr. Kirkpatrick afterwards added from £3,000 to £5,000—say £4,000—for taking away the domes—additional on his first estimate.

2406. *Mr. Watson.*] But he said he had included the space already in the domes and so calculated that as all additional, and he said it would give 20,000 feet of additional space, though that meant doing away with the space now in the domes? That is so; but, when I take out his figures I find this 20,000 multiplied by 1s. 6d. a foot cube makes up his estimate, without the £4,000. Therefore, he has not really made the two calculations on the same basis. The evidence went on to state that the present domes are inflammable. I do not think he could have seen exactly the construction of those domes, because, as a matter of fact, they are of steel and concrete. The whole of the three domes—that is, the one in Pitt-street, and the two side ones—are constructed entirely of steel ribs and concrete filling-in, but, like all buildings that are covered with metal, they necessarily have a wood sheathing on the outside in order to carry the metal. I may state to the Committee that unless very extreme cost is gone to,—as in the case quoted by Mr. Kirkpatrick yesterday—the Equitable Life Building, where the roof is covered with a flat tile, and the whole is one solid mass—unless that is done, and if copper is used, as suggested, it is absolutely necessary to have a wood sheathing under it in order to take the dressing and to get the cavity which

W.L. Vernon. which was referred to as a space for ventilating and cool-air purposes; so a concrete Mansard roof still has some woodwork under it, that is, it has the wood sheeting on wooden bearers—and it is impossible to get away from that.

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2407. *Chairman.*] How is the dome finished inside? It is plastered inside. The evidence then went on to give the cost of an additional Mansard over the storey, and the cost was estimated at another £20,000, making altogether £50,749. I think that is too low, because of the mistake evidently made in the first item of the £30,000. The average cost per floor of the original building was £58,000. I am, of course, including the cost of the tower and the domes, and am scattering it over the present storeys, which makes an average of £58,000 per floor. Of course, the upper storeys would not cost as much as that, but still there is too great a difference between £25,000 per floor and £58,000. £25,000 each is the average of Mr. Kirkpatrick's estimate for two floors—the half of £50,000—and it is a great deal too small in comparison with the £58,000 the original cost. It might be said that wages and cost of material in those days were higher than they are now, but in looking up matters I find that was not so, except as regards the cost of material, which is certainly cheaper. Wages have gone up, and are still going up very much compared with what they were at the time when this building was put up. Nine years ago the tower was finished, and the wages then and now are not very dissimilar; at any rate it would not make all that difference. As regards the architectural appearance of the two floors, I produce a view of the Lands Office taken from the corner of Pitt-street and Bridge-street showing how little is seen of those domes and the tower. The addition at the heights shown on this sketch of Mr. Kirkpatrick's would produce this effect, and I should like to venture the opinion that a building monotonously made that height, with four square sides, and a squat tower in the centre, and with no relief by way of domes or pavilions, would be a very sad mistake, and a failure from an architectural point of view. I strongly advise you not to put up a four-sided building with absolutely no features on the top.

2408. *Dr. Garran.*] Whenever you have a building like this, and you add to it afterwards, does it not always show that it is an addition? It must necessarily do so.

2409. If you have a heavy cornice and you build over that, then that cornice is afterwards out of place? Necessarily so, because the first building is designed complete in itself, and then another person comes along and makes an addition. It is exactly the same as writing a book. The last chapter is written by somebody else, and you detect the change in the literary style at once; you cannot help it. Of course one of the charms of the large buildings of the world is the change of style introduced in constructing them.

2410. A great many of the large buildings of the world have been erected in different centuries, and so there must be some change? Yes.

2411. But here, in buildings like the General Post Office or banks, when you have a heavy cornice three-quarters of the way up, it is clear what may be done in making additions above it? They could not carry up an additional storey on a building like the General Post Office with the same detail as that of the original building itself. If a building is designed with a large heavy cornice, you cannot put any addition on the top of it without upsetting the appearance of the building and its details.

2412. *Chairman.*] Are you not putting additions up to the Custom House? Yes. Fortunately that building lends itself better to change than any other building in Sydney would do. There is nothing there to interfere with the sky line.

2413. *Dr. Garran.*] You are taking away the cornice? Yes, I am raising it from one level to another.

2414. *Mr. Trickett.*] The old portion of the Custom House is a good age, is it not? Some portion of it is.

2415. It has been built at least thirty years I suppose? Yes, it has.

2416. Did you put up the new front? No, it was erected before my time.

2417. Has not the front of the Custom House had a storey put on to it? Additions were made just before I came into the Government service. I believe that an additional storey was put on by the Dibbs Government.

2418. Another storey was put on that, and you are going to put two more storeys on? Yes.

2419. Are you going to improve the superstructure? We are raising the same cornice and the same parapets.

2420. You will not have to solidify the superstructure? No; but I think we shall carry all we can.

2421. *Dr. Garran.*] Have you a rock foundation there? No.

2422. *Mr. Trickett.*] If you remember when we were considering the Inspector-General's Office, a very great point was made by you that, to meet future requirements, you would have to spend a lot of money to strengthen the superstructure; that does not seem to be necessary in this Custom House? Well, this building was built strong enough at the first.

2423. Was it built with the idea of adding to it? No; I do not think so. The Lands Office would carry four or five more storeys, although it was not specially designed to carry them. It is a mere matter of accident. But as regards the scheme to which you refer, in the first instance I was endeavouring to keep the cost of the building down to the lowest possible limits, to meet the requirements of the Government, and when the question of additional storeys came under consideration, I knew at once that I must strengthen the walls. It is an entirely different matter.

2424. It seems very strange that, in the case of those buildings which have been added to, like the Government Printing Office and the Custom House, which apparently were erected with no ultimate intention of their being added to, you were able to add to them without requiring to strengthen the superstructure? Those buildings were put up regardless of cost originally, and as it happens, they have answered for the additions. But in erecting more modern buildings, the cost is kept down to the very lowest—it is cut very fine. I think the Lands Office would carry half a dozen more storeys.

2425. *Chairman.*] Would another storey built on to the Lands Office detract from the appearance of that building,—that is, without a Mansard roof? It would still require some construction of either a pavilion or dome to break its sky-line.

2426. Do you, as an architect, think that a pigeon-box like that photographic place adds to the beauty of the building? Well, in this particular photograph it looks particularly well; but it does not look well from every point.

2427. *Mr. Watson.*] You were going to add another reason? My other reason is that the internal courtyard rooms of the Lands Office would become almost useless.

2428. That is because of the darkness? Yes; the strong-room was constructed in the centre of what should

should have been an open court yard. Those rooms are now almost useless. With two more storeys they would be quite useless, and therefore the Lands Office would be asking for more rooms higher up the building if those two storeys were erected.

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2429. *Chairman.*] You say the Lands Department would be asking for more room? They certainly would, because they could not use those lower rooms.

2430. Is it not a fact that some of the rooms are so dark that those employed in them have to use artificial light? That is so. On a day like this, they probably would not, but nearly all the year round they have to.

2431. Have you not lately fitted up this building—the Public Works Office—with electric light? Yes—for working at nights.

2432. So you can get artificial light into any building? That is true.

2433. They have to use artificial light now in the strong-room of the Lands Office? No.

2434. Perhaps you are not aware, but I saw naked gas-light in the strong-room there in the daytime? On the lower floor they do sometimes use it, I know, but that is really owing to the small areas.

2435. *Mr. Watson.*] Comparing the light-area you allow in the proposed new building with the light-areas existing in the Lands Office—how do they stand in comparison? There is no comparison.

2436. So that really for lighting a much greater number of rooms you have a smaller light-area in the Lands Office than you propose to allow in the new building? Very much smaller.

2437. *Chairman.*] Have you prepared an estimate of the cost of a Mansard roof, as well as of an additional storey? No, I have not.

2438. *Mr. Watson.*] Is there much difference per cubic foot between the cost of a Mansard roof and the cost of a stone storey? Taken separately it would be less, unless it were of costly fireproof construction in the Mansard; and then it would mount up.

2439. Can we fairly estimate the cost of the additional storey as being as much as you propose to allow for this first storey of stone? I think you may take Mr. Kirkpatrick's proportions—he puts it at thirty to twenty. I should like also to point out that assuming that accommodation must be found for the Mines Department in these two proposed upper storeys, the question of the museum would present a very great difficulty, because it would be necessary for the museum to have a certain height, which practically means leaving one floor out, and if the museum is to contain the same superficial area as is shown in the scheme before the Committee, it would practically mean taking the whole of the floor, and leaving the Mansard floor out, but with a Mansard construction over it; so nothing would be gained at all. It would never do to fit in the museum in a storey not more than 14 feet in height. At any rate, it would not be considered a success as a museum. Therefore, it would mean the destruction of the intermediate floor to get the height. Beyond that the Lands Department uses these domes for printing, for storage, for extra surveyors, and extra draftsmen, and for a great number of matters of that kind, so if they were deprived of their present accommodation in the dome they would want some of the accommodation provided in the Mansard, and, therefore, the Mines Department would run short. I have also prepared a statement of the accommodation. The Mines Department at present occupy 13,600 feet in the building. The space which Mr. Kirkpatrick stated would be available on the first upper floor would be 15,827 feet. If those two only were added together they would make a total of 29,427 feet, as against the requirements in the Mines Department amounting to 47,941 feet, leaving a deficiency of 18,514 feet, and the 18,514 feet could not be found in the Mansard roof.

2440. *Mr. Trickett.*] Have you looked at the figures given by Mr. D. C. McLachlan in answer to question 910. He was asked:

What space do you occupy inclusive of the rented buildings?

He answered,—

The total space we now occupy, including the museum, is 43,455 feet.

? Yes; but, as he said, that is "inclusive of the rented buildings." The space occupied by the Mines Department in the Lands Office is about 13,600 feet; so that the three floors together would not afford sufficient space for the Mines Department; it would absolutely dispossess the Lands Department of the upper portion, which they are now using, and the museum would have to be abandoned.

2441. *Mr. Watson.*] According to your estimate, it would cost somewhere about £78,000 to put the two floors on—in the proportion of three to two; suppose £47,000 is the price of the first stone storey; then the Mansard would cost, in the proportion of two as against three, £31,000, and that would make a total of £78,000? Yes; I think the allowance for the Mansard is a liberal one. But it would be absolutely necessary to have some pavilion designed to break the monotony of the roof. Neither Mr. Kirkpatrick nor I have included the addition of the strong-room, and unless that were added also, the Mines Department would have no accommodation there at all. I saw Mr. Houston, of the Lands Department, to-day, and he told me that he could not possibly spare any of the present strong-room for the Mines Department—that it only just holds the Lands Department documents.

2442. *Chairman.*] I suppose that if you were to give him twice the space for a strong-room he would find something to put into it? I did not ask him anything about that.

2443. *Mr. Trickett.*] At question 1952 you stated that you had reckoned the whole building at 27s. 6d. per superficial foot; that is the all-through charge, is it not? Yes; that is so.

2444. Does it not seem a very big margin to jump from that to 47s. per superficial foot for this addition? Yes; it does seem so, but there is no more expensive form of building than adding to a public building whilst the officers are working in it. It means two roofs—taking the present roof off, and putting a temporary one on. I am afraid the General Post Office addition will cost more.

2445. But you told us the other day that that is an exceptionally expensive job? Yes; it is.

2446. *Chairman.*] How much do you estimate the new Custom House building will cost? £19,700, I think.

2447. I meant per foot? It is costing £1 2s. 4d. per foot, superficial, but that is a particularly easy work to do. Of course that is only an estimate. I hope the cost will not exceed it; in fact, it must not.

2448. Can you say how many feet you are adding to the Custom House? 17,413 superficial feet.

2449. *Mr. Shepherd.*] What is your opinion as to the general effect of adding two storeys to the Lands Office? I consider it detrimental to the appearance of the building.

2450. You may have heard Mr. Kirkpatrick say yesterday that he thought it would improve the appearance of the building? I thought I heard him say it would be improved by one storey, but not that two storeys would improve it.

2451. I think he spoke of two? Then I cannot agree with him.

2452.

W.L. Vernon. 2452. You think one storey would improve it, then? I do not think it is wanted, but it would not ruin the appearance of the building.

12 April, 1899. 2453. And you think two would? I think two would.

2454. *Mr. Watson.*] Unless, of course, you had sufficient treatment of the roof or skyline to redeem the extra height? Yes; but then the tower would be a difficulty.

2455. *Mr. Dick.*] Will those pavilions have the effect of giving the building too lengthy an appearance? No. Mr. Kirkpatrick was perfectly right as to horizontal lines in a classic building, but that building contains all the horizontal lines necessary for a classic composition. The effect of having those columns engaging two storeys really detracts from the height, because it apparently reduces the number of storeys. I carried those pavilions up to the top purposely to break the sky-line.

2456. That building would be higher than either the Lands Office or the Works Office? It is slightly higher.

2457. It will not have a squat appearance, then? No. I should like to put the Committee right as to the correctness of the perspective. I am ready to guarantee the absolute correctness of the relative position of this building. I went through the perspective lines with the draftsman who laid down the lines for this building, and that is exactly as it would appear.

2458. Will the Works building dwarf that, or will that dwarf the Works building, or will they have no effect of that kind on each other? I think they will work together, because the Works building farther off is rather higher. There is another storey on the Works building, a little further up Phillip-street than the Colonial Secretary's corner, and I think those two buildings will balance each other; but they are both much higher than the Lands Office, and they are higher up the hill.

2459. Is the actual height of this building greater than the height of the Works Department building? Making all allowances for the lower portion of the site, there is very little to choose between the top attic on the new building and the Mansard roof on the Colonial Secretary's.

2460. They are about the same? Yes.

2461. *Mr. Watson.*] Regarding the estimate of £46,000 odd for putting one storey on the Lands Office, have you gone into that question at all with a view to see whether any reduction could be made? I have not.

2462. Do you still think it would require that expenditure to deal with the matter in a fair way? I am sure it would, because the pavilions have to be dealt with. The domes must be dealt with at the same time.

2463. How, in that estimate, would you propose to deal with those domes? I have a drawing here, showing what the effect on the dome would be if a storey were raised without altering the dome; and it can be seen at once that it would take all the shapeliness—all the due proportions—out of it.

2464. In the £46,000 you include the cost of taking away the domes? Yes, I do. The 1s. 6d. I think would cover what it is necessary to do to them.

2465. Mr. Kirkpatrick yesterday estimated that to take away the domes would require an additional £1,000 on his previous estimate of £30,000, odd, and that therefore would bring it up to nearly £35,000? Yes, that is so.

2466. *Dr. Garran.*] You would agree that, roughly speaking, Mr. Kirkpatrick's two plans can be carried out for about £50,000? No.

2467. At how much do you estimate it? I think he is £20,000 under the estimate.

2468. He said £30,000 and £20,000? Yes.

2469. You think that the £20,000 is too low? I do.

2470. It is £70,000 altogether? Yes.

2471. Well, as £70,000 would give you 40,000 square feet, do you agree with his estimate of the available area? Practically, I do.

2472. Well, if he would have to spend £70,000 to get 40,000 square feet, that would contrast unfavourably, would it not, with your proposal to spend £97,000 to get 70,000 square feet? Undoubtedly.

2473. He would have to spend more for less accommodation? By carrying up the Lands Office; and then the scheme is not complete.

2474-5. Therefore, you think that his two projects compare unfavourably with your own project? I am of that opinion.

2476. *Chairman.*] I think you estimated for your additions a higher building than Mr. Kirkpatrick has done for his? Yes, I have.

2477. The floor-space is practically the same? Yes.

2478. *Dr. Garran.*] At what do you estimate your floor-space? I took 19,643 feet with the staircases. Mr. Kirkpatrick takes 20,563 for his floor generally.

2479. *Mr. Watson.*] Inclusive of corridors and the space now occupied by the domes? Yes.

2480. Which brings his net down to under 16,000 feet? 15,827.

2481. That is for the first floor in stone? Yes.

2482. And somewhat in proportion, but slightly less again, on the Mansard? Yes.

2483. *Dr. Garran.*] To do that, he says he would have to spend £50,000, and you say £70,000? Yes.

2484. And yours would be a more convenient building altogether, you think, than his? I do not say that.

2485. Would it be as convenient to occupy the two top storeys of that building, as for the Agriculture and Mines Department to occupy half of your new building? That is a question which requires a very long answer, because it is so mixed up with the Lands Office and with the disposition of the Museum—assuming there is one—and the provision for the laboratories, that it is a most difficult question to answer.

2486. You are aware that some of the witnesses—the Museum experts—have said that if your new building is carried out, it will be better to give the upper storey for the Museum instead of the basement? I heard that yesterday.

2487. Do you see any architectural objections to that? There is no architectural objection, but there is the objection that I could not provide for the laboratories, which must have a top light, if the upper storey is to be occupied entirely by the Museum.

2488. You want to put your laboratories on the top floor, in order to keep the smell of gas away? Yes; and also to have the light.

2489. There is no other difficulty in the way of putting the Museum on the top? There is the disadvantage of having the public travelling up and down the official staircases and lifts.

2490. The light could be perfect at the top, I suppose? Yes; but the light at the bottom is just as good.

2491. You could have a roof-light on the top? I have a roof-light in the basement, too, of very great service—of larger service than I could get on the roof in one particular position.

2492.

2492. But that roof-light you get in the basement does not light the whole of the basement, but lights a large area of it? The horizontal windows which are on three sides of the building are also lighted. I should like to point out that the sun travels all round the whole of those three sides. It was rather inferred yesterday that one would be in deep shadow, but that is not the case. After 6 o'clock in the morning, the whole of the Phillip-street front is in the sun, and the sun travels round the whole of those three sides. W. L. Vernon.  
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2493. On the east in the morning, and on the west in the afternoon, and on the north a great part of the day? Yes. It has an uninterrupted light from three sides, and a top light at the rear.
2494. And you are not favorable for putting the Museum just under the roof? If it were not for the difficulties I have mentioned; otherwise there is no objection.
2495. But you want to raise the height of it? I should take the two top floors, and the floor-space which I lost there I should gain in the basement.
2496. Then you would lose the area of one floor? Yes.
2497. Then you would not have room enough for the two Departments? No; I should want to put another floor in.
2498. Could you raise the top of the roof above your design without any great harm? Yes; but it is quite high enough—120 feet to the parapet. One might gain a little height in the roof behind the parapet.
2499. If you had skylights, for instance, in the centre portion of the roof, that would give an appearance of height to it? Yes; but in putting in skylights in this climate it is absolutely necessary to put in a second light, because the intense heat of the sun would ruin the specimens. Therefore, although the inner light could be a skylight, the outside light must be a horizontal light.
2500. *Chairman.*] You say that if you put an addition on to the present Lands Office, it would always have the appearance of an addition? I am afraid it would.
2501. You see the plan there; do you think that would look more like an addition than the two different styles of treatment of the buildings as proposed? The treatment of the existing floor works in with the addition, because, as Mr. Kirkpatrick said yesterday, it is a copy of it. I do not like the idea of a rank copy of one floor for another, for it shows poverty of design; but it could not be out of character with the building, though it might alter the proportions.
2502. But in the first and second floors, you have exactly the same treatment? Very much the same.
2503. Therefore, if you put two other floors on, with exactly the same treatment, it will not show too much sameness of design, will it? Many people think that one of the weak points of this design is that of these two floors one is a copy of the other.
2504. *Mr. Levien.*] What is the highest building in America? The highest was in Chicago, but now the highest is in New York; it runs up about 240 feet, I think.
2505. The highest buildings in America are very good buildings architecturally, are they not? No; I do not think so.
2506. Too high to look at? Yes.
2507. Are any of them Government buildings? No; they are chiefly hotels and insurance offices.
2508. What is the height of the Government buildings there? It all depends upon the character of the building itself. The State House at Washington is not a lofty building for its size, because it covers a large amount of ground, and is only proportionately high for the class of building. I do not know any lofty Government buildings in America. I know a great many Court-houses and other State buildings in the United States.
2509. Are they of any great height? No. I do not know the Government offices in Washington.
2510. *Chairman.*] Have you examined the Public Instruction Department building? Yes; I went over it the other day.
2511. What was the result of your examination? An addition could not be made to that building which, however, could not be considered as an alternative to the scheme before the Committee, but only as a last resource, if you were driven to alter that building. I do not think that any additions to that building could rank as an alternative to the scheme before you.
2512. *Mr. Levien.*] Could it stand it in any way? One would not know where to begin. If we were driven to make any enlargement there, of course it could be done—unsatisfactorily—but it could be done.
2513. *Chairman.*] Then, providing that the Mines Department were found accommodation elsewhere, it is practicable to make the additions necessary for the proper working of the Education Department? I do not say "for the proper working of the Education Department"; but it is possible to cover in more space there in order to accommodate the officers. However, it would never be satisfactory.
2514. What was the latest addition to that building? I think it is a wooden structure at the back for store-rooms, and for the use of the cadets.
2515. Is there not a caretaker's cottage there? Yes.
2516. What was the cost of that? I could not tell you; it was erected a long time ago. Unfortunately the lower portion of the Education Department building is below the level of the ground, and no amount of alterations will do away with that unless the floor is abandoned altogether, and one built over it. The conclusion I came to was that additions to the Public Instruction Department should not be regarded as an alternative; but might be used as a last resource.

Charles Edward Rennie, Chief Draftsman, Department of Lands, sworn, and examined:—

2517. *Chairman.*] Have you a plan of the offices occupied by your Department? Yes; I have a plan here showing the disposition of the accommodation of the existing building. C. E. Rennie.  
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2518. Will you describe to the Committee the various rooms, giving the area of the rooms, and how they are occupied? I have not all the details of the area of the rooms. I can give you a statement of that in schedule form. I can now tell you how the rooms are occupied.
2519. Can you tell us the number of officers to each room? I can tell most of them. I have not got all of them in detail. I can describe in succession the different floors, and how they are occupied. Beginning at the basement, the Accountant occupies four rooms; Forestry Branch, one room; Mines Department, two rooms; Lithographic Branch of the Survey Department, seven rooms—mostly for storing lithographic stones, and also for the printing machinery; then there is one room occupied by the boiler-heating apparatus for heating the rooms of the building, and the messenger occupies for his dwelling five rooms; the corridor-cleaners.

C. E. Rennie. cleaners have one room, and the Inquiry Branch (Information Bureau) occupies six rooms; then there are two inner rooms occupied by the gas-engine and the accumulator in connection with the lifts. Then, on 12 April, 1899. the ground-floor, we have the Miscellaneous Branch, occupying one large room; the Chief Clerk, one room; the Minister, two rooms; the Under Secretary, two rooms; the Conditional Sales Branch, one large room; Ministerial Branch, one large room; a small room used for post; another large room for the Conditional Purchase Branch; another room for the Alienation Branch; another room for the Conditional Lease Branch; a room for messengers; a room for the Inspector of District Offices; a room for the Rabbit Branch; another room for Conditional Sales Branch; then there is a Board-room for the Metropolitan Land Board; a room occupied by Mr. Saunders, the Chief Inspector; another room occupied by the head of the Lease Branch, Mr. De Low; another room occupied by the Occupation Branch; another by Mr. Curry, the Chief Inspector; and another by the head of the Conditional Sales Division; room occupied by contract writers, waiting-room for the public, ministerial store-room, and alienation store-room; then the centre is occupied by a large room used as a strong-room. Then the first floor is almost entirely occupied by the Mines Department. On the first floor we have seven rooms, the Chief Surveyor occupying two rooms—a large and a small room; a room for the Survey Correspondence clerks; two rooms for the Deeds Branch; a room for the Trigonometrical Branch; and half of a strong-room. Then, on the second floor, with the exception of two rooms which are occupied by the Geological Branch and the Government Geologist, we have the whole of the accommodation occupied by draftsmen. Then above that we have the dome rooms, occupied as follows:—By contract draftsmen, one room; the Government Surveyor, metropolitan district, has another room; the plan-mounting Branch, another; the heliographic apparatus and store, another; and above that, again, there is a room occupied by the Trigonometrical Branch, Surveyor-in-charge. He is there only occasionally. Then, going back to the first floor, there are rooms occupied by the Mines Department, as follows:—Charting Branch, one large room; Public Watering Places and Artesian Bores Branch occupies two rooms; Chief Inspector of Mines and Agriculture and the Forestry Branch occupy one large room between them; Curator and Mineralogist and Lease Branch occupy another large room, with a partition between them; the Under Secretary, two rooms; the Minister, two rooms; the Chief Clerk, one room; Records and Correspondence, another large room; Chief Clerk of Branches, one room; Coal-fields Branch and Stores, another room; Records and Messengers, another room, with partitions; and there are two rooms for the Accountant, two rooms for Agriculture, and one room occupied by the Chief Inspector of Mines and Diamond Drill Branch; and then half the strong-room.\*

2520. Has the Mines Department part of that strong-room now? I am not quite sure; but I think they have lately left it. It was set apart for them originally. Then, on the higher floor, eastern galleries, the Mines Department has one large room divided between the Plan-mounting Branch and the Department of Agriculture Library. That is how the rooms are occupied. I could exactly work up a schedule giving the size of each room if the Committee would like it.

2521. Will you send into the Committee a statement giving details of the superficial area of the rooms, and also the number of officials working in them, together with the class of work they do? Yes. [*Vide Appendix.*]

2522. I suppose you are pretty well acquainted with the whole of the office work in connection with the Lands Department? Fairly. I do not know so much about the clerical part of it.

2523. Your duties carry you into pretty well the whole of the rooms? The greater part of them. There are some I do not know much about.

2524. Does there appear to you to be any undue cramping? Yes; there is in several of the rooms. The Occupation Branch, for instance, is very much crowded, and so is the Miscellaneous Branch. Both of those are overcrowded, and the Deeds Branch is quite as full as it should be—in fact, it is rather crowded. Some of the other rooms I have not been in at all, and therefore cannot speak in regard to them.

2525. How many of the rooms at present in occupation of the Mines Department does your Department require? Eight we shall want.

2526. How many will that leave in the building for disposal to some other Department? On that floor it will leave eleven, without the strong room.

2527. Will you require that strong-room? I think not.

2528. So that there would be eleven rooms and the strong-room at the disposal of some other Department? Yes; that is what we determined upon before.

2529. And the whole floor above that? Those are the whole of the rooms we can afford to spare; that is what we decided before. It was gone through very carefully, and we came to the conclusion that those were the rooms we could spare for anybody else coming in.

2530. Would it be possible, by a better arrangement of the office accommodation, for you to do without some of those extra rooms which you say are required; take, for instance, the Roads Branch;—would it be possible to put Mr. Stopps into the room with the clerks of whom he is the head? That could be done, but it would not suit; because Mr. Stopps has a great deal of interviewing with the public on questions which could not be dealt with in an open room. There are reasons why he should have a room to himself.

2531. Could that not be done by putting up a glass partition? That could be done; but the room is a lofty one, and it would require a very large partition to secure it.

2532. Have you been in the chart-room of the Department lately? No; but we have had big partitions put up in some of the other rooms.

2533. Glass partitions? No; cedar.

2534. Is it not advisable for the head of the Department to supervise those under him? Yes; it is far better, speaking generally, for the head of a Branch to be in the same room as those under him; but in this Branch the officer really in charge of the men is with them—Mr. Winder, who really has charge of the discipline of the room. Mr. Stopps is mainly occupied in the Administrative Branch, and has a great deal of interviewing, and for that reason it is advisable that he should have a room to himself.

2535. Leaving that aspect of the case out, do you not think it would be possible to accommodate him in a portion of that large room? There would be room for him there at present.

2536. Are there any other Departments that you could, by economising space in that way, do the same with? I do not think so.

2537.

\* NOTE (on revision):—It is found on further inquiry that this half of the strong-room is required by the Lands Department.

2537. Are not a number of other rooms occupied each by a single officer having a very large floor space? I can only speak for my own floor in that respect. On the Lease floor there are several officers occupying individual rooms. There is no room for them in their particular Branches, I believe; but I am not so familiar with that floor that I can speak positively. For instance, in the Miscellaneous branch, the head of the branch could not stay there, because it is packed full of clerks, and there is no room for anybody else; and the Occupation Branch the same. Each of those branches has a man in charge—a man next to the head of the division. He is a special head, and has charge of the branch, and is responsible for the discipline.
2538. Do you know whether it was absolutely necessary to turn the Mines Department out of the strong-room? I had nothing to do with it, and do not know anything about it.
2539. Do you know the nature of the papers that have lately been put in? No.
2540. *Dr. Garran.*] Am I to understand that if the Mines Department were to vacate the building altogether, and you then took possession of the rooms you really want, there would only be eleven rooms left? That is so.
2541. Have you any of your Departments renting offices outside? Not that I know of. You say those would be the only rooms left; but there are one or two rooms on the roof. There is a photographic gallery, for instance, on the western roof; that is vacant, but it is too hot for anybody to work in. The same may be said of those rooms now occupied under the dome. They are certainly occupied, but they are very hot and very awkward. It would be a great advantage to us to have the men there brought down on to the lower floor.
2542. Where do you do your photographing now? At the Government Printing Office.
2543. Then there was never any need for this photographic gallery? It was the intention, when that building was put up, to do the work there, but it never was done there.
2544. Has the dome ever been used for surveying purposes? No; not for surveying operations.
2545. What is it used for? It is used by the contract draftsmen, Surveyor of the Metropolitan District, and plan-mounting draftsmen.
2546. We understand that that was a very expensive structure, and yet neither the dome nor the photographic gallery has been used for the special purpose for which it was built? So far as I know, they have not.
2547. In the tower, are there any empty rooms? There are two or three small rooms in the tower.
2548. Are they occupied by anybody? One of the lower rooms is used to store documents in, but at present there is not sufficient light.
2549. They are good for store-rooms? Yes; they are good to store things in.
2550. You could use the dome, I suppose, for a store-room? Yes. Of course, there is always a risk of fire, when you have things stored in a place like that.
2551. But we are told that the dome is fire-proof? Outside it is.
2552. Has not the Lands Office been in sole possession of that building once—before the Mines Department came in? I was away in the country at the time the building was finished, and I cannot say. Part of the building was finished some time before the other part, and at that time the Lands Department was in entire occupation. But that was only about half the present size. I think that immediately the building was finished, or very soon afterwards, the Mines Department came in; but I cannot say for certain, because I was away in the country when the building was finished.
2553. What I want to get at is, whether the Lands Department ever had the run of the whole building? I cannot answer that question.
2554. According to your account, there is more room than the Lands Department really wants? Yes; there is no doubt about that.
2555. Those thirteen rooms you spoke of would all be on the top floor, I suppose? They are on the first floor.
2556. You fill up the top floor, then, with your draftsmen? Yes, it is occupied entirely by the draftsmen, excepting the two rooms occupied by the Government Geologist and the Geological Branch, and we want them moved out, so that we may have the whole floor for draftsmen, and have them all under supervision on the one floor.
2557. *Chairman.*] Is your Department—I mean the Department in Sydney as a whole—likely to expand in the future or to contract;—are you likely to require more clerks and more room in Sydney in future? I believe they are anticipating that they will want a dozen or more clerks in connection with the Rabbit Branch if the new Rabbit Bill be passed. Speaking generally, the tendency has been to increase rather than otherwise.
2558. *Dr. Garran.*] That Rabbit Branch would want two rooms out of those thirteen? They are provided for outside that; it has been allowed for.
2559. *Chairman.*] And then there is the new banking department, is there not—the Advances to Settlers Act will necessitate some room being required? Probably. You can never, of course, tell what fresh developments may take place. Speaking about our own particular branch—the Drafting Branch—there is a probability of its being enlarged in connection with the land-tax work.
2560. But they are putting some additions to the Customs House building? Yes; but independently of that there will be a larger demand for maps probably, and more elaborate maps than we have published hitherto, in which case we may require to enlarge our operations in providing more maps. A large part of our work in Sydney is the preparation, compilation, and publication of maps.
2561. *Mr. Shepherd.*] I may ask you what average space you allow for each of the clerks in your Department? A draftsman, we reckon, should have about 88 square feet.
2562. As a rule, a draftsman, I suppose, requires more space than an ordinary clerk? Yes, he does.
2563. Do you ever employ more than one draftsman on one plan when it is a very large one? It is the exception. As a rule, there is not more than one draftsman employed at the same time on the same map.
2564. You say that you have not the measurement of your rooms? Not of the whole of them. I have the measurement of a few of them, but have not got all the measurement complete. However, I can easily make out a schedule for the Committee, giving particulars of every one.



FRIDAY, 14 APRIL, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD. |  
 The Hon. ANDREW GARRAN, LL.D. |  
 The Hon. WILLIAM JOSEPH TRICKETT. |

WILLIAM THOMAS DICK, Esq.  
 JOHN CHRISTIAN WATSON, Esq.  
 ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

John Kirkpatrick, Architect, sworn, and further examined:—

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 Kirkpatrick.  
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2565. *Chairman.*] In going through your evidence, and also the evidence given by Mr. Vernon, I see you both agree on a price—1s. 6d. per cubic foot—for the additions that have been suggested for the Lands Office, but when we come to the total cost, there is a great discrepancy between you; you make it £30,000 and odd pounds, and Mr. Vernon makes it £46,000 and odd pounds;—can you explain how that difference occurs? The only explanation I have to give is that Mr. Vernon must have made a mistake in his figures.

2566. But Mr. Vernon thinks you have made a mistake? I have just had a look at the evidence which Mr. Vernon gave some time ago—not this week. He makes the measurement 19,642 superficial feet, and in his evidence given some time ago, he puts that 19,642 superficial feet at 47s. per superficial foot, whereas I put mine at 30s. a superficial foot; yet he agrees with me on 1s. 6d. a cubic foot. 1s. 6d. a cubic foot amounts to 30s. a superficial foot 20 feet high; but Mr. Vernon now says that he has taken 23 feet high. However, 47s. a superficial foot is simply absurd. If Mr. Vernon agrees with me as regards 1s. 6d. a cubic foot, he cannot make it amount to 47s. a superficial foot, even at 23 feet high. A quantity surveyor could take out all these measurements for you in a very short space of time, and then, independently of Mr. Vernon and myself, you would have an estimate you could work on. When I put down 1s. 6d. a cubic foot, I was told by one of our best estimators that I had allowed too much per cubic foot, and that I ought to have allowed about 1s. 3d. only, which would have covered it, because we have the roof and foundations. We have no foundations to put in, and we have only to cut the roof away a little. If the contract were given to me for £30,000 I should like to sign it, and put up a cheque for £1,000 to carry the contract out. I am sure that I could get contractors to guarantee to carry out the work for that amount.

2567. *Mr. Trickett.*] Mr. Vernon also said that you had calculated your superficial area inside, and had excluded the construction of the walls;—would that account for the great difference between you? It is absolutely correct that I have not included the walls. How Mr. Vernon discovered that he will know himself.

2568. *Mr. Watson.*] He said he discovered it in looking round to see what possible measurements would have made up the 20,000 feet? It was not discovered in that way, and that is the reason why I just now made that little incidental remark. The 20,000 feet does not include the walls; but the 1s. 6d. does include the walls.

2569. Mr. Vernon gave that as one reason why his estimate of cost so far exceeded yours, although having the same basis per cubic foot? That would not be the way. The reason is, that there is a mistake in the superficial area; but 47s. is wrong, even at 23 feet high. If I take the inside measurements at 20,000 superficial feet, and if for outside purposes I add one-fifth to 20,000 feet, although I do not require to do so really, because the 1s. 6d. per cubic foot is too much to start with, or if Mr. Vernon adds one-fifth to 19,000 feet, it will only make 4,000 feet more. Well, 4,000 feet would mean £6,000; it will not make £17,000. According to the general rule of calculations, you add one-fifth for the walls. But the walls in this case will not be one-fifth more; they will only be a little over one-third more, because of the enormous size of the rooms. But taking it at the maximum of one-eighth more, Mr. Vernon cannot even then make up the £17,000.

2570. *Chairman.*] You say the usual practice is to take the sizes of the different rooms, add them together, and then to allow one-fifth more for walls and waste? Yes.

2571. That is for an ordinary dwelling? Yes; for an ordinary first-class dwelling.

2572. How much would it be fair to add for a building of this sort? In this particular case I would add only one-third for the walls.

2573. If you add one-third for the walls, that will make it more still? I meant to add one-third to one-fifth, thus making one-eighth. The main outside wall, and also the inside wall, are intended to go up; but all the large divisional walls are in there now. The large room on the top floor will be repeated. I did not intend to take the walls any more than Mr. Vernon intended to do so.

2574. You proposed to do what Mr. Vernon proposes to do on the work that is before the Committee—that is, to put up structural walls, and leave the partitions to be put in afterwards? Yes—carrying up, of course, the main chimneys.

2575. Mr. Vernon says it is practically the building of one floor only with a roof to it, at a cost of 47s.;—would the cost of a new roof entirely make that difference? No, it would not. Even if there were a new roof entirely, the cost would not come to 47s.

2576. If Mr. Vernon in his estimate provides for one floor only, and a new roof entirely, would that account for the difference between 47s. and your estimate of 30s., you saying you could use the greater part of the present roof? Of course, if Mr. Vernon has included in the 47s. a new roof, that would increase the cost per foot superficial beyond 30s.; but in my estimate there is no need for a new roof, any more than there was for a new roof for the Government Printing Office. They did not put up a new roof there, and they even used the old slates, with the exception of a few which were broken, and which had to be replaced. I think 30s. is over and above what would do the work, and the only question is whether 20,000 superficial feet or 19,000 superficial feet is correct. Last evening I went carefully over these figures of mine, and I will vouch for their being absolutely correct; and my figures have been overlooked by a quantity surveyor as well, and Mr. Vernon agrees generally that my figures are correct.

2577.

2577. *Mr. Trickett.*] Mr. Vernon in reply to Mr. Watson said :—

But in calculating, a difference has arisen between Mr. Kirkpatrick's estimate of £30,749 and my estimate of £46,880, and I can account for it in two ways :—In the first place, taking the heights, I calculated for an additional height of 23 feet for the room, and for a portion of the roof, as we generally do in matters of cubing. The second reason that presents itself to my mind is this, and I feel quite certain it is the case, that Mr. Kirkpatrick has given you the superficial contents of the floors for office purposes, and has multiplied that by his height, but has forgotten to take the area of the outside walls as well. He has taken the one dimension of 20,000 feet, and has multiplied that by twenty which comes to 411,260 feet, and if that is calculated out at 1s. 6d. per foot I get a result of £30,800 as against his estimate of £30,749, a difference of only £51. So it is perfectly evident that instead of taking the whole area of the building, he has taken only the whole area of the floors inside the building, and measured that by the height, instead of the outside walls by the height. To my mind that explains the difference between us. Those two mathematically do explain it.

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Do you think that the omission of the outside walls, which you admit, would account for the difference of about £15,000? No; I do not.

2578. Nor anything like it? Nor anything like it.

2579. *Mr. Watson.*] You made your estimate at 20 feet high, did you not? Yes.

2580. Twenty feet in stone? No.

2581. The height of the office space was to be 14 feet? Yes, and allowing 6 feet additional for roof.

2582. Although your wall was 20 feet? No.

2583. You raised the height of the building 20 feet, allowing for everything? Yes; when we take a cube, we go half-way into the roof—the shape of the roof gives you an apex. We measure from the foundation half-way into the roof, and I have taken 14 feet for the rooms and 6 feet for the roof.

2584. You say you take 20 feet as your basis with a 14-foot floor? Yes.

2585. If Mr. Vernon took 3 feet more as his basis, and in addition to that counted the walls in, that would give a much greater cubic area? It would give a larger cubic area, but not such a large one as to affect the estimate to such an extent.

2586. If you multiply your superficial floor space by 23 feet, and in the superficial area add the width of the walls, are you certain that that will not come very nearly to the estimate put forward by Mr. Vernon? I cannot make it do so. I have tried to see if I had made any error.

2587. His floor space is 16 feet instead of 14 feet, and this total additional height is 23 feet instead of 20 feet, and I was wondering whether those two items would account for the difference in the cost—the additional height of 3 feet, and the addition of walls in the superficial area? No. If the first examination of Mr. Vernon is carefully looked at, you will see his basis. He said 19,000 superficial feet.

2588. But the question of superficial feet is not affected by the height of his storey, is it? No.

2589. It is a fixed quantity, whether you have a storey 15 or 20 feet high? Yes.

2590. And it is a fixed quantity practically if you allow for the wall space? Yes.

2591. So it is possible to have 19,000 feet, and still have 23 feet additional height put on to the building? But I am taking 20,000 to his 19,000, and 3 feet would not make the difference in the cubical contents.

2592. *Chairman.*] But would it make a difference in the price;—supposing you had walls going up 18 feet instead of 14 feet, would you keep to your basis? Yes.

2593. Supposing you were to make the wall 18 feet, would you not reduce your 1s. 6d.? In this case it would be a fractional part reduced. Mr. Vernon does not say where he got the 19,642 feet from. I can explain exactly how I got my 20,000 feet;—you can get at that in a few minutes; but I do not know where he gets his 19,642 feet from.

2594. *Dr. Garran.*] The cost of the extra height would be simply the cost of the walls with the plaster? Yes.

2595. The roof the same, the floors the same, and the ceiling the same? Yes; everything the same. There is only that little bit of extra height in the walls, and that could not make up the difference. All these rooms have certain dimensions according to this scale, and if anyone will take the inside dimensions and work them out, you will find that you will get exactly what I have put down—namely, 20,563 feet—and even those dimensions include some of the internal walls; they include all the chimneys.

2596. *Mr. Trickett.*] Do I understand that for £30,749 you can put a storey on, inclusive of outside walls? Yes.

2597. That will be the whole cost? Yes.

2598. *Chairman.*] Although your measurements are taken for the inside of the walls, and Mr. Vernon's include the outside walls, you come to about the same figures, and you explain it in this way: that although you have taken the inside as your basis, you have made the allowance that is laid down by the best authorities—that is, in calculating the cost at £30,000 and odd pounds you allowed one-fifth extra, according to the recognised formula? Yes; according to Professor Kerr of London University; and one-fifth is ample to allow for walls and waste, as it is called.

2599. Then, what you have done is the practice? Yes, it is exactly the practice; there is no other way.

2600. *Mr. Trickett.*] Is your addition to cost £30,000 with one-fifth added—that is, £36,000? No. I am prepared to stand by my estimate of £30,000. The other day I was asked about cutting out the domes, and while I was here I thought that I would add £3,000 more for that: but really I do not want £3,000 to be added. I should like to undertake the work to-morrow morning for my estimate of £30,000.

2601. Is this formula which you quote all at 1s. 6d. a cubic foot? No. Some of the houses that are mentioned there are mansions, whilst others are more ordinary houses, and they are put down at 89s. a square, and that means 100 superficial feet. But we are estimating on the foot now. One of the main points where the discrepancy comes in is in Mr. Vernon putting down 47s. a superficial feet, although he agrees with me on 1s. 6d. a cubic foot. He cannot possibly work it out at 47s. per superficial foot, even at 23 feet high. At 20 feet high mine works out at 1s. 6d.

2602. You are both agreed as to 1s. 6d. per cubic foot? Yes.

2603. And as to the internal measurement coming in round numbers to 20,000 superficial feet? Yes; I understand we are both agreed there.

2604. *Chairman.*] Had you taken Mr. Vernon's method, and included the external walls, your basis would have been 1s. 3d. instead of 1s. 6d.? Yes, and then I add for the walls one-fifth on to the 20,000 feet. That is the proper way to do it. It is the orthodox way of taking out the areas. The 19,624 feet of actual office space which Mr. Vernon says he gets is absolutely incorrect. He says he does not include the corridors, and he says he gets a portion of the domes. I say that is absolutely wrong. I have had my figures checked by two different men, the plans have been very carefully scaled right throughout, and

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- I include everything—the whole of the areas internally, and some of the walls at 20,000 superficial feet, the whole of the floor space, including the domes—and that 20,000 feet includes 4,300 feet of corridors. Now, take 4,300 feet of corridors away from 20,000 feet, and you do not get 19,000 feet of office space. My 20,000 feet also takes in the whole of that area of the strong-room—the staircases, and the latrines.
2605. *Mr. Watson.*] But Mr. Vernon proposes to take that out? But how can he get 19,000 feet actual office space when I take all these.
2606. *Mr. Dick.*] Does Mr. Vernon base his estimate only on the office space, or on the whole space? I want to show you that he says he gets 19,642 superficial feet.
2607. But that is not the basis on which he calculates his estimate? Well, he does not give any details of space.
2608. But he tells us how he gets it by saying he includes the whole areas of outside walls? Well, he might have given the areas. But it does not matter how he does it, for he is absolutely wrong. If Mr. Vernon says that he has 19,643 superficial feet of actual office space, I say that he is wrong by 4,000 feet.
2609. *Mr. Watson.*] A few moments ago I asked you whether it would not probably account for the difference between your estimate and that of Mr. Vernon, if you added in the additional cost of the extra 3 feet in height, multiplied by the superficial area of the walls; your original estimate was £30,700 and odd pounds; then one-fifth extra for walls at 4,000 feet at 1s. 6d. would be £6,800? Yes.
2610. Then the 3 feet of additional height by 20,000 superficial would make an additional £4,500, bringing up the total to slightly over £42,000; then you said there was additional cost for altering the dome—£3,000 or £4,000—and, assuming it to be £4,000, that would make £46,000; and so, if those figures are correct, they nearly account for the whole difference between yourself and Mr. Vernon, the small fraction not accounted for being accounted for by the fact that he proposes to put in strong-room accommodation instead of ordinary office space, which might mean a little extra expense;—is not that so? No; you are basing your estimate on 20,000 feet.
2611. I am taking your own figures? Yes; but you should take Mr. Vernon's figures.
2612. In this instance I want to take your own figures, and see how far they bear out the contention that the work could be done for £30,000;—is it not a fact that the 20,000 feet is exclusive of the wall-space, and it is multiplied by 20 feet in height? Yes.
2613. Well, that makes £30,700, exclusive of wall-space, and for only 20 feet in height? It does not exclude the cost of the walls.
2614. It excludes the space occupied by the walls? Yes.
2615. If you allow one-fifth extra for that, it, at 1s. 6d. per cubic foot, makes £6,800 and odd pounds? Yes.
2616. You have to add that to the £30,000, and then it is only fair to multiply the 20,000 feet by the additional 3 feet in height—supposing we were to decide it would be better to take it up that height; therefore, at 1s. 6d., £4,500 has to be added, and that makes a total of £42,099; and then adding between £3,000 and £4,000 for altering the domes, practically brings the cost up to £46,000? Of course we can all make up a good account, but it does not follow that we are making up a correct estimate.
2617. Will those things not account for the difference? No; we have no evidence to show what height Mr. Vernon was going to build his place.
2618. Well, assuming he said it would be 23 feet? Well, I should like to know how he came to 47s. per foot superficial.
2619. Is that not dependent on the height he is going to make the building? Yes.
2620. If you went 100 feet high, and 100 feet superficial, it would probably cost more than if you went only 10 feet high and 100 feet superficial? Yes.
2621. So the superficial cost is dependent on the height? Yes.
2622. And assuming you took 23 feet instead of 20 feet, it would, with the wall space, largely account for the difference between the two estimates;—is that not so? Yes, if you can assume all that; but we have to assume it all.
2623. *Mr. Dick.*] What is the amount of floor space you took for your estimate? I took 20,000 feet.
2624. How much per foot? 30s.
2625. *Dr. Garrahan.*] To go to another subject than the one we have been discussing, you will remember that in your evidence you said that, if there was to be a museum in connection with the Lands Office, you would rather have it at the top of building than lower down? Yes.
2626. Well, Mr. Vernon, in his evidence, says that if this idea were carried out of having another storey and a Mansard, the Mansard would not be high enough for the museum—that you cannot have a stumpy, squat room for a museum;—how would you get over that difficulty? I do not know that there is any exact regulation for the height of the museum. It is to be a fair museum, but not such an one as a large general museum. It is not to be treated as a matter of great architectural eminence. You merely want a useful place. If it is to be 14 feet, there is a good slope to the roof, and I think we could add 3 or 4 feet to the slope, and that would be sufficient.
2627. Mr. Vernon seemed to be of the opinion that he would want the space of the two floors for the museum, and that would be simply putting a double top on for the one purpose, and that would be a great waste of room? Quite so.
2628. Could you raise the Mansard high enough? The Mansard, I think, would act very well at that height for the kind of museum proposed.
2629. You would not fear for the temperature of a Mansard roof? No; not in the way I purpose it being constructed. I should have a space like a hollow wall; I should have cavity sides; I would have two thicknesses of concrete, and leave a space to ventilate the place.
2630. And make a sidelight? You could have all side-lights.
2631. You see no difficulty in putting in a Mansard roof? I see none whatever—that is, for a museum such as I understand you want—for mineralogical, timber, and agricultural specimens.
2632. In your designing of a Mansard roof, you did not contemplate a museum at first? No; what I did with the design was merely to suggest the carrying up of a storey and a Mansard.
2633. You were looking simply at the elevations? More at the elevation. If that will suit we can make a very good museum.
2634. You see no architectural difficulty in adapting the Mansard roof to a museum? No.
2635. You said the lifts would have to be altered? Yes.
2636. Would they have to be entirely reconstructed, or could you add to the length of them? We could add to the length; but I would reconstruct the lifts.
- 2637.

2637. What kinds of lifts are they at present? Hydraulic lifts. They are worked by their own pumping, and their own accumulators—not direct acting. It is a very expensive gear which is in use there, and that could be sold, and the lifts could be connected with the Sydney Hydraulic Power Co.
2638. Would you recommend entirely new lifts? Yes. It would be an improvement to the building, too.
2639. What would be the expense of adding entirely new lifts? It ought to be done for £1,000.
2640. That would add to the cost? No; I included all that.
2641. *Mr. Levien.*] Would the top floor you intended to add give the same space as the second floor? Yes.
2642. *Mr. Watson.*] Supposing the domes were taken away and walls put round, there would be 19,000 feet of office space available? No; that is not correct.
2643. That has been calculated by the Chief Draftsman of the Lands Office, not by Mr. Vernon? I do not care who has done it.
2644. *Chairman.*] On the basement we find all the office space, including messenger's dwelling, &c., is given as 13,637 feet; on the ground floor, 16,070 feet; and on the first floor, including the domes, 19,500 feet? Yes.
2645. *Mr. Trickett.*] You had to do with the alterations of the Sydney Hospital, had you not? Yes.
2646. You gave an estimate, I think, of what the proposed alterations would cost? Yes.
2647. How did that come out in actual practice? We came out, when we finished the whole thing, £1,100 over my estimate.
2648. I think your estimate was £56,000? Yes; and then the contractor went on, and we finished the whole of the building for exactly £1,100 over my estimate. I may say that I also gave the Mutual Life of New York an estimate for their building. I gave an estimate of £75,000, and I finished and completed the building for £78,000, and that included a good many little additions.

J.  
Kirkpatrick.  
14 April, 1899.

TUESDAY, 25 APRIL, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.		The Hon. WILLIAM JOSEPH TRICKETT.
The Hon. ANDREW GARRAN, LL.D.		WILLIAM THOMAS DICK, Esq.
ROBERT HENRY LEVIEN, Esq.		

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Harry Chambers Kent, Architect, sworn, and examined:—

2649. *Chairman.*] You are an architect, practising in Sydney? Yes.
2650. You have been asked to prepare a statement as to the estimated cost of adding one floor to the present Lands Office building? Yes.
2651. Have you that statement ready? Yes; and also a statement as to accommodation. I estimate that the gross cubic contents of a storey to be added to the Lands Office would be 604,620 cubic feet, which, taken at 1s. 6d. per cubic foot, would work out £45,346.
2652. *Dr. Garran.*] For one storey in stone? Yes. I have taken that storey at a height in the clear of 16 feet, and then I have measured half-way up the roof.
2653. *Chairman.*] That makes, what? I get a height of 22 feet 6 inches, the roof measurements being taken from the Lands Office drawings, and that gives a cube of 604,620 cubic feet over walls and all. The superficial area, taking the present second floor of the Lands Office, would give 19,920 feet superficial in office accommodation, 3,816 in corridors and staircases, and 3,136 in walls, making a total of 26,872 superficial feet.
2654. *Dr. Garran.*] That 19,920 feet superficial is useful space? Yes.
2655. *Mr. Shepherd.*] That is available space for offices? Yes.
2656. *Dr. Garran.*] Corridor space includes lavatories? Lavatories are included with staircases and corridors.
2657. *Chairman.*] And the cost? The cost, worked out at 1s. 6d. a cubic foot, is £45,346—that is, if taken at 1s. 6d. a cubic foot. My own impression is that it would not cost quite so much as that. I think something might be saved on that.
2658. You think, then, that 1s. 6d. is an over-estimate rather than an under-estimate? Yes; for this reason: The areas are very large and unbroken. But, of course, against that, again, you have the difficulty of building on top of a high structure; but still even then my own impression is that £42,000 would be about the price.
2659. What height to the ceiling would that give? Sixteen feet clear in the room itself.
2660. Mr. Kirkpatrick allows 14 feet? Yes; but I do not think 14 feet is high enough for those rooms. I have compared partly with the Lands Office building as it exists, the plans of which I have had the advantage of seeing. In the last storey the present rooms are, I think, 18 feet.
2661. Would that cost be by utilising the old roof at all? The roof, including the principals, would be used again. That is partly where, I think, some of the saving would come in.
2662. Does that amount include the cost of a new roof? No; utilising the present roof. I do not know anything about the Mines Office portion of the roof, but I do know something about the Lands portion of it, for I had to do with the building of that, and in that the principals are iron, and could be taken to pieces and put together again.
2663. In estimating at 1s. 6d. a cubic foot, you go half-way up the roof to get the mean? Yes.
2664. Counting the cost in that way, would not the price include the cost of a new roof? It would, as a rule; but, in cutting down the price, I am allowing something for that.
2665. *Dr. Garran.*] You do not disturb the dome or tower? You would have to build round and readjust the dome; but I would not disturb the tower at all.
2666. *Chairman.*] What about the pavilions? As regards those two pavilions, I may say I have cut those right out, so as to get the full benefit of that space.

H. C. Kent.  
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2667.

- H. C. Kent. 2667. You would not recommend putting those on? I would not recommend repeating those pavilions.
- 25 April, 1899. 2668. Had you anything to do with the building of the present Lands Office? I was with Mr. John Young, the contractor, when he built that.
2669. *Mr. Trickett.*] Can you tell us the cubic area at 14 feet high for the rooms? Mr. Kirkpatrick allowed 14 feet for a room, and 6 feet for half the roof, making altogether 20 feet. At those figures it should work out at £40,308. If I may be allowed to criticise to this extent, in an explanatory way, I think that Mr. Kirkpatrick made this mistake: he calculated his net floor areas at about 20,500 feet, or something like that. If you take that at 20 feet high, and then at 1s. 6d., you get almost exactly the £30,750 he calculated upon. That looks as though he had taken his net office accommodation area in cubing, and not calculated his walls, corridors, stairs, &c. The presumption is that he had taken the net area and cubed it, and then thought he had allowed sufficient at 1s. 6d. But if you take the gross area of 26,872 feet superficial—and there can be no mistake about the calculation of that, because it is an easy calculation—and work that out at £30,000, I do not think it would be more than 1s. 2d., if that. The gross area over the whole building is 26,872 feet, and from that I have deducted the tower which is already built, and I have not included raising the strong-room which is already up the storey. So he must be mistaken in his gross area.
2670. Mr. Kirkpatrick, in a letter to the Committee, says:  
I have estimated for one additional storey with stone walls treated in a similar design, &c., as the present top or second floor, and calculated the superficial area, 20,000 feet, without the wall areas.  
? And without the corridors and stairs, too.
2671. Mr. Kirkpatrick goes on to say:  
I allowed one-fifth additional for walls and waste on my price, namely, 1s. 3d. per cubic foot, which makes the cubic foot price, including walls, 1s. 6d.  
? It would have been far easier to run the scale over the whole building and work it out.
2672. *Chairman.*] You have made your measurements by taking the whole of the floor space now on the second floor; but you do not include the tower, neither do you include in your estimate anything for the central strong-room? That is so. That makes 26,872 feet superficial.
2673. Mr. Vernon has worked out his calculations at 23 feet? Yes; and he brings the cost out at £46,880.
2674. You worked it out at 22 feet 6 inches? Yes; and I worked out the cost to £45,346, or at 23 feet, £46,353, which is, approximately, Mr. Vernon's estimate. That is at 1s. 6d. per cubic foot; but I think that the price of 1s. 6d. per cubic foot need not be quite reached.
2675. It could be done at 1s. 3d.? I think it could be done at £42,000.
2676. Mr. Kirkpatrick took as his basis 20 feet high? Yes; and the 2 ft. 6 in. difference would about make £5,000. Mr. Kirkpatrick says he has taken the superficial area of 20,563 feet, which at 20 feet high, and at 1s. 6d. a cube, would give almost exactly the price that he puts down for it—namely, £30,790 and odd pounds. Where I think he has made a slip is in taking the net area of available office space instead of the gross area, including walls, corridors, staircases, &c.
2677. *Mr. Levien.*] You think he has made a mistake? Yes, to that extent.
2678. It is a polite way of saying that he has made a professional mistake? I did not put it quite in that way. If you look at the figures, and take 20,563 feet and work it out in the way I have expressed, you will see my meaning, I think.
2679. *Chairman.*] Having measured and found that that office space comes to a little over 20,000 feet, Mr. Kirkpatrick must have omitted to calculate the corridors and the staircases? Yes; I am deducing it from his own evidence.
2680. Mr. Kirkpatrick explained that he had taken a different way of calculating from Mr. Vernon's; he said that he calculated the net area at 1s. 6d. per cubic foot, and that he allowed one-fifth for walls and waste, and that if he had taken the gross area—including walls and waste, corridors, and that kind of thing—he would have put it down at 1s. 3d.? It is quite right to say we generally allow one-fifth for walls and waste, but that does not appear in the £30,790 estimate.
2681. Can you include it in that calculation? Not unless you are going to add one-fifth to his estimate.
2682. Would the addition of this floor detract from the appearance of the present building? I do not think it would at all.
2683. Do you think it would improve it? Yes, I do.
2684. Have you made any calculations in reference to adding a Mansard roof? Yes; and I work out the cost at £58,000 for one storey and a Mansard roof, but I do not like the idea of having a Mansard roof on the top of that storey. That is only a rough estimate, and I should like to qualify it to this extent. That the cost of the Mansard roof would very much depend on the amount of packing and double walling that was done for cooling purposes.
2685. *Dr. Garran.*] I understand you to say that Mr. Vernon, estimating at 23 feet high, puts the cost at £46,880? That is so.
2686. You, estimating at 22 feet 6 inches, put the cost at £45,346? Yes.
2687. Mr. Kirkpatrick, estimating at 20 feet, puts the cost at £30,749? Yes; but is he supposed to add one-fifth for his walls on the top of that?
2688. He said he did? Well, I should like to point out that that one-fifth is not included in the calculation.
2689. It would make it more? Yes; it would make £6,000 more, at any rate.
2690. With the Mansard roof you estimate a cost of £58,000? Yes; that is a rough estimate. Mr. Vernon estimates it at £78,000, and Mr. Kirkpatrick at £50,000. I agree with Mr. Kirkpatrick—that is to say, fairly well—as to the price of the Mansard roof only.
2691. Have you counted on removing the domes? Yes, if you put a Mansard roof on.
2692. *Chairman.*] You were present at the construction of the present Lands Office? The first part of the Lands Office only.
2693. In your opinion, would the walls be strong enough to carry another floor? Yes.
2694. More than one? Easily another storey and a Mansard. I should say they would carry two whole storeys, at any rate, without any risk.
2695. *Dr. Garran.*] The foundation is on rock, I suppose? Yes, all on rock,—splendid rock too.
2696. The walls at the bottom are thick enough to carry anything in reason? Yes, anything in reason. The bottom of that building I can answer for absolutely. The foundation is a splendid one. 2697.

2697. *Chairman.*] Your estimate in reference to the Mansard roof is, I suppose, based on some experience? *H. C. Kent.*  
 Yes, on cubics, and an allowance for taking off the present roof, which of course, would have to be reconstructed. 25 April, 1899.
2698. *Dr. Garran.*] But Mr. Kirkpatrick, in estimating for the Mansard, provided for a copper outside and a concrete inside? If I built it I should build it with terra cotta lumber, which I think is the best thing for Mansard construction. The latest practice in England is to build Mansard roofs with iron ribs, and with terra cotta put in, and to batten on the outside for slates, and plaster on the inside. Sometimes the terra cotta may be used thicker to get an increased cavity, for in a terra cotta lumber wall you can have two or three cavities. The terra cotta forms air spaces. Terra cotta lumber is the most modern thing used at Home for Mansard roofing.
2699. And there is nothing that could catch fire? No; excepting the battens under the slates.
2700. Would it be more expensive than concrete and copper? It would certainly be cheaper than concrete and copper.
2701. And quite as cool, if not cooler? In my opinion it would be cooler.
2702. You assisted Mr. John Young to construct this dome, which is said to be so very hot, and yet we are told that it is concrete? The dome itself is not concrete. It is constructed with iron ribs, and, I think, wooden sheetings and muntz-metal.
2703. What is the reason the room is so hot? It is really a big muntz-metal oven.
2704. *Chairman.*] It is iron rafters and wooden sheetings? Yes. When that dome was built, it was built with this object: they wanted to have the possibility of putting a transit instrument into the small dome at the top. It is a revolving dome, and has an astronomical shutter, and the dome was raised sufficiently to get a horizon line over the top of the building in which we are now assembled. I know that was the intention in lifting and stilting that small astronomical dome to that height.
2705. *Dr. Garran.*] But if there is a dome at the Observatory, what is the need of a second one? I had nothing to do with the departmental part of the matter; I am only stating history.
2706. *Mr. Shepherd.*] What is your opinion as to the general effect that an addition of two storeys would have on that building? I think that one storey and a Mansard would dwarf the tower. It would stand one storey well without a Mansard.
2707. *Chairman.*] Then you are of opinion that one storey would improve the appearance of the building, but that a storey and a Mansard would not be desirable? Not architecturally.
2708. *Mr. Shepherd.*] You really, then, recommend only the one storey? Yes.
2709. *Chairman.*] Have you given your attention to the plans of the proposed new building? Very slightly indeed. I spent my time yesterday and to-day principally on the calculations, and have not spent much time in looking at the original proposal.
2710. Take the basement: it is proposed to put a museum there; have you had time to consider whether the light for that museum would be sufficient? I think that, with slight modifications, you would get sufficient light there.
2711. What would you suggest? The first thing is, that I should like to get rid of this high blank wall, which must stop a great deal of direct light. I think that might be dispensed with, and a slight contraction of the lavatory accommodation would help the light there; and that instead of going down to the basement, the basement might be kept to the Young-street level, and so raise the windows a little more above the street on the Phillip-street side. By doing away with the four steps at the corner of Young and Bridge Streets, and by keeping the floor to the Young-street level, you would gain in the height of these windows above Phillip-street, and I think more window space might be given there.
2712. *Dr. Garran.*] You would have to raise the walls 3 or 4 feet? No; 2 feet to 2 feet 6 inches would do that.
2713. *Chairman.*] Now there is a light area near the south-east corner? Yes, there is.
2714. Between the light area and the wall there is a vent shaft? Yes; I should like to take that vent-shaft away from that position, so as to give that light area the full benefit of the light.
2715. So that you would get a direct light on each floor? Yes, instead of a well light. By taking away that vent-shaft and putting it elsewhere you would get the whole of that area clear, and would get a direct light to each floor instead of a light coming down the shaft.
2716. *Mr. Levien.*] What would be the depth from the top of the shaft towards the bottom, so far as the light would go? From 105 to 110 feet, I should think.
2717. Then the shaft light might have to start from a height of 110 feet? Well, over 100 feet at any rate.
2718. *Mr. Dick.*] These are the measurements in the new building: 20 ft., 16 ft., 18 ft., 14 ft., 12 ft.? That is only for five floors instead of for seven; and if you put on another 16 and another 12, that will make 108 feet.
2719. *Chairman.*] If you get a direct light on each floor, that would give more light than the proposed shaft, would it not? Yes.
2720. More especially on the lower floors? Yes. If Mr. Vernon wants that vent shaft, there are other positions in which I think it could be placed without disadvantage.
2721. *Mr. Trickett.*] If that blank wall and balcony on the southern side were removed, the corridor leading to it could be transferred to the northern end of the room, and so diminish the quantity of balcony for access to the lavatories? Yes.
2722. *Dr. Garran.*] Could you not shift the western lavatory to where you are going to shift your corridor? You might be able to do so.
2723. *Chairman.*] Now, with reference to the width of the rooms? The main front rooms are, I think, 24 ft. and the back rooms 20 ft.—those are about the measurements.
2724. Will those dimensions lend themselves readily to subdivision? I do not know that they lend themselves badly to subdivision, provided you consider how you are going to occupy them. For heads of departments or Ministers, a 24-ft. room is not too wide—say 24 by 20, or by 18, would make a good Ministerial room; and if you are going to work a number of clerks in one room, 24 ft. is a good width for such a chamber; but it is entirely a matter of how you are going to arrange your office space. It is difficult to criticise in reference to widths of that kind, unless you know the purposes for which the building is actually designed.
2725. There will be two rooms for Ministers; all the other rooms will be occupied by clerks and heads of departments? But will they be occupied in large areas or in subdivided areas; that is really what it comes to.

- H. C. Kent. 2726. They will be obliged to use large areas if the width is 24 feet? Well, are not large areas better for supervision.
- 25 April, 1899. 2727. In your profession, in laying out offices, what is the general office width? It entirely depends on the purpose; a banking chamber might be any size.
2728. Well, for clerical work—not for banking purposes? Not for banking purposes—generally about 20 feet.
2729. *Dr. Garran.*] It is only for rooms, each for a single person, that 20 feet is excessive? Yes.
2730. The moment you come to put numbers in them, it is a good size? Yes, if properly lighted, of course.
2731. *Chairman.*] Can you give us an idea from these plans if these floors are properly lighted? I think the rooms seem fairly lighted everywhere, and the corridor would have light if you were to carry out the suggestion for the removal of the vent-shaft at the end. It seemed to me there would be a little deficiency of light in that corridor unless the vent-shaft were removed. But the rooms all seem fairly light, and I think the museum would be sufficiently light with the modifications I have suggested, and with further window space being made use of.
2732. *Dr. Garran.*] If the museum floor were raised the 3 feet you suggest, would that cost very much? The cost would not be very much. Of course, it is in the foundation work where the cost would come in.
2733. Would it be £2,000 more? I think about £3,000.
2734. Would 2 feet carry three steps? Yes. I should like all I have said to be taken as suggestive only, and not as dogmatic.
2735. *Mr. Dick.*] Taking the general design of the proposed building, would you favour the Committee with your opinion of it—I mean the exterior design, does it meet with your approval? I do not know that I should not like to suggest some things, but it is a good building.
2736. Do you think it will harmonise with the Public Works Office and the Lands Office, both of which will be adjacent to it? I think it is a little heavy at the top, but that might easily be modified. The pavilion finishings are heavy.
2737. *Mr. Levien.*] You have seen the plans of the proposed new offices;—considering the number of clerks that are to be employed in the building itself, would you erect a building like that? That depends on the instructions given to you; for any man would erect a building very largely according to instructions in reference to occupancy.
2738. *Chairman.*] Supposing you were left to yourself, and there were no instructions at all given, except to put the building up? If I were left to myself to design a building for any occupancy, I should consult the people who were going to occupy it in regard to every detail I could possibly get from them. When I am building a wool store, I go to see the men who are going to work the wool, and if I am building a solicitor's office, I try to find out all the requirements of the principals and subordinates.
2739. Then you would not recommend the practice of first putting up a building, and afterwards thinking of how to put the people in it? No, I would not. As a matter of practice, I think the architect cannot possess too many details in reference to the occupancy and the intentions of those who are to occupy the building.
2740. *Mr. Levien.*] Supposing you knew the purposes for which the building was being erected, after making all the necessary inquiries, would you, as an architect having a knowledge of offices, design a building like that? Do you mean as regards its facade or its arrangements.
2741. Both as to the facade and the arrangements? No one can tell you that unless he knows the purpose for which the building is going to be occupied, and how those are going to be placed who are going to occupy it. I know nothing as to who is going to occupy that building, or what it is for, except that I believe the Mines and some other Department are to share it.
2742. Well, taking that as a starting-point, you would first of all inquire what each floor was intended for? I would.
2743. Whether it was for a museum, how many clerks were to be occupied on each floor, what their line of occupation would be, and all the details that were necessary—you would make the fullest inquiry before you entered into the matter? That is my usual practice.
2744. Not alone your usual practice, but do you think it is the proper practice? I do think it is the proper practice.
2745. So you do not know whether that building is suitable for the purpose? I would not express an opinion upon it one way or the other.
2746. With all those new offices, if you had the details given to you, you might be able to make arrangements for them by making an addition to the present Lands Office? Yes, if I knew all the details.

John Kirkpatrick, Architect, sworn, and further examined:—

J. Kirkpatrick. 2747. *Chairman.*] You sent a letter to the Committee? Yes. I brought a copy of the letter, but my clerk had made some mistakes in it, which were subsequently corrected. I now produce a correct copy of the letter, which is as follows:—

25 April, 1899.

To the Chairman and Members of the Parliamentary Standing Committee on Public Works,—

Gentlemen, Sydney, 18th April, 1899.  
I beg herewith to submit to you my estimate for the proposed addition of one storey to the present Lands Office.

I have estimated for one additional storey with stone walls treated in a similar design, &c., as the present top or second floor, and calculated the superficial area, 20,000 feet, without the wall areas. I allowed one-fifth additional for walls and waste on my price, viz., 1s. 3d. a cubic foot, which makes the cubic foot price, including walls, 1s. 6d. The height of the storey, say 14 feet in the clear—of course I allow 6 feet—being a full allowance for one-half the height of the roof, calculated in my full cubic measurements to cost £30,749. This amount will cover all incidentals, &c.; and I am convinced that there would not be any extra works required to cause this sum to be added to.

Space could be arranged for a museum on the top floor facing Spring-street, which room I would extend the whole frontage of the building to that street, and the roof-light could be arranged facing south.

The

The domes I am sure should be taken down, and the space now occupied by them could be utilised to much greater advantage, and in my 20,000 feet super. calculation I have taken them into consideration. At present they are little better than useless, although in partial use. The roofs leak and are in continual disrepair, and the heat in summer is so great as to interfere with the work of those who appear to me to be temporarily engaged there; and their disappearance will cause no loss, but a practical gain in good and useful superficial area.

As I stated in my evidence, I thought of adding about three or four thousand pounds to do this additional work, which, in round numbers, would make my estimate about total £34,000.

If it is thought more space would be required, a Mansard roof could be added to the entire area of building, as shown in the sketch submitted by me, to the elevation in Spring-street, which would give about another 20,000 superficial feet, and I estimate the total cost at £54,000.

This area could be divided up into offices to suit the Mines Department or Lands, and a portion could be utilised as a museum, with the same arrangement for light as I have already stated, viz., a southern light.

The Mansard roof will in no way interfere with the proportions of the tower, as can be shown hereafter by a correct perspective drawing.

I have, &c.,

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When I say 20,000 feet, I do it in the rough. The measurement is really 20,500 feet; but for the purpose of simplifying matters, I brought it down to 20,000 feet, because I know that I not only have fully estimated, but have over-estimated—that is, I have in this letter allowed ample for everything.

2748. It has been suggested to the Committee that you probably had omitted in your estimate the cost of building under the dome in the centre;—it has been suggested that you probably omitted all that construction, which you will see in the centre of that block if you look at the plan of the Lands Office? No; I have not done so. I have included the domes; I have included the entire area in the 20,000 feet.

2749. Mr. Kent points out that we can get 20,000 feet of office space? I do not think you can get 20,000 feet of absolute office space.

2750. In your estimate, do you duplicate the second floor of the present Lands Office? I duplicate the second floor in the other floor we intend to put on. I give you a clear floor of absolute usefulness right round the entire area. I can account for the discrepancy between Mr. Vernon and myself.

2751. That is exactly what we want to get at? The other day, when I was giving my evidence here, I intimated it, but I did not practically describe it to you. Mr. Vernon, in his first evidence, describes the area of the proposed additional storey to be 19,624 feet. He puts down 47s. 6d. Now, if you take 47s. 6d. per superficial foot—that is to say, multiply 19,624 feet by 47s. 6d.—you will find it runs out to the exact figures I am going to quote from a letter written to me by Mr. Houghton, a civil engineer, and one of our best computers:

3rd.—Dealing with superficial feet area, say, for instance, 19,624 superficial feet at 47s. 6d. per foot, the total amounts to £46,607.

That shows you how Mr. Vernon got at his £47,000. He multiplied 19,624 feet by 47s. 6d., and that gives £46,607. In the evidence that he gave he did not state how high he was calculating the ceilings, and I pointed out when I gave my evidence that I could not arrive at how he got at 47s. 6d. per superficial foot. He stated that he was allowing for a building 23 feet high, and in his evidence he also pointed out that he quite agreed with me that 1s. 6d. per cubic foot was ample to cover the cost. Well, if he agrees to 1s. 6d. a cubic foot—which is what I have agreed to as well—that is inclusive of the walls, you have then to find out what it is per superficial foot at 23 feet high. These are Mr. Houghton's figures, which again bear out mine:

You have submitted to me for my correction the following figures, and I find that the totals given by you are correct. They are—1st, say, a building 23 feet high, taking into consideration the roof area —

That means half the roof —

as a portion of the 23 feet at 1s. 6d. per cubic foot, is equivalent to 34s. 6d. per superficial foot,

instead of what Mr. Vernon has put down—47s. 6d. per cubic foot.

2752. *Dr. Garran.*] Those are Mr. Houghton's figures? Yes, and mine too; and they ought to be Mr. Vernon's. If an architect states he has estimated at 1s. 6d. per cubic foot and 23 feet high, he should state what it is per superficial foot. Well, a superficial foot at 23 feet high and 1s. 6d. per cubic foot is 34s. 6d. per superficial foot. For instance, in my estimate I said 1s. 6d. per cubic foot for a storey 20 feet high equals 30s. a superficial foot. Let us see what Mr. Houghton has to say about that:

2nd.—While a similar building 20 feet high at the same value per cubic foot, viz., 1s. 6d., is equivalent to 30s. per superficial foot.

Then he goes on to say:

4th.—19,624 superficial feet, say at a height of 23 feet, at 1s. 6d. per cubic foot, equal to 34s. 6d. per superficial foot, amounts to £33,851.

and £33,851 ought to be Mr. Vernon's estimate for his own building according to his own figures. I tried to explain that, by the way, the other day when giving my estimate. After knowing my evidence, Mr. Vernon distinctly states in his second evidence that he has estimated a building at 23 feet, including the roof. Of course, that meant at 1s. 6d. a cubic foot. Well, he cannot possibly make out more than 34s. 6d. per superficial foot; therefore his estimate must be and should be 34s. 6d.

2753. *Chairman.*] In your estimate of 1s. 6d. per cubic foot, you have allowed for the use of the present roof? Yes.

2754. Now, Mr. Vernon in his evidence, at Question 1940, says that he practically puts on another roof:

It is practically the building of one floor only, with a roof to it, at a cost of 47s. per foot superficial of floor space, whilst the original building cost 27s. 6d. per foot superficial. In that instance we had one building with a number of storeys to construct, over which the roof would be proportionately spread.

Would that account for the difference? No; it could not account for the difference.

2755. In your estimate, you allow for the use of the materials in the present roof; in Mr. Vernon's estimate he provides for a completely new roof? In the first place it could not account for the difference, even if he provided for an entirely new roof, with new slates and new iron; but would it not be ridiculous to provide a new roof when you are carrying up the walls the same width—would it not be ridiculous to provide for a new roof when what you have will fit? All the principals will fit, and all the spaces between the principals; and I am confident, of course, that, even if he did provide for that, and it was carried out, either by day labour or by contract, he would use the same roof and the same iron principals. We are not going to alter the shape of the roof; but in regard to this one storey, we are both going to keep the same roof—we are simply going to lift the roof right up. There is a fine opportunity to do this, as you have a foot concrete of wall and a foot concrete of ceiling. But what I want



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to particularly call your attention to is that I had to assume that this was so-and-so, and that the other was so-and-so, in trying to bring out the estimate at £46,000. If 19,624 feet, superficial feet, is correct—or, as I say, 20,000 superficial feet—and at 23 feet high, and if Mr. Vernon agrees to 1s. 6d. a cubic foot, he should not charge more than 34s. 6d. for every superficial foot, and you have to take the difference between that and 47s. 6d., and that accounts for the difference between Mr. Vernon's estimate and mine, for you have only to multiply 19,624 by Mr. Vernon's figures, and you get his estimate. 2756. But he says that the office floor space that would be gained would be 19,643 feet, and that is exclusive of corridors? But we know that is not so. We know that from a return of the offices. When you have a return of the offices in the Lands Department, you have a return for the first floor, inclusive of the domes.

2757. The actual offices in that top floor occupy a space of 19,884 feet? But in that they included the dome spaces. They do not say "dome spaces," but they include the dome spaces. They mark some "vacant" in the plan.

2758. No, they do not include those? Well, you cannot get 19,884 feet on the one floor without those spaces. It is absolutely impossible.

2759. Mr. Kent says you can get 20,563 feet? Well, if you can get that it will be of so much more advantage in putting another storey on the Lands Office. But if you want to put a storey on the Lands Office, and want to get 20,000 feet, you can do it for £30,000, as surely as I am standing here.

2760. *Mr. Trickett.*] For the purpose of arriving at the superficial area of this proposed new storey, Mr. Kent told us that he measured the extreme outside boundary of the whole building;—did you do that? I measured the extreme boundary of the internal walls of the whole building.

2761. Not the outside? Not the outside.

2762. Mr. Kent said he allowed for indentations on the whole outside area, and then he deducted from that the inner walls, lavatories, and spaces which will not be occupied by building—he absolutely taking the measurements of them;—did you do that? I did not measure the extreme outside.

2763. And you did not measure all the inside building? I measured every inside dimension.

2764. I want to find out if you went to work in the same way, and you do not seem to have done so, for you admit that you did not measure the whole of the exterior? Practically in the same way.

2765. I do not mean practically, but actually;—did you measure the whole of the exterior measurements of the top storey of the Lands Office? No, I did not. I measured the absolute interior from wall to wall.

2766. Therefore, if you measured on the inside you cannot have the exact details of what it would cost to do the outside? I added one-fifth for the walls—I should have said one-eighth.

2767. Surely there cannot be a hard and fast rule like that; the wall might be a plain wall like Goldsbrough Mort's, or it might be an ornate work full of bas-reliefs? Yes, there is a hard and fast rule in cubing a building.

2768. You add one-eighth, not in cost, but in space? It comes in in both ways. I allowed 1s. 3d. for ordinary space, and one-fifth extra for the walls.

2769. *Mr. Levien.*] With all that architectural display on the Treasury building opposite, and there being so many superficial feet inside, how much would you allow for all on the outside—the filigree work, and that kind of thing? In making a cube estimate at any time we base our cube price on the architectural display of the exterior, and what we intend to do. There are some buildings for which you might put down 2s. 6d. a cube foot, or even 3s. 6d.

2770. *Dr. Garran.*] You do not mean to say that a plain stone wall is going to cost as much as a highly ornate one? No.

2771. *Chairman.*] The way I understand the matter is this: You take the cubical contents of a building, and then you add from one-eighth to one-fifth in order to give you the cubical contents of the walls in estimating your cost? Yes.

2772. Then it is quite possible that a building—it might be a plain building—you would put down in your estimate at 1s. a foot? Yes, or 9d. or 6d.

2773. If there were a large amount of embellishment outside, you would raise the price accordingly? Yes.

2774. *Mr. Dick.*] Can you point out in the evidence where Mr. Vernon estimated at 1s. 6d. a cubic foot? Yes. In reply to Question 2398, he said:

When the evidence goes on as regards the cost, I also agree with Mr. Kirkpatrick that the cubic cost of that one storey is fairly put down at 1s. 6d.; in fact, in my evidence I previously stated 1s. 6d. myself, so that we actually agree upon that.

2775. *Mr. Levien.*] What do you think is a fair, reasonable estimate? To take the storey up, I am sure I could get a tender for £30,000.

2776. But how much per cubic foot? 1s. 3d., or, inclusive of the walls and everything else, 1s. 6d.

WEDNESDAY, 26 APRIL, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESEY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Charles James Saunders, Inspector, Department of Lands, sworn, and examined:—

2777. *Chairman.*] What other position have you held in the Lands Department? I was the Chief Draftsman for about nine years. I have been associated with the Department about twenty-five years.

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2778. You have opportunities of observing the work that is going on in the various rooms, have you not? Yes, ample opportunity. 26 April, 1899.

2779. The inquiry which we have now in regard to these public buildings has been brought about in this way: It is found that there is not sufficient room in the present Lands Office building to accommodate both the Mines and the Lands Departments;—what the Committee would like to know is whether you could not economise space a little by somewhat differently grouping the offices; have you gone into that question? I cannot say that I have thought very much of that. You might save a little space here and there, but I do not think you would save enough to be of material assistance.

2780. We will start on the basement;—you have been through the building lately? Yes, since the Under Secretary spoke to me. He said that you had mentioned the matter to him, and he asked me to have a look at the particular rooms you spoke of.

2781. On the basement there are quarters which are allotted to a messenger? Yes.

2782. Would they be fit for offices? I do not think so. I think they are too dark.

2783. The whole of them? Yes, except possibly No. 21, which was designed originally for a kitchen. There was an idea at one time—when the building was first constructed—that dinner for the officers would be cooked there, but it was never carried out.

2784. What about room No. 22—corridor-cleaners' room? That is a room that might be available for a couple of clerks. But the corridor-cleaners have to change their dress when they come in and before they go out of the Lands Office building, and they must have a retiring-room of some sort.

2785. Would you mind explaining to the Committee the necessity for a messenger to live there with his family, occupying all those five large rooms? A good deal of night work goes on in the Lands Department and also in the Mines Department, and there ought to be somebody there to turn out the gas, put out fires, or to see that water does not do any damage in the case of a sudden storm. Our roof is a very defective one—always has been—the drafting-rooms have been flooded on two or three occasions, and if the messenger had not been there at one time we should have lost very valuable plans, which could not have been replaced; the whole place was flooded.

2786. I suppose, if you had a properly-constructed roof, that would do away with the necessity of having somebody there always to watch for you? Yes, from that point of view; but when Parliament is sitting the Minister and the Under Secretary very often want to have access to the offices, and men are constantly working in the office at night.

2787. Do you not keep a constable there on watch all night? He is there; but I fancy he would not shut windows and doors and look after the different things the messenger has to look after.

2788. Do you think it is necessary to have a messenger living there, and occupying all those rooms, for that purpose;—would it not be possible for the messenger also to come back if the Minister or any officer found it necessary to come back in the evening? I suppose it would be possible. But hardly a night passes when the building is not occupied by somebody, and besides that the Messenger's rooms are quite unfit for occupation by clerks.

2789. Not all of them? No. 21 is about the only one I think you could use for that purpose. I went down there on a bright day, and the rooms were much too dark even then for clerks to occupy.

2790. But are there not clerks occupying rooms equally dark? I do not think so.

2791. Take room No. 51—occupied by the Conditional Purchase Branch; are not those rooms as light as that? I do not think they are as light as that, and that is a very poor room.

2792. What about room No. 53, which is marked "Vacant"? No. 53 is equally bad.

2793. I thought that Nos. 51 and 53 were not so well lighted as the rooms in the basement? I think the rooms in the basement are not so well lighted as those rooms to which you refer. I do not, however, say there is much difference between them.

2794. Would it not be possible to utilise those rooms; for instance, take room No. 24—lithographic map stock room—that is a well-lit room? That room is fit for occupation by clerks.

2795. That is a well-lit room? Yes.

2796. It is occupied solely as a stock room for maps? Yes.

2797. Would it not be possible to transfer those maps into one of those rooms which are occupied by the messenger? Yes; I think that would be possible. It would take the maps farther away from the Sales Branch, but not very much farther.

2798. Then room No. 23, also, you use as a lithographic map stock room? Yes, in part.

2799. Would it not be possible to utilise one of those other rooms instead of that one for that purpose? We could put two or three clerks in there; but we should have to move the maps a little further away, and the men who get them out would, consequently, have to walk a little farther for them when they were required.

2800. How much farther? The length of two of those rooms.

2801. They would have to go out from No. 26? Yes—26 and 25.

2802. In going from 26 to 22, how much farther is it than in going from 26 to 24? It is not a great deal farther.

2803. It is a little shorter in distance, is it not? No; I do not think it is shorter. You would have to go to the opening marked on the plan. 2804.

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2804. Take No. 2 room—stores; there is a large room there used for stores. Can you explain to the Committee why you require so much space as 2,791 feet for a store-room there? They do not find that is too large to carry all the stores for the Department.

2805. What do the stores consist of? Poolsap, drawing-paper, and drawing material; all clerical material required, and books of all descriptions.

2806. But in the different rooms occupied by the clerks, do they not keep a stock? Only a small stock for current requirements. They have to make a requisition on the officer in charge of the stores, and he supplies what they want, and enters it in a book, and sends it up to the Branch.

2807. Would it not be possible to keep your bulk stores in the Government Stores Department? I think it will come to that ultimately if the new Stores Department is organised on those lines.

2808. So it would be possible to keep the bulk stock in the new Stores Department? Yes; but that room would not be a good room for clerks. It might possibly be used for something else, and another room be devoted to clerks.

2809. *Mr. Watson.*] Do you know if there is room in the Government Stores Department for the storage of a greater quantity of stuff than they have there now? I understand that ultimately the Government Stores Department, when it gets into proper working order, will do away with the necessity for having separate stores in each Department.

2810. *Chairman.*] There has been latterly a reorganisation of the Government Stores Department? There has been, but they have not taken our stores away. We have had no official intimation that they intend to take them away.

2811. But would it cause any great inconvenience to your Department, if, instead of keeping bulk stock on your premises, you had to send to the Government Stores Department? I think there would be a little more inconvenience.

2812. In what way; you have just said that in the different rooms the clerks keep a stock of stores for current requirements? Yes; a small stock.

2813. It would not make much difference? It would not make much difference, practically. We should have to wait sometimes, I suppose, whilst a messenger brought what we required from the Government Stores Department.

2814. What about the Lithographic Branch; I find that in the basement, rooms Nos. 13, 14, 15, and 16 are used as store-rooms for the Lithographic Branch? Yes.

2815. Have you been through those lately? Yes.

2816. Is there any possibility of saving any space there? I do not think there is. Of course, those rooms were never designed for that purpose. You can store only a limited number of lithographic stones there. You cannot store them more than a certain height, because some of them are very heavy.

2817. Your Department has had some inquiry in reference to the question of removing the Lithographic Branch from the Lands Office to the Government Printing Office? Yes.

2818. Will you tell the Committee the result of that inquiry? It was decided to allow the Lithographic Branch to remain in the Lands Department.

2819. There was a full inquiry into the matter, and it was found that it was more convenient to allow that branch to remain in the Lands Department? Yes.

2820. When was that inquiry made—before the additions to the Lands Office? No; quite recently, after the Branch was established in the Lands Office. Previous to their being in this building, we had a branch building for them in Bridge-street, in a place known as Wolfen's Buildings.

2821. Who were the members of the Committee or Commission who held that inquiry? It was done under the Public Service Board, I think. I believe that Mr. McLeod of the *Bulletin* had something to do with it. I know he made some inquiries.

2822. They went carefully into the matter, and also extended their inquiries into the other colonies? Yes; that was a departmental inquiry into the matter of regrading the lithographic staff, but I do not think it touches on what you are asking about.

2823. Now, on the same floor, take the rooms occupied by the accountants? Yes.

2824. I find four rooms with a space of 1,872 square feet occupied by seventeen clerks, that gives 91 feet per officer;—what do you consider to be a fair space for men doing clerical work of that sort? I think about 75 superficial feet is a fair average space to allow, which would provide space for any necessary furniture, and also for alley-ways between the tables, and all the conveniences required. I mean 75 feet all round. A draftsman wants about 100 superficial feet.

2825. You think that would be ample? I think that is a liberal allowance. I do not think it is a good thing to crowd a staff of men too much, for when they move about they disturb one another in their work, and when they are jammed closely together there is a tendency to talk and lose time.

2826. Have you taken any notice of the furniture that is used in the offices? I know pretty well the kind of furniture that is used.

2827-8. Have you had occasion to go into the Public Instruction Department? Yes.

2829. Have you noticed the desks used there? They have a desk there, with men working on either side of it.

2830. Do you think the introduction of desks of that description would enable the clerks to be less cramped in your Department? I do not know whether it would. There are some branches, such as the Accountants' Branches, where work is entered from one book into another, and men call over from one to another, and in such cases the sort of desk referred to is of great convenience; but in the Lands Department, excepting the Account Branch, the work is different. Each man is on practically an independent basis.

2831. Well, take your Correspondence Branch, or the Branch that is under Mr. O'Dwyer;—do you not think the work could be better done, and with less crowding, if you had desks of that description, instead of those tables? Well, they are not very suitable desks for spreading out maps and such things upon; and in many of the land cases—not in all—there are a good many lithographs that have to be looked at. I think those desks are more convenient for an Account Branch.

2832. Do you not think by adopting more up-to-date furniture than appears to be used in that case, you could economise the room a little? I think you could.

2833. I do not mean you could put more men in that space, but would they not appear to be less crowded? Certainly.

2834. You think they would? I think so.

2835.

2835. How long have you been in the Lands Office altogether? I have been in the present building ever since it was put up. I was Chief Draftsman before the Mines Department came there. They came after we had the addition at the back.

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2836. You cannot speak, I suppose, of the way the officers are accommodated in the Mines Department? I have only a general knowledge of the Mines Department. I would not like to speak about their requirements, although I have been in all their rooms.

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2837. No. 32 is occupied by the Metropolitan Land Board. What work is done there. Is it a room that is used for a great variety of purposes. There is nearly always a board of one sort or other using that room. It is the general board-room of the Department. For instance, stock conferences and a Board sitting under the Public Service Act hold meetings there. The Metropolitan Land Board sit there occasionally. That is why the room is called the Metropolitan Land Board room; but they use it only for a small part of the time.

2838. No. 35—Occupation Branch;—there are twelve clerks there, and 592 feet of space, which is an average of under 50 feet per officer? I have always regarded that room as being overcrowded.

2839. Have you compared it with the other rooms? Comparing it with No. 39, for instance—the big room you spoke of just now—they are both good rooms.

2840. In No. 39 room the average is 62.5 feet of space per man; the Committee visited that room, and it appeared to us that in No. 39 the men seemed to be overcrowded, whereas in No. 35 they appeared to have plenty of room? You have difficulty in walking about in No. 35, and getting to some of the tables, they are so close together. You have to disturb a man to get past him, and it must destroy his efficiency to some extent if you do that.

2841. There did not appear to be so many racks and pigeon-holes in No. 35, and I suppose that is the reason why we got the idea that it was not so crowded; in room No. 47—Conditional Sales Records Branch—there are fourteen officers and 1,534 feet of space;—that makes 109 feet per man? I did not think there were so many men as that in it. There is a trouble you cannot get over here. Branches are of certain sizes, and you cannot put the men of two Branches in one room; so one Branch may not actually fill up a room, as in that case, whilst in another room, No. 35, you have to put more men than you would like to have there, simply because you cannot extend or alter the rooms.

2842. That is on account of the width of the room, I suppose? I dare say that has partly to do with it.

2843. There is room No. 51—Conditional Purchase Branch—with no one in it, and with 351 feet of space;—would it not be possible to remove the contents of room No. 51 into room No. 47? You might possibly do that.

2844. You would not thereby increase the number of officers in the room? No.

2845. Then there is No. 50—Registration and Transfer room—1,541 feet, and thirteen men, giving 119 feet per man? Yes.

2846. Then there is room No. 52—Alienation Branch? That is an overcrowded room.

2847. 648 feet, and the same number of men, which gives 50 feet per man;—what is the difference between the work in the two rooms? In No. 50 there is a very large number of registers. All the conditional purchase registers are in that room, and there has to be a large desk down the middle of the room, with the registers stored underneath on rollers. The registers are taken out and put on the top of the desk. There must be a large space, in order to open them out for reference purposes. The clerks are constantly referring to them, and they do not know where they will have to pull out next from.

2848. You require extra space in order to exhibit maps and that sort of thing? No, to use the registers. But No. 52 is distinctly overcrowded. They have hardly room to turn round in it.

2849. In room No. 54—Conditional Lease Branch—there is an average of 162 feet per man? In regard to room No. 52, I think that they have some of their records in the room opposite marked "Vacant." Looking at the plan of 54 and 52 again, I see that there is only a temporary partition between them. That is a rather convenient arrangement, for the Conditional Lease Branch is becoming smaller, not so many new leases are being taken up, whereas the other Branch is increasing, and if there is only a temporary partition it could be moved back and thus accommodate the two Branches better.

2850. Have you been through with a view of seeing whether it is not possible to save space by grouping officers in different rooms? I do not think you would save very much. Of course, in grouping the officers, in the first instance we were careful to get the Branches dealing with the same kind of work—the Branches associated with each other—as nearly as possible together. We tried to get all the Drafting Branches on the same floor, and they nearly all are. We did so, because these Branches are constantly using the same maps and plans.

2851. Take the Chief Surveyor—he occupies rooms Nos. 67 and 68 on the first floor? Yes.

2852. There are 773 feet altogether in those rooms? I know that the small room, No. 68, which is marked "Chief Surveyor's private room," is always used by any district surveyor who happens to be in town. He makes that room his head-quarters. It is rather convenient to have that room available, because a District Surveyor or Chairman of a Local Land Board visiting Sydney has no other place in which to write his letters, or do any business which he may have to do in Sydney. But I do not know that Mr. Twynam could not do with a smaller room than No. 67. He would probably be able to tell you more definitely about that.

2853. Would not No. 68 be large enough for the chief surveyor? I do not think it would be large enough. It might be with No. 69. No. 69 is a room we once used to occupy, but which we gave up to the Mines Department.

2854. The same thing has struck me and other Members of the Committee, I think, namely, that a lot of space might be made available if the planning of the building were different. Can you give the Committee any idea as to the wisdom of making the rooms so wide? You mean the general space between the corridor and the outer wall. If that is too wide, when you come to design rooms for one man each, they are far too long, and you have a lot of waste space. It answers very well in the upper floors where you may have two rows of draftsmen, one down each side of the room, and a gangway down the middle of it.

2855. Do you think that that would account for the apparently large space occupied by certain officers? To some extent it does.

2856. Take Mr. Stopp's room, for instance, No. 101, on the second floor? Yes.

2857. He has his officers occupying No. 100? Yes.

2858. There are ten men in that office with 220 feet per man? Yes.

2859.

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2859. Would it not be possible for Mr. Stopps to move into No. 100? Yes; they might fence off a little piece for him.
2860. Would there be any advantage in shifting Mr. Stopps in there? He is the head of the branch—the head of the administrative work. He interviews the public, and deals with the public generally. He has a man under him, Mr. Winder, who looks after the discipline of the room. You would not gain anything much in the way of supervision by bringing Mr. Stopps into that room—you would simply gain a room.
2861. A large partition run part of the way up would give all the privacy necessary, I suppose? Yes.
2862. Do you think that 220 feet per man in that room is more than is actually necessary? Yes. It is partly explained by the fact that the road plans are much bigger than ordinary plans, and there must be larger presses to put them in.
2863. I suppose that is the only room available for that purpose? It is the only space available—but they have more than the average by a great deal.
2864. The proposal is to remove the Mines Department from the present Lands Office building;—have you had any experience in reference to the necessity of separating these Departments? When I was Chief Draftsman, and the Mines Department was in Phillip-street, it was a constant source of inconvenience to us through our plans going out of the building. The Mines Department uses our original plans and maps to a very large extent. They are constantly borrowing and using them, and if we wanted a map a man might have to go to the Mines Department for it, and lose much of his time; or perhaps an inquiry might be made of the Information Bureau, and they might send for a map, and find it away in the Mines Department. So it was a great relief to us when the Mines Department were removed into the same building as we occupy.
2865. You think that in working the office it is better to have them there? Yes.
2866. And also from a public standpoint? Yes.
2867. To have both Departments under one roof? Yes. I think those two Departments are more closely associated than any of the others.
2868. Then, from either the public or the official aspect of the question, you think it would not be better to put the Mines Department in a separate building? I think not.
2869. I think you said something in reference to the roof leaking? Yes.
2870. Does that often occur? It does in heavy rainy weather, after a long spell of fine weather. Some of the down-pipes become choked in some way or other. We clear them out periodically, and endeavour to guard against it, but the roof has always given us a certain amount of trouble.
2871. How would you regard the proposal to put another floor on the top of the present Lands Office building;—that would necessitate something being done to the roof? Would it necessarily alter the roof plan.
2872. It would necessitate taking down the present roof and rebuilding it? And I suppose you would leave off those galleries on the top, for they would not be wanted.
2873. Yes? At one time we thought we should do all our photographing in the Lands Department building. We draw our maps and print them, and we thought we should do the photographing as well there, but it was found more economical to have it done at the Government Printing Office.
2874. So you do not use those galleries? No, and I do not think we have any intention of using them.
2875. Do you use the dome? The lower part is occupied by draftsmen, and in the top part we have a lot of old records and maps, which are not wanted very often. They could go downstairs into some of the basement rooms.
2876. If another floor were put on the present Lands Office building and the Mines Department could be accommodated there, do you think that it would be of public convenience? I think so, because very often the same people go to the Mines Department as to the Lands Department.
2877. *Mr. Trickett.*] According to figures submitted to us the other day by the Chairman, in the basement of this building there is a total floor-space of 13,637 feet, the total floor-space on the ground-floor is 17,070 feet, the total floor-space on the first-floor is 16,534 feet, and on the second-floor 19,884 feet, and under the dome 2,989 feet; I make the total of those measurements 69,114 superficial feet—that is, the space in the whole building? Yes.
- 2878–9. Well, according to the figures which we get from the plan which you have been quoting from, out of that 69,114 feet of floor-space, 4,272 feet are devoted to store-rooms; does not that seem a very large space for that purpose? Yes; but that includes the lithographic stones room.
2880. Is No. 2 room on the basement—807 feet—for clerical stores? Clerical and drafting stores for the whole of the Lands Department.
2881. This room, I suppose, is not much larger than that? I think this is a wider room. I think that room is about 40 feet long.
2882. It must be 40 feet by 20 feet? Yes, about 40 feet by 20 feet.
2883. Does not that seem rather a large room for a store-room, assuming that you have store-rooms on the other floor? We have no other store-rooms for that particular material. That store-room is a general store-room for drafting and clerical stores.
2884. Well, granted that that room is for clerical stores, is there another similar room for similar material on the ground-floor? Not that I know of.
2885. There is a room 503 superficial feet, and another room 471 superficial feet on the ground-floor? No. 40 is vacant at present.
2886. It is marked on that plan as a store-room;—you say it is a vacant room? There are some Votes and Proceedings and that sort of thing round the walls, but I do not know of any other stores that are kept there.
2887. Then No. 53 is marked as a store-room, too? I think that in No. 53 there are mostly records belonging to the branch in room No. 52.
2888. But you have a large record-room on that floor? Yes. Our records are very numerous.
2889. *Chairman.*] But you are removing a number of them into the strong-room? A great number of them. They have to be frequently referred to.
2890. *Mr. Trickett.*] With regard to those two rooms on the ground-floor, you say that one is empty with the exception of containing a few Votes and Proceedings;—what fills up the other one? No. 53, I think, holds papers and records belonging to No. 52.
2891. Is it full? I would not like to say it is full. I have not been in it within the last month or so.

so. It is a very dark room. We had two men working there at one time, but they really could not do so properly, and we had a device constructed outside in order to try and reflect some light into the room, but it did not have the desired effect—the men had always to have gas burning.

2892. And on the first floor there is a store-room—No. 70—containing 570 superficial feet? That is in the Mines Department, and I do not know anything about it. I think it is their stores, corresponding with our No. 2, down below.

2893. Well, apparently, the store-rooms you have mentioned are not over-taxed at any rate? Those other rooms, I suppose, will be the lithographic rooms. Those are in the basement. I know that in No. 13 we keep our stocks of lithographic printing paper.

2894. In the basement, independently of the large room—807 superficial feet—there are four other store-rooms;—are those fully occupied? Those containing the lithographic paper, lithographic stones, and the printed lithographs are all full.

2895. They are taxed to their full extent? I think so, but I do not say that the contents of those rooms could not go into a much smaller space in a more convenient room.

2896. They could? I think so. I daresay there could be some contrivance for the lithographic stones, so that they could go into a smaller space. We use those rooms for that purpose, as they are not fit for anything else.

2897. Then do I understand from you that if this Lands Office building had been better designed, there would have been much more accommodation there? I think so; that is the general experience.

2898. There are some other figures to which I should like to draw your attention;—on the various floors of this building, I have added up the spaces that are occupied for stores, machinery, messengers' rooms, map stocks, and records, and I find they total 19,828 feet, so that out of a building whose total office accommodation is 69,114 feet, no less than 19,828 feet, or about two-sevenths of the whole space, is occupied for stores, machines, messenger's rooms, map, stock, and records;—does that not seem a very large proportion indeed? Yes; I think it is too large a proportion.

2899. Is there not some way by which that space could be more economically used? I am afraid not, without reconstructing the building.

2900. As the Chairman has pointed out, over 2,200 feet are occupied for the messenger's accommodation;—does not that seem a very large space for that purpose? The rooms are far too large for the messenger. He could do with smaller rooms, but the rooms are there. He has to have separate bed-rooms for himself and his daughters, of whom he has two. He, however, could do with smaller rooms, and he would be satisfied with smaller rooms, for his present rooms are too big for him, but I do not think they could be used for anything else. The Under Secretary asked me to mention that he is very strongly in favour of having a resident messenger—a man who will always be on the premises. Perhaps, I ought to have said this before.

2901. Do you think that the available space in this building is utilised to the best advantage by the two Departments that now occupy it? I think it is, in the main.

2902. Have you been through the Mines Department? Yes.

2903. Have you seen the correspondence-room there? Yes.

2904. What do you think of that as a modern style of carrying on an office with those old-fashioned tables and cupboards? They have to put up with the furniture they already possess, to a large extent.

2905. Do you not think there is a great deal of space there taken up by that which could be better arranged if the furniture were of a uniform and modern character? I dare say there is.

2906. Information has come from the Chairman of the Public Service Tender Board to the effect that the Government Stores Department is to be reorganised with the view of removing the bulk of the stores, stationery, &c., from the Departments, and issuing them only when they are wanted for immediate requirements, leaving the rest in the stores of the contractors to be obtained as required;—if that is carried out, will not that relieve the Lands Department considerably of the stores now piled up in the Lands Office building? I think it would relieve them only of the stores in No. 2 room in the basement. The lithographic stones, of course, we could not let go away.

2907. I do not mean the lithographic stones, but would not the ordinary store-rooms be available for other purposes? The lithographic stores would have to remain with us—that is, very large stocks of printing and drawing paper—it would not do for them to be taken away from us.

2908. But those are in four rooms, independent of the 807-feet room? Yes, quite distinct from it. No. 2 room is the only one we could spare under those conditions. The Mines Department might, perhaps, spare the store-room upstairs.

2909. I suppose if the Mines Department were moved away from the Lands Office building, you would manage to fill the whole building with your present staff? I do not think we could.

2910. Would you have considerable vacant space if they did go? Necessarily so.

2911. Therefore, if new buildings were provided for the Mines Department, there would be a very considerable amount of space unoccupied in the Lands Office building? Yes.

2912. *Dr. Garran.*] Did the Lands Department ever have to themselves the whole of the Lands Office building, old and new? No; they did not.

2913. You had the original building all to yourself? Yes.

2914. The Mines Department came in just after the new building was finished? Yes.

2915. Did they turn you out of rooms you had previously occupied? No; but some of the rooms upstairs were occupied temporarily by the land-tax staff when the land-tax was first brought into operation.

2916. Well, the Mines Department coming in did not crowd you up any more than you were crowded before? Not to any appreciable extent.

2917. We have been led to understand that the Mines Department have crowded you,—is that so? I was in charge of the drafting branches. I had not the clerical branches under me, and, speaking from my point of view, I do not think that the Mines Department coming in made much difference. The Mines Department may have occupied some of the strong-rooms that the Lands Department would have liked to have had.

2918. I understood there had been a complaint by both Departments—first on the part of the Mines Department, that they had not room enough; and secondly, on the part of the Lands Department, that the Mines Department coming in had squeezed them? Of course you can look for that sort of thing when you have two Departments occupying the same building.

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2919. That is one of the disadvantages? Yes; unless one Department can be given a whole floor, so that there can be no possibility of misunderstanding as to which is their territory.
2920. Is there in the Lands Office part of the building no single room that accommodates more clerks than before the Mines Department came in? I am not sure whether that is the case or not; but it certainly is not to any extent.
2921. I think Mr. Rennie said that if the Mines Department went out the Lands Department could occupy the whole of the building, except thirteen rooms; if that is the case you would have to spread out a good deal to occupy all the building except thirteen rooms;—that would seem to imply you are not squeezed? In those individual cases, I have already pointed out the men are cramped; but their getting rooms on another floor would not be of use to them. You could not have part of the branch upstairs and part of it downstairs.
2922. Then, so far as you are concerned and know, the Lands Department do not want to expand their present accommodation at all? I do not think they want to expand it very much.
2923. So that the departure of the Mines Department would not be any relief to the Lands, so far as space is concerned? It might in some small ways, but I do not think it would make much difference.
2924. Not material? No.
2925. You have given one instance in which it is convenient to have the two Departments under the same roof;—how often does it happen that you want to refer to one another's plans? Constantly.
2926. Once a week? Every day. The Mines Department men use our maps as much as we do ourselves, except that there are fewer of them.
2927. Do they take a tracing of them, and then return the maps to you? No; they borrow the original maps, and our original plans as well.
2928. Could not you, with your lithographic apparatus, give them a copy instead of sending the original plan? They always get lithographic copies. But the maps referred to are those we keep charted up to date, and when examining new surveys nothing but the original plans are of any use.
2929. Then, in regard to all new leases taken out, do you chart them first? No, they do the charting; but they chart them to a large extent on our maps.
2930. Then two sets of charting men work on the same plan? Practically, the Mines charting draftsmen and the Lands charting draftsmen.
2931. Would it not be rather difficult to say who made a mistake, supposing one were made? We could easily tell by the plan itself which branch charted it. The Mines measurements are charted in a distinctive way on our maps.
2932. If this projected building were carried out, you would have the Mines Department close to you—only just across the street; it would not be like having to go up Phillip-street? It would not be so bad, but it would be inconvenient. It would mean a man having to go down a lift and walk up the street, and then, perhaps, wait for another lift to take him up to the top of the other building, because usually the draftsmen are on the top floors, so as to get the best light.
2933. So far as your observation goes, has there been any inconvenience from putting the two Departments in the one building? I do not know of any particular inconvenience; but a little feeling occasionally arose when we were occupying parts of the same strong-room.
2934. Do you have altogether separate floors from the Mines Department? Not altogether. The Mines Department offices are mostly on the first floor.
2935. Then how do you arrange about the strong-room, where you are on the same floor;—do both Departments have access to the same level of the strong-room? Yes.
2936. And do they divide the space between them according to agreement? That has been the arrangement. I do not know whether it stands good now.
2937. Has there not been some chafing between the two Departments about that distribution? I do not know if there has been any actual chafing about it. Mr. Wilson said that he should like to have all the strong-room for himself, if he could get it—he had plenty of papers to fill it.
2938. Which Department has the greater demand on that strong-room—the Lands or the Mines? The Lands has, by far.
2939. The Mines Department has not anything like the same space that you have? No, they have not asked for it.
2940. What sort of documents does the Mines Department principally keep there? I do not know.
2941. Does the Mines Department keep its maps of lease areas for mining purposes? I do not think so.
2942. Supposing they were burnt, would the Mines Department be inconvenienced? Yes.
2943. Do you keep your maps in the strong-rooms? All the original surveyors' plans. We have a separate map-room, No. 96, in which we keep all our working maps.
2944. Supposing one of the Mines Department maps which they were keeping charted up to date were burnt, could you replace it for them? It could be replaced, for in our local offices we have another set of maps which are used in dealing with all new applications for land.
2945. District offices? Yes.
2946. Do they chart all the mining leases? Yes, they chart everything, because they deal with fresh applications for land, and have to settle the details.
2947. They have to do that in order to prevent people from settling on mining leases? Yes. I think a map could be replaced if lost at either end. We have had cases where maps have gone astray, and we have been able to replace them. If the Mines Department were to keep a separate set of maps it would mean that they would have a separate staff of draftsmen who would chart up information from our maps.
2948. And, perhaps, within an hour after they had borrowed your maps you might want them yourself? That is what happened when the Mines Department was in Phillip-street. A man would come to the Information Bureau and ask to see a certain map, and he would be told that it was in the Mines Department office, and he might have to wait until it was brought back.
2949. Would it not be a simpler plan for each Department to have the maps charted up each week? It would be too expensive. There are about 5,000 parish maps which we have to keep charted up. Of course, the Mines Department would not use a number of those, as mining is confined to certain localities; but, still, they never know which one they may want.
2950. Is the whole of the second storey occupied by the Lands Department? Yes, excepting one corner where

where the Geological Branch is. That was our grouping of the branches. We brought all the drawing branches on to that one floor, with the Plan Record Branch in the middle.

2951. Except for the Geological Branch, the Mines Department do not touch that floor? In addition to the Geological Branch, Mr. Pittman, the Government Geologist, has one room, but all the rest belongs to the Survey branches.

2952. What do the Mines Department occupy on the first floor? I think they have about four-fifths of that.

2953. They have the greater part of the first floor and one corner of the second? Yes.

2954. And that is all they have? I think that is all they have. The plan-mounter has a piece of one of the galleries on the top.

2955. And if they were turned out into some other building you would have available for yourself the greater part of the first floor, and the Geological corner of the second floor? Yes.

2956. And you could not usefully fill all those spaces too? No.

2957. But when that addition to the Lands Office was made, was it made with the view of putting in a new Department or for an extension of the Lands Office accommodation? I fancy the original idea was to put another Department in.

2958. Then it was not an after-thought to bring the Mines Department in on the top of the other—it was intended originally? I fancy that was the original design.

2959. They were turned out of the old Phillip-street office rather in a hurry, were they not? Yes. I do not know what the reason for it was.

2960. Then, so far as you know, the Lands Department are fairly quartered at present, and have not any great requirements? I do not think they have any great requirements.

2961. The only fault that you can find with the office accommodation is that the rooms are not as well designed as they ought to have been? They are not. Some of them are too large, and some are too small, and some are so dark that they cannot be used.

2962. And those are defects which you cannot now very well remedy? I do not think we can remedy them very well under present arrangements.

2963. The darkness of the inner rooms arises, I suppose, from the strong-room being built up there? I understand that is partly the reason for it. The building was originally designed with an open courtyard.

2964. Still, that strong-room is very convenient there? Yes.

2965. You could not have it more conveniently placed? No.

2966. And there is not such inconvenience to any part of the Lands Office as to call for reconsideration of the distribution to see if you could not make a better adjustment of spaces? There are some of these branches which we should like to readjust if we could, but we do not think we could do that without altering the building.

2967. At any rate you cannot afford to give up any more room to the Mines Department? I do not think so.

2968. They speak as though they would like a little more; you have nothing to spare for them? Nothing that they would care to accept.

2969. You could not possibly find them room for their museum in the building as it stands? I do not know what space they require, but I do not think we should be able to. I suppose they would not go into the messengers' quarters.

2970. They do not want the museum to be broken up into a number of little rooms, but to have a large room, and you have not that to give them? No.

2971. Then while you are contented, there is some room for discontent on the part of the Mines Department? I dare say there is.

2972. The discontent with the present building does not spring up with your Department, but with theirs? I think so mainly.

2973. *Mr. Levien.*] I suppose you do not know whether, before the additions to the Lands Office building were made, the plans were submitted to you for your consideration, and whether you thought they properly provided for the officers? At that time I was not in a sufficiently responsible position to be asked about that sort of thing.

2974. Now that you are in a sufficiently responsible position, what do you think ought to have been done in the matter of the arrangement of rooms and everything else? These basement rooms, as far as I can see, ought never to have been finished off in the style they are in. They are all finished off as if they were going to be occupied by clerks.

2975. *Chairman.*] Does the general design lend itself to an economical distribution of space? No; we do not get the full advantage of the space at our disposal; we cannot make the best use of it.

2976. *Mr. Levien.*] You consider that the Mines Department and the Lands Department should be under the same roof? I think they always ought to have been under the same roof.

2977. And now the question is being considered, do you not think that the Lands Department and the Department of Mines and Agriculture ought to remain under the same roof? I think they ought to do so.

2978. And they could? If it were all well-lit floor-space, the floor-space already at our disposal, we could accommodate both Departments in the Lands Office, except in regard to the museum, about which I do not know sufficient to express an opinion. They seem to want a large space for the museum.

2979. But supposing a new storey could be put on top of the present Lands Office building, and it was a well-lit storey, you think you could meet all the requirements of the two Departments in that one building? I think so.

2980. If they had a lofty style of building, well lit on the roof, do you not think that would meet all requirements? I should think it ought to.

2981. And be an improvement on the present broken up spaces that are there, including the dome? We cannot utilise the space in the dome or the galleries. They are of no practical use now, and I think they help to make the roof leak.

2982. And they are very hot, are they not? Yes. Men could not work in the galleries. You could not turn them into offices; they are not intended for men to work in.

2983. Have the Public Service Board ever considered the question of utilising space at all in regard to the number of clerks to be put in certain rooms, or have they considered only other matters? I have not heard of their considering that question at all. I think they leave those matters to the permanent head of the Department, and regard it as part of his responsibility.



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2984. They do not consult the Department in any way on that question? I have never heard of their consulting the Department on that sort of question.

2985. They do not seem to have rendered the Public Service Board any assistance in the way of utilising space in the Government buildings; do you know of any? I would rather not put it in that way. I would rather say that I think they leave those matters to the permanent head of the department.

2986. You say that with judicious care and management both the Lands and the Mines Departments can be accommodated under the same roof without any great difficulty? I think that would be the most convenient arrangement.

2987. That is to say, taking away the dome, and having proper lighting arrangements and whatever else is necessary for the preservation of health, you think that that could be done? I do not see why it should not be done.

2988. *Mr. Shepherd.*] With regard to the stores, for what period do you generally take in stores for the use of the office? I suppose they get in a half-year's supply.

2989. Not more than a half-year's supply? I should think not, except certain kinds of drawing materials. Some material may have to be purchased from England, but of the ordinary stores I should think they would not have more than six months' supply in.

2990. Would it be much inconvenience to the Department if a large portion of those stores were located elsewhere, that is to say, if you were to get a month's supply at a time into the building—that would considerably reduce the space required for the stores, I should think? Yes; you could do with a smaller space then.

2991. And it would not cause much inconvenience I should think? No. It only means sending up to the Stores Department wherever it might be, and I suppose it would be ready to supply us at any time we might want stores.

2992. Has there been much expansion in your Department of late years? No.

2993. Is there likely to be in the future? The only think I know of, at present, is in connection with the Advances to Settlers Board. I think they are looking for offices outside at the present moment. There is no accommodation for them in the Lands Department building, and I have heard unofficially that they are looking outside for rooms. It is impossible to say at this stage whether that would ever be a large branch or not. They may do with a few clerks for the present.

2994. Do you think the fact of Federation being brought about would have any effect on the staff of the Lands Department? I do not think it would.

2995. The same sort of work would still have to go on? Yes; we should have our separate land laws, and should go on under the same conditions as regards the land, I suppose, as before.

2996. With regard to the dome—that is not fully utilised, I suppose; you say it is almost uninhabitable; at all events we have had evidence to that effect? There are men working in the lower part of it. There is Mr. Perdriau in one corner, and four or five draftsmen in the other corner, and a plan-mounter takes one piece and the heliographic printer's room another.

2997. Are those rooms constantly occupied? Yes.

2998. Is the whole of the dome space utilised? Yes. The flats above are used for storing records and old things in—things of no particular value. They are not occupied by men. I do not know the exact number of men on the lower floor.

2999. I think you have already said you think the dome could be done away with? So far as a place for working in is concerned. It is of no convenience as a place to work in. I think it would be rather a dangerous place in the event of fire.

3000. *Mr. Watson.*] I think you said it was a matter of mutual convenience for your Department and the Mines Department to be in the same building? Yes.

3001. I presume you are aware that the Mines Department has a desire to have all its branches under one roof, which is not the case now? Yes, I can quite understand that.

3002. Which do you think would be more in the public interest—the gathering together of all the branches of the Mines Department under one roof, or the keeping of the Mines Department in close touch with the Lands Department; supposing we were reduced to the two alternatives—I do not say it is so—which do you think would be the better in the public interest? So far as the Mines Department is concerned, I think the outlying branches now are the Museum and some of the Agricultural branches.

3003. The Chemist's Branch, the Stock Branch, the Export Board, the Wine Experts, the Dairy Expert, and the Pathologist, and quite a number like that—I cannot enumerate them all at the moment—occupy rented buildings; which would be more in the public interest, the gathering of all the branches of the Mines Department under the same roof, and thus helping the economy of their administration there, or, on the other hand, the keeping of the Mines and the Lands Departments in close connection, so far as the building will allow;—which would result in the most economical administration of that portion of the Civil Service embraced in those two Departments;—supposing you were the officer charged with the general direction, would you sooner have the Mines and the Lands Departments in conjunction to the extent they are at the present time, and your present building will allow, or would you rather take the Mines Department away a little distance from the Lands, and gather the whole of the Mines branches under one roof? Looking at the matter from a public point of view, I think it would be more advantageous to have the whole of the Mines branches together.

3004. Do you think greater economy of administration would result, or that the advantage would be greater, from having the Mines Department branches altogether under the one roof, that is, as far as they could be put together under one roof—leaving the crushing plant out of the question—than it would be to have the certain amount of convenience which results from the Mines Department being close to the Lands Department? Yes.

3005. At present the conjunction of the two Departments relates mainly to papers? To papers and maps, the use of maps more particularly.

3006. Well, would the divorce, so to speak, of the Mines and the Lands Departments result in any very great inconvenience or expenditure in regard to the preparation of maps? I think it would result in great inconvenience.

3007. That is, the work of one Department might be delayed a little? That was our experience while the two Departments were separated.

3008. But if the matter resolved itself into an alternative between, on the one hand, keeping the Mines Department

Department where they are, and doing without the gathering together of the various branches, or, on the other hand, the possibility of removing the Mines Department away a little distance, and keeping the branches together, you would prefer the latter? Yes, looking at it from a public point of view.

3009. In the space spoken of a little while ago as being set apart for stores, I thought there was included in that category the space which is really occupied by lithographic machinery, stones, and so on? Yes.

3010. You do not think it is practicable to make any saving in regard to that? No; but we might put the lithographic stones in a smaller space than they occupy now.

3011. Do you speak from knowledge, or merely as a matter of opinion, for I understand it is not a wise thing to stow lithographic stone in the same way as ordinary lumber? You could not do it. They must stand up in racks.

3012. Therefore they take up a greater amount of room than might appear to the outside eye to be necessary? They do; but they occupy more space now than is necessary. If you were designing rooms merely to suit lithographic stones and machinery, you could do it in a more compact way than is done there. But we had the rooms already, and had to make the best use we could of them. They were never designed for the purpose. When the building was constructed, it was supposed that these rooms would be suitable for clerks—at least I should say so, judging from the fittings, because those rooms have the same cedar fittings as the other rooms.

3013. So you do not think that a great saving could be effected in regard to that storage accommodation? No; you would have to give us other accommodation for the lithographic stones.

3014. And I think it is practically agreed by those concerned that you could not economically have that particular branch of your Department under the control of the Government Printing Office? It has been decided to be more convenient on the whole to allow it to remain where it is.

3015. So we may put aside the other suggestion? Yes.

3016. You said, I think, that the space which you thought would be a fair amount to allow for a clerk was 75 square feet superficial? Yes.

3017. It has been given in evidence before us by Mr. Kent, Mr. Kirkpatrick, Mr. Vernon, Mr. Manson, all of whom are architects, that a proper allowance—evidently arrived at by a consensus of opinion of architects everywhere—would be 100 square feet superficial for a clerk? Yes.

3018. You are of opinion that is rather much? Yes, in a building like ours. The rooms are very lofty, and, as far as I can judge, we can get on in most of the branches with 75 feet—I think 75 feet is a liberal allowance.

3019. When you say that, do you have regard only to the possibility of moving about without loss of time, or without friction, or have you regarded the health aspect of the matter? I have looked at it from all points of view. With those lofty rooms, I think 75 square feet superficial is ample.

3020. Assuming that is a proper allowance for a clerk, still, if you allow a separate wide room for the Minister, and separate rooms each for the Under Secretary and a number of heads of branches, then necessarily the extra room which they have must go very largely towards making up the general average allotted to each officer, and you must increase the general average in order to allow the clerks 75 feet each, after deducting what is given to heads of branches? I did not include in my estimate heads of branches and people who occupy separate rooms; I merely meant the persons doing ordinary clerical work and sitting together in branches.

3021. If you allow 75 square feet superficial for each clerk, then naturally the average for every individual in the building should be very much higher when you make allowance for heads of Departments, waiting-room, strong-room, and so on? Yes.

3022. *Chairman.*] On the second floor, in regard to room 94—feature survey and standard map room—508 feet, would it not be possible to utilise one of those other rooms, which you say are rather dark, to put those maps in, instead of room 94? Those are the standard maps belonging to the compiling branches in rooms 91, 92, and 93. They must have their standard maps very close at hand, for when compiling they have to refer to adjoining maps; those are the original compilations from which they publish additional maps from time to time; the room is not light enough for a drawing-room—you could not put draftsmen there.

3023. Do they do any drawing in there? No; it is not suitable for draftsmen.

3024. There is only one man there? Yes, the custodian of plans and maps.

3025. So far as light is concerned, it is good enough for clerical work? Yes; it is quite light enough for clerical work.

3026. As regards room 96, map-room, 860 feet? Yes; that is the general map-room for the charting branches; that is where we keep the original maps used by the charting branches of the Lands and the Mines Departments.

3027. Could they not be removed to some other room? I do not think there is any other convenient place we could put them in.

3028. Would it not be possible in the compiling branch rooms 93 and 95 to put the maps round the walls? I do not think so; those rooms are pretty full of draftsmen. In 93 there are thirty or thirty-one men, and they have a little less than the average amount of space—about 90 feet—and in 95 there are 24 men with 100 feet per man.

3029. There is a urinal on each side of the central building;—would it not be possible to convert one of those urinals into another lavatory? I think we might. If large bodies of men work together, as on this floor, we ought to have lavatories at both ends of the building. It would lead to a waste of time if you had only one lavatory, and all the men had to go there to wash.

3030. But they are in the centre of the building, both of them? Well, one is on one side, and another on the other.

3031. With a sort of flying corridor or gallery? Yes; they can get access easily from one to the other. The draftsmen have to use the lavatories a good deal.

3032. *Mr. Dick.*] We have it stated in evidence that if the Mines Department leaves the Lands Office building there would then be available thirteen rooms for any other Department, which the Lands Department itself would not require;—does that statement take into consideration the fact that the Department is desirous of having a timber museum in its main building? I do not know anything about that. I know it has been mooted. Mr. Wilson got particulars about that; but I know nothing of it.

3033. *Chairman.*] You said you thought it would be in the public interest, rather than have the Mines Department

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Department Branches scattered, to have that Department in a separate building; supposing the Mines Department could gather in its scattered Branches under one roof by our putting another storey on the present Lands Office Building;—how would you view that? That would be the very best arrangement that could be made, so far as the convenience of the two Departments is concerned.

3034. And the public? And the public, undoubtedly; but I understood Mr. Watson to say, if one or the other had to be sacrificed, which would be of the greater public importance to preserve.

3035. *Dr. Garran.*] There is no upstairs room that you are using for stores which you could clear out and make useful for clerks, you sending your stores down to the basement? I do not think so.

3036. *Mr. Shepherd.*] I see that your estimate of space is supported by your Chief Draftsman, Mr. Rennie. In answer to a question he said:

A draftsman, we reckon, should have 88 square feet.

And the next question was:

As a rule, a draftsman, I suppose, requires more space than an ordinary clerk? Yes, he does.

So that would bring it to about your estimate of 75 feet for an ordinary clerk, and 100 feet for a draftsman? Yes; I think a draftsman should have about 100 feet.

3037. He says 88 feet? There are some large rooms which cut up to greater advantage than others, and where 88 feet might be sufficient.

3038. *Chairman.*] You were formerly Chief Draftsman, and therefore you can speak with authority? Yes; I was Chief Draftsman for nine years before Mr. Rennie took charge.

Robert R. P. Hickson, Chairman of the Public Service Tender Board, sworn, and examined:—

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3039. *Chairman.*] A point came before the Committee with reference to the large space occupied in the present Lands Office building by stores;—what is being done towards reorganising the Government Stores Department;—can you inform the Committee? I have had the matter very fully investigated with regard to all the branch stores, and my Board are very strongly of opinion that those branch stores should be practically done away with.

3040. That is the branch stores in each Department? Yes. I may say that the Department of Public Works had a branch store in which there were three clerks, and I have done away with that altogether, and sent down all the forms, &c., we kept there to the Government Stores Department where they are kept and issued without any additional assistance, and the Public Works Department has got a room to the good. The same thing, I believe, should be done in all the Departments, and a very strong recommendation to that effect has gone to the Treasurer.

3041. So that, instead of each Department having rooms occupied with paper and envelopes, and other stores, they will just be supplied with sufficient for current requirements? Yes.

3042. And then requisition the new Stores Department for further supplies? Yes, as required. And as far as the Government Stores Department itself is concerned, our policy is to reduce as much as possible the quantity of stores kept there in bulk, making the annual contractors the storekeepers. So by bringing in these branch stores we shall not require any additional room at our present Government Stores Department, nor yet any additional staff.

3043. Do you know whether there is any proposition to erect a new Public Library? It is just mooted; nothing has come of it yet.

3044. You have not decided anything? Nothing decided yet.

3045. You could not say whether it is likely to be proceeded with? I could not say at all; it entirely rests with the Minister for Education.

3046. Has it been stated that there is not sufficient room for the Library in the present building? In connection with the donation of books by Mr. Mitchell it has been stated that extra accommodation will be required somewhere.

3047. Is there a proposition to erect new buildings for the Registrar-General's Department? That also is mooted, but there is nothing definitely settled about that either. I could let you know exactly, if you like, how both those matters stand, at least so far as the Public Works Department is concerned.

3048. Has there been a strong requisition from the Registrar-General's Department for extra space? There has been a requisition for extra space. I do not know whether it is very strongly worded or not.

3049. Are there any other buildings that are in contemplation? I do not think so.

3050. *Mr. Watson.*] Do you say that the concentration of stores of the character used by the several Departments in the present Government Stores Department proper would not necessitate extra space there? I do not think so.

3051. You think their present accommodation would be sufficient? Yes; for the reason that we are reducing the bulk stores there.

3052. Do you think that it is an economical plan to reduce the bulk stores? I think the proper thing is to make the annual contractors our storekeepers as much as possible, we keeping only a small quantity for the general work of the Departments.

3053. Is it not possible that they would charge a little extra for storing on your behalf? I find in the annual contracts, it does not make the least difference in the cost whether we take them into the Government Stores Department, or get them directly from the contractors as required, and in the long run it costs us more to store them, because we have to pay our own clerks and storemen, whereas the storing could be done without extra cost to us by making the contractors do the storing.

THURSDAY, 27 APRIL, 1899.

Present:—

JOHN PERRY, Esq. (CHAIRMAN).

The Hon. PATRICK LINDESAY CRAWFORD SHEPHERD.  
The Hon. ANDREW GARRAN, LL.D.  
The Hon. WILLIAM JOSEPH TRICKETT.

WILLIAM THOMAS DICK, Esq.  
JOHN CHRISTIAN WATSON, Esq.  
ROBERT HENRY LEVIEN, Esq.

The Committee further considered the expediency of erecting Public Offices on land with frontages to Phillip, Bridge, and Young Streets, Sydney.

Robert R. P. Hickson, Under Secretary and Commissioner for Roads, Department of Public Works, sworn, and further examined:—

3054. *Chairman.*] Has your Department at any time had under consideration the question of closing up, as it were, the different officers in the Public Works Department—that is, instead of having the officers spread all over the building, have them brought together more? Yes.

R. R. P.  
Hickson.

3055. With what result? The result is that we have economised space, and also economised in the working of the Department very considerably. For instance, each branch used to have its own complete set of officials—record clerks, chief clerks, accountants—in separate rooms, scattered all over the building, taking up a great deal of room, and making it not easy to get proper supervision over them. They have all been brought together now.

27 April, 1899.

3056. Then, I understand that each sub-Department had its separate room for records? Yes.

3057. And now that they are brought into one room you economise both space and labour? Yes.

3058. Do you think that would be a wise thing to do in connection with other Departments? I certainly think it would.

3059. From your experience, do you find that you gain by doing that? Most unquestionably—a very considerable gain.

3060. I think you said yesterday that there was a proposition, not yet finally dealt with, to construct a new Public Library? Yes.

3061. Has anything been decided as to what would be done with the present Public Library if that proposition were carried out? Not that I am aware of.

3062. Then, there is a proposition with reference to the Registrar-General's Department;—they require better offices, do they not, and have made application for them? So I understand.

3063. Then, again, as regards the Railway Commissioners, if a city railway be constructed, I presume that the administration will find room somewhere near the head station, will they not? It depends on what scheme is carried out. If the proposal which is now under consideration be carried out, there will not be accommodation for them.

3064. How would you view a proposal that, before any fresh public buildings were entered upon a committee of the heads of Departments should be formed to go through the whole question of the accommodation now provided, and to be provided? I think it would be a very good thing to do.

3065. Looking, say, ten years ahead? I think it would be a very good thing to do.

3066. I mean to consider the requirements of the different Departments, and also whether, by reorganisation in the different Departments, and the introduction of other furniture, and matters of that sort, it is possible to meet those requirements;—do you think it would be advisable to do that, previous to entering upon the erection of new public buildings? I think it would.

3067. *Dr. Garran.*] Have you heard any suggestions for a new office for the Registrar-General? No; the proposal is not formulated yet.

3068. Have you not heard that the present office is very much crowded? Yes, we have heard that; but no new design has been formed yet.

3069. It would be very difficult to add to the present building? From my superficial knowledge of that building, I should think it would be.

3070. That is another case, then, where a new building will be wanted before long? Probably.

3071. Is there any idea of building a new Supreme Court? I do not think there is.

3072. It has been talked about for twenty years? There is no talk of it at present; but I think it ought to be done.

3073. If a railway station be erected in Hyde Park, according to Mr. Eddy's notion, will not the additional noise be so great that it will be almost impossible to hear witnesses in the Supreme Court building? I do not think so. I think that that was fully gone into when the Hyde Park scheme was under consideration.

3074. The noise of the trams is very bad? The noise of the trains will not be so bad, as they will be under cover and some distance away.

3075. They will be heavy trains though? Yes; but the noise will not be so much as the noise of the trams.

3076. You do not think that having a railway station there will at all add to the inconvenience of the Supreme Court? I do not think so.

3077. Have you heard complaints as to the heat of the Equity Court? A good deal of complaint.

3078. There is no definite proposal for putting up a new Equity Court? No; but the putting up of proper courts in Sydney is a thing that will have to be faced sooner or later; the present accommodation is exceedingly bad.

3079. Do you think that our Supreme Courts are up to date? No; I think they are very far behind it. We have a very much more suitable building in the town of Goulburn than there is in the city of Sydney.

3080. Do you know whether any of the other great colonies have Supreme Courts as old-fashioned as ours? In Melbourne they have a comparatively new one. In Adelaide it is pretty old, but the accommodation is fair. The one in Brisbane I do not know. I do not think that any colony has such old buildings, and such bad accommodation, for the Supreme Court as we have.

3081. Then it is quite possible that there may come a demand on your Department for a new Supreme Court before long? Quite possible.

3082.

- R. R. P. Hickson.  
27 April, 1899.
3082. But you do not think the advent of the railway in the city will make any difference? I do not think it will. If the line were made at Hyde Park I do not think it would inconvenience the Supreme Court business; and, of course, if the present idea be carried out it will not affect it at all.
3083. Not the new plan? No.
3084. There will be a railway station on the other side of Elizabeth-street, where the High School is, and there will be the additional noise from that? I do not think you will find there will be any noise from that.
3085. Screaming and whistling? Whistling, of course, you will hear, but I think no noise of the trains. The experience I have of railway stations is that there is very little noise of the trains heard outside the stations, because the railway stations are always closed in. The tramway, of course, is not; it is open on the street, and the trams are very noisy.
3086. And you get the vibration, too, from the trams? I do not know whether they would in the Supreme Court. They might, but I cannot say.
3087. You would not if it were on the other side of the road? No. I do not think there is any vibration from the trams.
3088. Is there any other public department which is badly housed and is calling out for fresh accommodation? No; I think not.
3089. But you think it would be a good idea, before we spend another shilling, to get a comprehensive survey of the whole question of lodging the Government officials? I think it ought to be fully gone into to see if there could be any closing-up carried out in the other departments.
3090. If we did that, we could go on system? Yes.
3091. Even if it took ten years to complete, we should be going on a definite plan? It ought not to take long to complete.
3092. Not to complete the plan; but it might take some years to carry out all the schemes? I thought you meant to complete the investigation.
3093. No, I meant to carry out the works;—how long do you think the investigation would take? Very few weeks, if it were commenced at once.
3094. Six weeks would be ample? I think so.
3095. Would such an inquiry take into account any possible readaptation of the existing offices? It could be made to do so.
3096. *Chairman.*] What was the cost to the Government of the site upon which it is proposed to erect these buildings? £33,500.

Walter Liberty Vernon, Government Architect, sworn, and further examined:—

- W. L. Vernon.  
27 April, 1899.
3097. *Dr. Garran.*] You have had time for reconsidering the estimate of expense of putting one or two floors on the Lands Office;—do you still abide by your estimate? I have not been asked to reconsider my estimate.
3098. I mean for the two ideas separately—first for the one floor, and secondly for the two? I have only made calculations for the one floor.
3099. You abide by the estimate you have given us for that? Yes, certainly.
3100. In round numbers, £47,000? Yes.
3101. *Mr. Trickett.*] That is at 23 feet high? Yes; and as I explained also for the necessary treatment of the roof to prevent the dead level of uniformity which would be induced by taking away the present dome.
3102. *Dr. Garran.*] £47,000 for one storey? Yes; and the finishing of the roof.
3103. And that will give only 20,000 square feet of useful space? That is so.
3104. Now with regard to the Mansard roof in addition: there is one question, No. 2441, that Mr. Watson put to you, which almost implies an estimate of yours for the two; but I see that is not really your estimate—it is on the assumption of a proportion of 3 to 2, and Mr. Watson said that the total cost of the two storeys would be £78,000; but have you made any estimate of your own as to that? I have not. It is quite true that I did hazard the opinion before this Committee that Mr. Kirkpatrick's proportion was a correct one, but without getting plans and sections I could not bind myself to figures on such an important question as that.
3105. Not even approximately? Well, I should not like to. It is quite true that the proportionate cost worked out to seventy and odd thousand pounds, but I think I made the remark that it seemed exceedingly high.
3106. Yes. Mr. Kent gave us an estimate of £58,000 for the double construction, and, of course, that is considerably lower than £78,000? £58,000 is exactly the average cost of the one floor of the present building.
3107. That is what it did cost originally? Yes, of one floor only. This is two floors.
3108. But building was dearer then than it is now? Not very much.
3109. Well, I notice that the Lands Office must have been a more expensive structure then than it would be if put up now, because your figures bring out the fact that the Lands Office has cost 64s. per square foot of *bona fide* office space? No, I have not done that. I told you, simply as a matter of general opinion, that the cost per foot square of the new floor would be about 47s. 6d. I have not ventured on the cost per foot of the present building.
3110. In this new plan that you have put before us, and which we are considering, the cost per square foot would only be £1 7s. 6d.? That is so.
3111. Does that not intimate that building must be very much cheaper now? Certainly; but then it is of a less monumental character. The Lands Office is probably the most substantial building in the whole of these colonies. It was built with every regard to substantial character, and the drawings themselves show it cannot be surpassed in the matter of construction. My instructions do not go so far as to build the same class of building now as was built in those days.
3112. The Lands Office was built for all time? Yes. For the reason I have given, amongst others, I fixed the estimated cost of the additions at 1s. 6d.
3113. But the building you are putting before us is to be a very durable building, is it not? Certainly. One distinctive difference between the two is that the Lands Office, on its principal fronts, is only one room deep, whereas the new building is two rooms deep; hence the maximum of accommodation in the latter building as against the minimum in the other.

3114. But that was all to give what would have been a yard space to this fire-proof building? It may be *W. L. Vernon.* for that reason.

3115. So the cost of that fire-proof building is really very great—not only its actual cost, but it has taken <sup>27 April, 1899.</sup> away all the inner rooms? It has been very costly to the building itself.

3116. Then, you are not able at present, at a moment's notice, to give us any definite idea of what the total cost of two storeys added to the Lands Office would be? I should not like, on such an important matter, to give an offhand opinion.

3117. It would not be less than £58,000? No; it would not be less. It would necessitate making a design showing how the cornice or the centres of each facade of the main building should be treated, for it would be the ridicule and contempt of all the community to see a four-sided building with just the top end of the tower peeping out from behind it, and no relief whatever. It would be a great architectural mistake, and therefore it would involve some consideration in designing the top so as to break that.

3118. To give all the accommodation asked for, we want the two storeys? At least.

3119. And we have not an official estimate before us of what the cost of those two storeys would be? My instructions from this Committee have never gone beyond one storey.

3120. *Mr. Trickett.*] Will you give us your estimate for the one storey at 20 feet high;—your estimate is £47,000 for 23 feet high, while Mr. Kirkpatrick's calculation is for 20 feet high, and so also is Mr. Kent's;—Mr. Kent's estimate is £40,308 for 20 feet high;—I forget whether you gave us a price for that? No; I have not. It comes to £2,000 per foot in height. That would take off £3,000. That is a mathematical calculation, at 1s. 6d.; that is not a guess. That reduces my estimate to about the same as Mr. Kent's would be for the same height—20 feet. But Mr. Kent's height is 22 ft. 6 in.

3121. *Mr. Watson.*] Did you read the evidence given by Mr. Kirkpatrick on 25th April? I have had an opportunity of glancing at it since I have been in this room to-day. I have seen his previous evidence.

3122. You see he adheres to his previous estimate of thirty and odd thousand pounds for one storey 20 feet high? Yes; I have seen that.

3123. Did you notice that he has taken as his basis 19,624 superficial feet? Yes.

3124. Inclusive of what he would afterwards have to take out in the way of corridors and staircases? Yes; I noticed that, and that is where he is wrong.

3125. Whereas, on the other hand, you and Mr. Kent, I understand, each take as your basis 19,000 feet of office space, exclusive of corridors, staircases, &c.; practically, it seems that Mr. Kirkpatrick takes for his basis for calculation of cost a much less superficial area than you and Mr. Kent take? That is quite true. The exact figures upon which we have all cubed up are as follows,—this is the gross superficial area taken in order to multiply by height: Mr. Kent, 26,872 feet; myself, 27,177 feet; Mr. Kirkpatrick, 20,563 feet.

3126. That accounts for the difference? It all lies in the mistake of Mr. Kirkpatrick.

3127. Mr. Kirkpatrick evidently got a wrong set of figures for his base line? He has evidently lost sight of the fact that he should have taken his whole heights by the area of the building, and not by the area of the floors available. That is where the whole mistake has arisen. The whole thing centres upon that.

3128. So actually Mr. Kirkpatrick, in ascertaining his cubic space, calculates upon a superficial area of between 6,000 and 7,000 feet less than you do? Quite so. It would not cover the whole building. It would be 7,000 feet short of covering the superficial area of the building.

3129. But between yourself and Mr. Kent there is practically an agreement in that respect? Only a difference of 200 or 300 feet, which will always arise in a building that is not rectangular.

3130. This building occupies a peculiar set of angles? That is so.

3131. So that you want very correct measurement to get at the actual superficial area? That is so.

3132. *Chairman.*] Mr. Kirkpatrick adds one-fifth to his estimate? He adds first one-fifth, and afterwards one-eighth. But that was a most dangerous thing to do in estimating the cost. It is never done under any consideration whatever.

3133. It seems to the Committee, I think, that you cannot make a hard-and-fast rule of that sort, because buildings would vary—there would be no two buildings alike? They must vary. A difference would occur, for instance, between a building L-shaped and a building perfectly square, and also with a courtyard.

3134. *Mr. Dick.*] What is the usual method of making these calculations? The general method is to take the superficial area of the whole of the building (inclusive of walls) by its height; and the height is reckoned sometimes from the bottom of the footings, and sometimes not, according to the nature of the footings, up generally to about the middle of the roof, and then every excrescence is added on by cube contents afterwards. In the case of this treble roof, I should take my cube measurements to the top of the roof, otherwise I should be short. But when the roof goes simply to an apex—an ordinarily-constructed roof—the measurement is taken half-way up.

3135. There can be no hard-and-fast rule? There is no rule to add one-fifth for the walls. I am absolutely certain that Mr. Kirkpatrick has never done that for a client yet.

3136. *Mr. Watson.*] And, of course, in providing for the difference in cost between an ornamental exterior and a plain one, you simply do it on the allowance for cubic feet? Yes, and according to one's judgment in constant professional work. I might also say that possibly a discrepancy has arisen between Mr. Kent and myself, to a small degree, by the measurements of the outside of the wall. In this building the cornices of the ornamental work have a large amount of projection beyond the true face of the wall itself. The London practice is to add to the outside measurement of the wall an average of the projections, otherwise you do not really get the true cube contents of the building, and it is just possible that Mr. Kent and myself, in our small discrepancy, may have done that.

3137. *Chairman.*] He said we must make some little allowance for scaling off? Some little discrepancies will necessarily arise in a case of that kind. I notice that Mr. Kirkpatrick quoted Professor Kerr's book. Well Professor Kerr gives, as a matter of general information, what proportions the walls of dwelling houses bear to the internal area of the walls. But he also gives an average of the general area of corridors and staircases compared to the rooms; but he never, on any occasion whatever, would value the rooms, and then add on a percentage for the walls or for his corridors. It would be an impossibility.

3138. *Mr. Dick.*] Will you look at Question 2,751 in Mr. Kirkpatrick's evidence? Yes; I am afraid I have been misunderstood here.

3139. You say that the practice is to make the calculations per cubic foot? Yes.

3140. That is upon the total cubic contents of the building? That is one way of estimating the cost of a building.

W. L. Vernon. 3141. Then the 47s. 6d. per superficial foot is got in this way—having made your estimate in that way per cubic foot, and also having ascertained what available superficial floor-space you will have, dividing one by the other gives you this 47s. 6d? That is so exactly.

27 April, 1899.

3142. Then Mr. Kirkpatrick has made the mistake of taking the total available floor-space and dividing that into your total estimate to bring out what he thought was the basis on which you made your calculation? He is utterly wrong.

3143. He was reversing the process? Yes; besides that, there is no height given of the superficial floor, so there is one unknown quantity, and it is therefore an impossibility.

3144. The price per superficial floor-space must vary with the height? Certainly. I brought that 47s. 6d. before this Committee only in order that they might compare the cost of floors in other buildings—that is, not the cost of the building, but the cost of accommodation for offices—but I never calculated the cost of the building at so much per superficial foot floor-space.

3145. In other words, the 47s. 6d. is simply a result of your estimate, and not one of the factors of it? It is the 19,600 and odd superficial feet of floor-space divided into the estimated cost.

3146. It is a result of your estimate, and not a factor of it? Yes, it is a result and not a factor of it.

3147. *Mr. Watson.*] If you will look at question 1940, you will see that in reply to a question put by me, you, in referring to the putting of an additional floor on the Lands Office, said:

It is practically the building of one floor only, with a roof to it, at a cost of 47s. per foot superficial of floor-space.

The impression seems to have obtained with some Members of the Committee that in using those words, "the building of one floor only, with a roof to it," you meant to put on a roof composed absolutely of new material;—did you intend that, or did you intend that it should be only so much new material as might be necessary, because of the alteration? That is what I would have said if I had been more specific. But, practically speaking, a great portion of it must be new roof.

3148. But you did not intend, by that remark, to imply that it should be an absolutely new roof—or did you intend so? No. It did not cross my mind at the time I mentioned, what the specific amount of new work and of old work would be; but I had in my mind this, and I have had it all through, that although there is a certain portion of roof which could be used again, yet the gaps to be filled and the loss and breakage in taking down and re-erecting the roof, and then the necessary work in raising the features in some respects, meant really a new roof. Besides that, the Committee must not lose sight of the fact that to build a new floor in that building means putting up two roofs; it means putting up a temporary roof, while the other is being taken off, otherwise the building must be vacated by the Lands Department and the Mines Department until a new roof has been put on; and all that cost is included.

3149. *Chairman.*] It has been stated that there is virtually a concrete floor above the present offices, and that any ordinary precautions would prevent any wet from coming in? It is true that is so. But at the same time it would never be safe to trust entirely to a concrete floor which has openings through it in several directions, and which must have a get-away for the water, without having a temporary roof of some kind. It has never been intended to protect the building from water; it is only coke concrete, and is porous.

3150. It is used for cooling purposes? Yes, for cooling and fire-protection purposes.

3151. Is not coke concrete, if properly made, impervious to water? Not altogether; it is too light in texture.

3152. But if it were properly made, no matter how light it is, it would be impervious would it not? Coke concrete would not be impervious to water. The more the cement can find its way into the interstices of the coke, the better it is; but it cannot all go through it. It can only take the surface of the coke, and there are always spaces which will be affected by the weather.

3153. In reply to Question 1939, you said:

The office floor-space which would be gained would be 19,643 superficial feet. The approximate cost has to be taken into consideration with the removal of the dome. An extra story would at once put the dome into bad proportions, and it means combination, so that I have had to calculate in that way. I should also have to alter the construction of the side domes. Taking these matters into consideration, and also basing my estimate, to some extent, although not fully, upon the original cost of the building, I find that the cost of the floor and re-roofing will be £46,880.

That is how I and others came to the conclusion that you were going to put a new roof altogether there;—I think you had that in your mind when you spoke? No. I always intended to use the old roof as far as it would go, because I know the principals could be used again, and also some of the slates, although some part of the slating is in bad order. This is owing to officers getting on to the roof during lunch hour and breaking the slates. The leakage reported to this Committee is nearly all due to that, and we have had complaints about it from time to time. There are two or three doors leading from the dome on to the roof, and those young fellows have their lunch out there.

3154. *Dr. Garran.*] Mr. Kent made a criticism that I should like to ask you about;—you know the light you have at the corridor on the south side? Yes.

3155. You block that light if a ventilator is put on? It can easily be removed, although I should like to connect the building at the top again, so as to get a good architectural effect. But it must not be forgotten that we have a side light on the corridor from the shaft in the centre.

3156. But at the end of the corridor next to the wall and not an outside window? It can be open if necessary. It should not be open at the extreme top of the building. The main cornice should go round.

3157. *Mr. Watson.*] If it were open, would it be necessary to have that area which you leave blank there? Yes; it would be necessary to have it to light the urinals. That is really a ventilating shaft.

3158. *Chairman.*] But are not the urinals lit from outside? Yes. I have cross ventilation there. It is not really wanted, because there is light on the southern side, but there is a good draught through that area, and I thought I would make use of it. There is one little matter to which I should like to refer. Mr. Kirkpatrick gave the following evidence in regard to the lifts at the Lands Office:—

2637. What kinds of lifts are they at present? Hydraulic lifts. They are worked by their own pumping and their own accumulators—not direct-acting. It is a very expensive gear which is in use there, and that could be sold, and the lifts could be connected with the Sydney Hydraulic Power Company.

2638. Would you recommend entirely new lifts? Yes. It would be an improvement to the building, too.

2639. What would be the expense of adding entirely new lifts? It ought to be done for £1,200.

2640. That would add to the cost? No; I included all that.

I should be glad if the Committee would note that Mr. Kirkpatrick was absolutely in error about those lifts. I do not think he could have seen them. They are direct-acting lifts, and they are supplied with water-power

water-power by the Hydraulic Power Company, and they were put in in 1893 with the very latest improvements that money could buy. I wrote to the Hydraulic Power Company myself this morning, because I thought I must have been dreaming when I read that, and they have confirmed my statement as to the use of their water. But a visit to the place would show anybody what we are doing. There is certainly an engine—a small gas engine—which runs some lithographic printing plant, and which pumps out the sump-hole in connection with the lifts; but that is really all it does. The lifts are the most modern lifts; they are direct-acting—they are rams, and they are supplied with water by the Hydraulic Power Company.

W.L. Vernon.  
27 April. 1899.

3159. With reference to the first proposal, I want to ask you a question;—on page 4 of your original statement there is the following:—

The outcome being that the sum of £18,000 was placed on the Estimates and voted for the erection of permanent offices for the Mines and Agricultural Department on the vacant block of resumed land facing Phillip, Bridge, and Young Streets.

Did you ever go into details in connection with that proposal? A rough sketch was made at the time in order to get sufficient data upon which to get money placed on the Loan Estimates that year for that building. It was intended to take a portion of the site on the Bridge-street frontage only down to the back-yard of those four existing houses—about half-way down, and with a lane behind it—and then on the Phillip-street frontage a large proportion was left for the question of the museum to be settled. The idea then was to build on the Phillip and Bridge Streets corner only a set of offices for the Mines Department, leaving the question of the museum open for further consideration. It is just possible I might find a sketch in the office, but that is really what the proposal was.



## PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

Public Offices, Phillip, Bridge, and Young Streets, Sydney.

## APPENDIX.

## A.

[To Evidence of Richard Teece.]

AUSTRALIAN MUTUAL PROVIDENT SOCIETY—HEAD OFFICE.—PARTICULARS OF ACCOMMODATION PROVIDED.

## Superficial Areas.

Main office .....	52 feet by 41 feet =	2,132 feet	} 2,438 feet, exclusive of public space. Sixty clerks.
Annex .....	18 " by 17 " =	306 "	
Public space .....	52 " by 18 " =	936 "	
Manager's-room .....	18 " by 18 " =	324 "	
Secretary's-room .....	18 " by 18 " =	324 "	} 2,987 feet total area used by clerks, forty-five in number.
Strong-room .....	19 " by 18 " =	342 "	
First floor .....	42 " by 59 " (less 17 feet by 13 feet) =	2,257 feet	
Annex .....	39 " 6 inches by 18 feet 6 inches =	730 "	
Public space .....	17 " by 13 feet =	221 "	
Board-room .....	28 " 6 inches by 18 feet =	513 "	
Strong-room .....	14 " by 12 feet =	168 "	
Basement strong-room... {	19 " 0 inches by 18 feet =	342 feet 0 inches.	
	{ 11 " 3 " by 8 " =	90 " 0 "	
	{ 8 " 9 " by 6 " =	52 " 6 "	

484 feet 6 inches.

The cost of the building, exclusive of land, was about £56,000, and it was completed in 1880.

## B.

[To Evidence of John Williamson Manson.]

NEW OFFICES FOR MESSRS. DALGETY &amp; Co. (LIMITED), BENT AND O'CONNELL STREETS.—PARTICULARS OF ACCOMMODATION PROVIDED.

## Ground plan.

	Square feet.	No. of persons.
Shipping department.....	927	6
Head of department .....	140	1
Captains'-room .....	88	2
Merchandise department .....	785	6
Head of department and samples .....	285	1
Luncheon-room .....	798	.....
Strong-room.....	85	.....
Passageways, including stairs .....	640	.....
Caretaker's quarters .....	1,030	3
W.C's. and lavatories .....	252	.....

## First floor.

General office .....	1,583	14
Managing Director.....	273	1
Manager .....	263	1
Stock and Station department.....	551	4
Head of department .....	150	1
Secretary and clerk .....	292	2
Auditor.....	150	1
Typewriters.. ..	182	2
Waiting-room .....	195	.....
Stationery .....	85	.....
Passageways .....	1,199	.....
W.C's. and lavatories .....	374	.....
Strong-room.....	93	.....

## Second floor.

Wool department .....	1,512	25
Head of department .....	198	1
Wool auctioneer .....	203	1
Foreign Orders department .....	551	5
Head of department .....	150	1
Board-room .....	358	6
Three typewriters .....	273	3
Three typewriters .....	292	3
Typewriters' cloak and lunch room ..	201	.....
Spare office .....	150	1
Strong-room.....	108	.....
Tallow Samples room.....	62	1
Passageways, including stairs .....	968	.....
W.C's. and lavatories.....	384	.....

## Third floor.

Partially occupied, space left for future extension of business.

C.

[To Evidence of Charles Edward Rennie.]

AREA AND OCCUPATION OF ROOMS IN LANDS OFFICE BUILDING.

No of room.	Branch.	Floor space in square feet.	No. of officers.	Remarks.
BASEMENT.				
1	Account .....	425	5	Including 3 officers of Church and School Lands Branch.
2	Stores .....	807	1	
3	Account .....	459	5	
4	" .....	318	1	
5	" .....	670	6	
6	Forest .....	582	6	
7	Registrar (Mines) ..	304	2	
8	Inquiry (Mines) ..	625	5	
9	Lithographic .....	624	4	Machine-room.
10	" .....	812	2	
11	" .....	200	2	Stone-polishing room.
12	" .....	200	.	Boiler-room.
13	Lithographic .....	440	....	Stores (paper).
14	" .....	377	..	Stones.
15	" .....	325	..	"
16	" .....	779	..	"
17	" .....	320	....	Messenger's dwelling (family 6).
18	" .....	374	..	" "
19	" .....	536	....	" "
20	" .....	228	....	" "
21	" .....	526	....	" "
22	" .....	251	5	Corridor-cleaner's room.
23	Inquiry and Map Sales ..	328	....	Lithographic maps stock-room.
24	" .....	585	....	" "
25	Information Bureau ..	318	3	
26	Inquiry and Map Sales ..	483	4	
27	" .....	560	....	Lithographic map stock-room.
28	Information Bureau ..	429	3	
29	" .....	272	1	Accumulator.
30	" .....	272	1	Engine-room.
31	" .....	208	1	Lavatory for messenger's dwelling.
GROUND FLOOR.				
32	Metropolitan Land Board ..	508	1	Board-room.
33	Mr. Saunders .....	227	1	
34	Mr. De Low .....	336	1	
35	Occupation .....	592	12	
36	Mr. Curry .....	202	1	
37	Mr. Capper .....	292	1	
38	Contractors .....	570	4	Clerks.
39	Miscellaneous .....	1,378	22	Includes 9 officers of Miscellaneous Lease Branch
40	Ministerial .....	503	1	Store-room.
41	Chief Clerk .....	292	1	
42	Minister .....	202	1	Private room.
43	" .....	650	1	
44	Waiting-room .....	304	....	
45	Under Secretary .....	375	1	Private room.
46	" .....	198	1	
47	C.S. Records .....	1,534	14	Includes 6 officers of Ministerial Branch.
48	Ministerial .....	494	6	
49	Post-room .....	174	.	
50	Registration and Transfer ..	1,549	13	
51	C S. Records .....	351	....	
52	Alienation .....	648	13	
53	" .....	471	....	Store-room.
54	Lease .....	972	6	
55	Messengers .....	131	2	
56	Inspectors, Relieving Land Agents	352	5	When all in town
57	Rabbit .....	387	1	
58	Lavatory .....	189	.	
59	Conditional Sales ..	508	5	
60	Strong-room .....	1,681	..	
FIRST FLOOR.				
62	Lavatory .....	208	.	
63	Account .....	508	7	
64	Deeds .....	1,082	9	
65	Deeds Diagram .....	240	4	
66	Chief Surveyor's Correspondence	342	3	
67	Chief Surveyor .....	572	1	
68	" .....	201	....	Private room.
69	Chief Clerk of Branches ..	294	1	
70	Stores .....	570	2	
71	Correspondence and Records ..	1,287	18	Correspondence .. 9 Records .. 9 Press records .. 1 Registrar .. 1 Messengers .. 8
72	Messengers, &c. ....	812	10	
73	Chief Clerk ..	294	.	
74	Minister ..	202	1	Private room
75	" ..	673	1	
76	Under Secretary ..	391	1	
77	" ..	204	1	Private room.

No. of room.	Branch.	Floor-space in square feet.	No. of officers.	Remarks.
FIRST FLOOR—(continued).				
78	Lease, &c. ....	1,616	14	} Ministerial Branch ..... 2 Curator and Mineralogist ..... 4 Lease Branch ..... 8
79	Strong-room .....	1,100	2	
80	Mines and Agriculture .....	731	2	
81	P.W.P. and Bores .....	136	1	} Chief Inspector of Mines. Director of Agriculture. Superintendent of.
82	" .....	1,007	5	
83	Coal Mines Inspectors .....	414	6	When all in town.
84	Charting .....	2,375	23	
85	Diamond Drill ..	429	10	When all Inspectors in town.
86	Agriculture .....	130	1	
87	Accounts .....	329	5	Examiner of.
88	Trigonometrical .....	387	3	
SECOND FLOOR.				
89	Plan record .....	1,100	5	
90	Lavatory .....	208	.....	
91	Miscellaneous Compiling .....	1,586	10	
92	" .....	923	8	
93	Parish-map Compiling .....	2,669	31	
94	Feature Survey and Standard Map .....	580	1	
95	Charting Branch .....	2,220	24	
96	Map-room .....	860	1	
97	Miscellaneous Contract .....	913	7	
98	Lithographic Press-room .....	1,616	7	Printers and assistants.
99	Lithographic .....	744	7	
100	Roads .....	2,205	10	
101	Chief Draftsman, Roads .....	418	1	
102	Government Geologist .....	435	1	Mines Department.
103	Chief Draftsman, Lands Department .....	437	1	
104	Geological Branch .....	754	8	Mines Department.
105	Metropolitan District Survey .....	1,156	9	
106	Occupation .....	1,060	10	
DOME.				
107	Government Surveyor .....	510	3	} 1 Surveyor. 1 Field Assistant. 1 Draftsman.
108	Contract Draftsmen .....	900	11	
109	Plan-mounting and Helio-printing .....	1,300	2	
112	Trigonometrical Surveyor .....	279	1	} 1 Plan-mounter. 1 Assistant. At times.
WESTERN PHOTOGRAPHIC GALLERY (Basement of).				
110	.....	1,789	.....	
EASTERN PHOTOGRAPHIC GALLERY (Basement of).				
111	Plan-mounting and Library .....	1,789	2	Mines Department.